Simon Fraser University
Calendar
2000 • 2001
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It should be carefully noted that possession of the minimum requirements does not in itself guarantee admission to any course, program, department or faculty at the University. In those instances where the number of qualified applicants exceeds the number that, in the opinion of the University, can be accommodated, the University reserves the right to select the quota from among the qualified applicants. Address all enquiries to: The Registrar, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A 1S6, Canada

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History
The University is named after Simon Fraser, Loyalist, fur trader and explorer, who in 1808 completed one of the greatest journeys in the annals of Canadian history by descending the mighty river which today bears his name. The Fraser family coat of arms forms the basis of the University’s coat of arms which appears on the title page of this Calendar. The colors of Simon Fraser University are red and blue.

In January 1963 a report entitled Higher Education in British Columbia and a Plan for the Future, by Dr. J.B. Macdonald, recommended the creation of a new university in the Lower Mainland. Two months later the establishment of Simon Fraser University received formal assent in the British Columbia Legislature, and in May of the same year Dr. Gordon M. Shrum was appointed Chancellor.

From a variety of sites which were offered, the Chancellor recommended to the Provincial Government that the top of the 1200 foot Burnaby Mountain be selected for the new university. Lying east of Vancouver, the site commands magnificent views of Burrard Inlet, the mountains, the Fraser River and Vancouver Harbour.

Architects were invited to compete in the design of the overall campus. The Vancouver firm of Erickson and Massey won the competition, and the four architects who had been runners-up in the competition each designed at least one building within the overall plan. The outstanding architecture has won many awards.

Construction began in the spring of 1964 and eighteen months later, on September 9, 1965, Simon Fraser University opened to 2,500 students. Since those early years the University has grown substantially. In September 1999 approximately 18,619 students were enrolled in courses. At the June 1999 Convocation ceremonies 2,510 degrees were conferred, while at the University’s October Convocation, 1,182 students received their degrees.

In keeping with Simon Fraser University’s commitment to accessibility, a downtown Vancouver campus was opened on May 5, 1989 in the historic Spencer Building at 515 West Hastings Street. Programs at the Simon Fraser University at Harbour Centre campus focus on the advanced recurring educational needs of the urban populace.
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## University Telephone Numbers

### Area Code 604

#### Burnaby Mountain Campus

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<td>Graduate Studies, Dean of</td>
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<td>Harassment Resolution Office</td>
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<td>President's Office</td>
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<td>Analytical Studies</td>
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<td>Student Academic Resources</td>
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<td>University Advancement</td>
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#### Harbour Centre Campus

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<td>Public Relations</td>
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Programs Offered

University Degrees
Honorary Degree
Doctor of Laws Honoris Causa

Faculty of Applied Sciences
Bachelor of Applied Science
Bachelor of Arts (Honors)
Bachelor of Arts
Bachelor of General Studies
Bachelor of Science (Honors)
Bachelor of Science
Bachelor of Science (Kinesiology) (Honors)
Bachelor of Science (Kinesiology)
Master of Applied Science
Master of Arts
Master of Engineering
Master of Resource Management
Master of Science
Doctor of Philosophy

Faculty of Arts
Bachelor of Arts (Honors)
Bachelor of Arts (Joint Honors)
Bachelor of Arts
Bachelor of Fine Arts
Bachelor of General Studies
Master of Arts
Master of Arts in Liberal Studies
Master of Fine Arts
Master of Publishing
Doctor of Philosophy

Faculty of Business Administration
Bachelor of Business Administration (Honors)
Bachelor of Business Administration
Master of Business Administration

Faculty of Education
Bachelor of Education (Honors)
Bachelor of Education
Master of Arts
Master of Education
Master of Science
Doctor of Education
Doctor of Philosophy

Faculty of Science
Bachelor of Science (Honors)
Bachelor of Science
Master of Environmental Toxicology
Master of Pest Management
Master of Science
Doctor of Philosophy

Certificates and Diplomas

All Faculties
Post Baccalaureate Diploma

Faculty of Applied Sciences
Certificate in Applied Human Nutrition
Certificate in Computing Studies
Certificate in Health and Fitness Studies
Post Baccalaureate Diploma
Post Baccalaureate Diploma in Communication
Post Baccalaureate Diploma in Computing Science
Post Baccalaureate Diploma in Kinesiology

Faculty of Arts
Certificate in Chinese Studies
Certificate in Community Economic Development
Certificate in Criminology (General)
Certificate in Criminology (Advanced)
Certificate in Family Studies
Certificate in First Nations Language Proficiency
Certificate in French Canadian Studies
Certificate in French Language Proficiency
Certificate in Hellenic Studies
Certificate in Liberal Arts
Certificate in Native Studies Research
Certificate in Public History
Certificate for Senior Citizens
Certificate in Spanish Language Proficiency
Certificate in Spatial Information Systems
Certificate in Teaching ESL Linguistics
Certificate in Urban Studies
Certificate in Women’s Studies
Post Baccalaureate Diploma
Post Baccalaureate Diploma in Community Economic Development
Post Baccalaureate Diploma in Criminology
Post Baccalaureate Diploma in Ethnic and Intercultural Relations
Post Baccalaureate Diploma in French and Education
Post Baccalaureate Diploma in Gerontology
Post Baccalaureate Diploma in Humanities
Post Baccalaureate Diploma in Public History
Post Baccalaureate Diploma in Social Policy Issues
Post Baccalaureate Diploma in Teaching English as a Second Language
Post Baccalaureate Diploma in Urban Studies

Faculty of Business Administration
Graduate Diploma in Business Administration

Faculty of Education
Certificate in Literacy Instruction
Post Baccalaureate Diploma
Graduate Diploma in Advanced Professional Studies in Education

Faculty of Science
Certificate in Actuarial Mathematics
Post Baccalaureate Diploma in Biological Sciences
Post Baccalaureate Diploma in Environmental Toxicology

Credentials by Program

Key to abbreviations used below
BA – Bachelor of Arts
BA honors – Bachelor of Arts (Honors)
BASc – Bachelor of Applied Science
BBA – Bachelor of Business Administration
BBA honors – Bachelor of Business Administration (honors)
BED – Bachelor of Education
BED honors – Bachelor of Education (Honors)
BFA – Bachelor of Fine Arts
BGS – Bachelor of General Studies
BSc – Bachelor of Science
BSc honors – Bachelor of Science (Honors)
certificate – certificate
coop – co-operative education program
diploma – post baccalaureate diploma
EdD – Doctor of Education
MA – Master of Arts
MAL – Master of Liberal Studies
MASc – Master of Applied Science
MBA – Master of Business Administration
MED – Master of Education
MEng – Master of Engineering
MFA – Master of Fine Arts
minor – program requiring completion of specified minimum upper division courses
MPM – Master of Pest Management
MPub – Master of Publishing
MRM – Master of Resource Management
MSc – Master of Science
PhD – Doctor of Philosophy

Actuarial Mathematics – certificate
Actuarial Science – BSc, honors
Advanced Professional Studies in Education – graduate diploma
Anthropology – BA, honors, co-op
Applied Human Nutrition – certificate
Applied Mathematics – BSc, honors
Applied and Computational Mathematics – MSc, PhD
Applied Physics – BSc, honors
Archeology – BA, honors, MA, PhD, co-op
Archeology and Anthropology – BA joint major
Art and Culture Studies – BA
Art and Culture Studies and Sociology.
Anthropology – BA joint major
Arts, General – BA
Asia Canada – minor
Biological Sciences – BSc, honors, MSc, PhD, diploma, co-op
Business Administration – BBA, honors, MBA, diploma, co-op
Business Administration and Communication – BBA joint major
Business Administration and Computing Science – BBA joint major, BSc joint major
Business Administration and Economics – BBA joint major, honors, BA joint major, joint honors
Business Administration and Geography – BBA joint major, BA joint major
Business Administration and Psychology – BBA joint major, BA joint major
Canadian Studies – BA, honors
Canadian Studies and Anthropology – BA joint major, honors
Canadian Studies and Archaeology – BA joint major, honors
Canadian Studies and Business Administration – BA joint major, honors, BBA joint major, honors
Canadian Studies and Communication – BA joint major, honors
Canadian Studies and Criminology – BA joint major, honors
Canadian Studies and Economics – BA joint major, honors
Canadian Studies, Economics and Business Administration – BBA joint major, honors, BA joint major, honors
Canadian Studies and English – BA joint major, honors
Canadian Studies and Geography – BA joint major, honors
Canadian Studies and History – BA joint major, honors
Canadian Studies and Political Science – BA joint major, honors
Canadian Studies and Sociology – BA joint major, honors
Canadian Studies and Sociology, Anthropology – BA joint major, honors
Chemical Physics – BSc, honors, MSc, PhD, co-op
Chemistry – BSc, honors, MSc, PhD, co-op
Chinese Studies – certificate
Cognitive Science – BA, honors
Communication – BA, honors, MA, PhD, diploma, co-op
Community Economic Development – certificate, diploma
Computing Science – BSc, honors, BA, honors, MSc, PhD, diploma, co-op
Computing Studies – certificate
Criminology – BA, honors, MA, PhD, general and advanced diploma, co-op
Dance – BFA
Earth Sciences – BSc, honors, MSc, co-op
Economics – BA, honors, MA, PhD, co-op
Education – BEd, honors, MEd, MA, MSc, PhD, EdD, diploma
Engineering Science – BASc, MEng, PhD, co-op
English – BA, honors, MA, PhD, co-op
English and French Literatures – BA joint major, MA
English and Humanities – BA joint major
English and Women's Studies – BA joint major
Environmental Chemistry – minor
Environmental Science – BSc, honors, co-op
Environmental Specialty – BA, honors
ProgramEnvironmental Toxicology – minor, MSc, diploma
Ethnic and Intercultural Relations – diploma
Family Studies – certificate
Film – BFA
Film and Video Studies – minor
Fine and Performing Arts – minor
Fine Arts in Interdisciplinary Studies – MFA
First Nations Language Proficiency – certificate
First Nations Studies – minor
French – BA, honors, MA
French Canadian Studies – certificate
French and Education – diploma
French, History, Politics – BA joint major
French Language Proficiency – certificate
General Studies – BGS
Geography – BA, honors, MA, MSc, PhD, certificate, co-op
Gerontology – minor, MA, diploma
Health and Fitness Studies – certificate
Hellenic Studies – certificate
History – BA, honors, MA, PhD, co-op
History and Humanities – BA joint major
Humanities – BA, diploma
Humanities and French – BA joint major
Industrial Mathematics – BSc, honors, co-op
Information Systems in Business Administration and Computing Science – BBA, BA, BSc joint major
Kinesiology – BSc, honors, MSc, PhD, diploma, co-op
Labor Studies – minor
Latin American Studies – minor, MA
Latin American Studies and Archaeology – BA joint major
Latin American Studies and Business Administration – BA joint major, BBA joint major
Latin American Studies and Communication – BA joint major
Latin American Studies and Economics – BA joint major
Latin American Studies and Geography – BA joint major
Latin American Studies and History – BA joint major
Latin American Studies and Political Science – BA joint major
Latin American Studies and Sociology, Anthropology – BA joint major
Liberal Arts – certificate, co-op
Liberal Studies – MAL
Linguistics – BA, honors, MA, PhD
Literacy Instruction – certificate
Management and Systems Science – BSc, honors, co-op
Management of Technology – MBA
Mathematical Physics – BSc (honors only)
Mathematics – BA, honors, BSc, honors, MSc, PhD, co-op
Mathematics and Computing Science – BSc joint Honors
Molecular Biology and Biochemistry – BSc, honors, MSc, PhD
Music – BFA
Native Studies Research – certificate, co-op
Natural Resource Management and Business Administration – MRM, MBA joint
Nuclear Science – minor
Pest Management – MPM
Philosophy – BA, honors, MA, co-op
Philosophy and Humanities – BA joint major
Physical Geography – BSc, honors
Physics – BSc, honors, MSc, PhD, co-op
Physics and Physiology – BSc (honors only)
Political Science – BA, honors, MA, PhD, co-op
Political Science and Economics – BA joint major
Political Science and Women's Studies – BA joint major
Psychology – BA, honors, MA, PhD, co-op
Psychology and Criminology – BA joint major
Psychology and Women’s Studies – BA joint major
Public History – certificate, diploma
Publishing – minor, MPub
Quaternary Studies – minor
Resource and Environmental Management – MRM, PhD, co-op
Science, General – BSc
Senior Citizens Certificate – certificate
Social Policy Issues – diploma
Sociology – BA, honors, co-op
Sociology and Anthropology – BA joint major, honors, MA, PhD, co-op
Sociology, Anthropology and Art and Culture Studies – BA joint major
Sociology, Anthropology and Communication – BA joint major
Sociology, Anthropology and Criminology – BA joint major
Sociology, Anthropology and Linguistics – BA joint major
Sociology, Anthropology and Women's Studies – BA joint major
Spanish Language Proficiency – certificate
Spatial Information Systems – certificate
Statistics – BA, honors, BSc, honors, MSc, PhD, co-op
Teaching English as a Second Language – diploma
Teaching ESL Linguistics – certificate
Telecommunications Engineering – certificate
Theatre – BFA
Urban Studies – certificate, diploma
Visual Art – BFA
Women’s Studies – BA, MA, certificate, co-op
Academic Calendar of Events

Undergraduate and graduate students should consult the Course Timetable and Registration Instructions published each semester for a complete calendar of events.

**2000 Fall Semester**

**September**
- 1 Fri Last day for continuing graduate students to register and pay fees.
- 4 Mon LABOUR DAY. Offices closed.
- 5 Tues Classes commence.
  - Last day for students completing degree requirements during summer to cancel application to graduate in October.
- 11 Mon Deadline for undergraduate application for readmission to the fall semester.
  - Deadline for submission of undergraduate grade changes from 2000 summer semester, summer session and intersession.
- 18 Mon Last day for graduate students to add courses and register late.

**October**
- 2 Mon Deadline for application for undergraduate admission to the spring semester 2000.
- 5 Thurs Fall Convocation for students who graduated in the summer semester.
- 6 Fri Fall Convocation for students who graduated in the summer semester.
- 9 Mon THANKSGIVING DAY. All classes cancelled. Offices closed.
- 10 Tues Last day for undergraduates to drop courses except under special procedures applicable in extenuating circumstances.
- 13 Fri Certificates and diplomas awarded for 2000/2001 academic year.
- 20 Fri Deadline for submission of undergraduate application for graduation without a late fee for students completing requirements by the end of the 2000 fall semester.

**November**
- 6 Mon Last day for graduate students to drop courses without academic penalty except under special procedures applicable in extenuating circumstances.
- 13 Mon In lieu of REMEMBRANCE DAY. All classes cancelled and offices closed.
- 27 Mon Last day for graduate students to drop courses under special procedures applicable in extenuating circumstances.
- 29 Wed Last day for undergraduates to drop courses under special procedures applicable in extenuating circumstances.

**December**
- 4 Mon Classes end.
- 6 Wed Examination period for undergraduates begins.
- 14 Thurs Last date for receipt of grades and grades deferred from previous semester for graduate students.

**2001 Spring Semester**

**January**
- 1 Mon NEW YEAR'S DAY. Offices closed
- 2 Tues Last day for students completing degree requirements in December to cancel application to graduate.
- 3 Wed Last day for continuing graduate students to register and pay fees.
- 4 Thurs Classes commence.
- 10 Wed Deadline for undergraduate applications for readmission to the spring semester.
  - Deadline for submission of undergraduate grade changes from the 2000 fall semester.
- 15 Mon Deadline for submission of application to the professional development program for fall semester, 2001.
- 18 Thurs Last day for graduate students to register late, last day to add courses.
- 31 Wed Deadline for application for undergraduate admission to the summer semester, intersession and summer session 2001.

**February**
- 7 Wed Last day for undergraduates to drop courses except under special procedures applicable in extenuating circumstances.
- 21 Wed Deadline for submission of undergraduate application for graduation without a late fee for students completing requirements by the end of the 2001 spring semester.
- 22 Thurs MID SEMESTER BREAK. Classes cancelled.
- 23 Fri MID SEMESTER BREAK. Classes cancelled.

**March**
- 8 Thurs Last day for graduate students to drop courses without academic penalty except under special procedures applicable in extenuating circumstances.
- 29 Thurs Last day for graduate students to drop courses under special procedures applicable in extenuating circumstances.
- 30 Fri Last day for undergraduates to drop courses under special procedures applicable in extenuating circumstances.

**April**
- 6 Fri Classes end.
- 9 Mon Examination period for undergraduates begins.
- 13 Fri GOOD FRIDAY. No examinations scheduled. Offices closed.
- 16 Mon EASTER MONDAY. No examinations scheduled. Offices closed.
- 17 Tues Final deadline for submission of undergraduate application for graduation (with a late fee) for students completing requirements by the end of the 2001 spring semester.
- 19 Thurs Last day for receipt of grades and grades deferred from previous semester for graduate students.

**2001 Summer Semester**

(including intersession, May-June and summer session, July-August)

**May**
- 4 Fri Last day for continuing graduate students to register and pay fees.
- 7 Mon Summer semester and intersession classes commence.
- 11 Fri Deadline for undergraduate application for readmission to the summer semester.
- 18 Fri Last day for undergraduates to drop intersession courses except under extenuating circumstances.
- 14 Mon Deadline for submission of application to the professional development program for spring semester 2002.
- 21 Mon VICTORIA DAY. All classes cancelled. Offices closed.

**June**
- 6 Wed Spring convocation.
- 7 Thurs Spring convocation.
- 8 Fri Spring convocation.
- 11 Mon Last day for undergraduates to drop summer semester courses except under special procedures applicable in extenuating circumstances.
<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Event</th>
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<tbody>
<tr>
<td>18 Mon</td>
<td>Last day for undergraduates to drop intersession courses under special procedures applicable in extenuating circumstances.</td>
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<tr>
<td>22 Fri</td>
<td>Intersession classes end. Deadline for submission of undergraduate application for graduation without a late fee for students completing requirements by the end of the 2001 summer semester.</td>
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<tr>
<td>25 Mon</td>
<td>Summer session classes for undergraduate classes commence (except Faculty of Education courses).</td>
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<tr>
<td>1 Sun</td>
<td>CANADA DAY.</td>
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<tr>
<td>2 Mon</td>
<td>All classes cancelled. Offices closed in lieu of Canada Day.</td>
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<tr>
<td>3 Tues</td>
<td>Summer session classes commence for Faculty of Education courses only.</td>
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<tr>
<td>6 Fri</td>
<td>Last day for graduate students to drop courses without academic penalty except under special procedures applicable in extenuating circumstances.</td>
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<tr>
<td>9 Mon</td>
<td>Last day for undergraduates to drop summer session courses except under extenuating circumstances.</td>
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<tr>
<td>27 Fri</td>
<td>Last day for graduate students to drop summer semester courses under special procedures applicable in extenuating circumstances.</td>
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<tr>
<td>31 Tues</td>
<td>Last day for undergraduates to drop summer semester courses under special procedures applicable in extenuating circumstances.</td>
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<tr>
<td>3 Fri</td>
<td>Summer semester classes end.</td>
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<tr>
<td>6 Mon</td>
<td>BC DAY. No exams scheduled. Offices closed.</td>
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<tr>
<td>7 Tues</td>
<td>Summer semester and summer session examination period for undergraduates begins. Last day for undergraduates to drop summer session courses under special procedures applicable in extenuating circumstances.</td>
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<tr>
<td>10 Fri</td>
<td>Summer session Faculty of Education courses end.</td>
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<tr>
<td>15 Wed</td>
<td>Final deadline for submission of undergraduate application for graduation (with a late fee) for students completing requirements by the end of the 2001 summer semester.</td>
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<tr>
<td>16 Thurs</td>
<td>Last day for receipt of grades and grades deferred from previous semester for graduate students. Deadline for submission of all graduate degree requirements, including completion of MA field examinations and submission of graduate theses to the library.</td>
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<tr>
<td>17 Fri</td>
<td>Summer semester examination period for undergraduates ends. Summer session examination period for undergraduates ends.</td>
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Academic and Campus Services

Academic Computing Services
1001 Strand Hall, (604) 291-3234 Tel, (604) 291-4242 Fax, www.sfu.ca/acs
Academic Computing Services (ACS) provides on-campus and home access to all Internet services including electronic mail, the web, the Caucus web conferencing system, netnews, and the MBone (video transmission on the Internet).

ACS offers several types of accounts for various services. You may need one or more of them. You need an SFU computing account to use the microcomputer labs, connect from home, send and receive e-mail, surf the web, access the library over the web, and access many other services. CRC accounts allow you to pay for services. Novell accounts provide office microcomputers with access to departmental printers and disk space.

“How-tos” provide useful information on many topics. A 24-hour help line is available at (604) 291-3230 or send an e-mail to help@sfu.ca. Students may obtain help from the lab attendants in AQ3148 or at (604) 291-3930.

Consultants in ACS provide help to faculty, staff and graduate students on all Internet services, how to get connected from home, and on a wide variety of topics including statistics, numerical analysis and database applications.

Credit-free tutorials are offered every semester about e-mail, word processing, desktop and web publishing, database and other topics.

ACS operates several microcomputer lab facilities for instructional and drop-in use. You need an SFU computing account to log into the microcomputers and to access the printers in these labs.

The SFU Computing Guide is a brochure providing more information on all aspects of our services. Call (604) 291-3234 for additional information.

Alumni Association
Alumni Relations, 2118 Strand Hall, (604) 291-4154 Tel, (604) 291-4958 Fax, alumni@sfu.ca, www.sfu.ca/alumni
Every person who has completed a degree, certificate or diploma program or PDP is a lifetime member of the Alumni Association, which seeks to support and further Simon Fraser University and higher education, and to strengthen the bond between Simon Fraser University and the University’s 63,000 alumni.

The association promotes an annual fundraising campaign for the University; offers services to members; and supports activities including regional events and career development programs.

The Alumni Relations Office maintains alumni records, links alumni and University departments, and provides administrative support for the Association.

Archives
0400 Maggie Benston Student Services Centre, (604) 291-3261 Tel, (604) 291-4047 Fax, archives@sfu.ca E-mail, http://www.sfu.ca/archives
Archives’ mandate is to acquire original archival materials that document all programs and activities of the University or that enhance its teaching and research programs. The University archives acquires three major categories of materials:

• official records of the University including those created by the board of governors, senate, University committees, faculties, departments and administrative offices
• materials documenting the wider University community. These records include private papers of groups such as the Faculty Association, Simon Fraser Student Society, University labor organizations and the private papers of prominent individual faculty, staff and students
• private historical research collections. These include the Association of Canadian Publishers (ACP), John Howard Society (JHS), W.A.C. Bennett and numerous collections relating to women’s issues.

Archives also holds the non-circulating original copies of all theses and dissertations approved by the University.

The University’s archives are a multi-media collection including film, video and sound recordings, maps, plans and architectural drawings, documentary art, and photographs.

Services to Researchers
The reference area is equipped with audio and video equipment. Arrangements can be made for viewing films. Reproduction request for photocopies and photographic copy prints are accommodated whenever possible. Finding aids to various collections are available in hard copy and a summary description is on the Archives Web site. Information is available about archival collections at other repositories.

Services to the Institution
To help fulfill its mandate, Archives administers a records management program for the University. The department also operates the University Records Centre (URC), providing temporary storage for official, semi-active records of the University. Archives staff provide consulting and training support to campus offices on record-keeping policy, practices, records retention and disposal. The department is also responsible for co-ordinating and administering the University’s access to information and privacy program and responding to all formal access requests submitted under the Freedom of Information and Protection of Privacy Act.

Service Hours
Archives is open for researchers 9 am – 12:30 pm and 1:30 pm – 4 pm, Monday to Friday.

Art Gallery
3004 Academic Quadrangle, (604) 291-4266 Tel, (604) 291-3029 Fax
The Simon Fraser Gallery exhibits and collects art works from Pacific Rim countries with an emphasis on Canada and British Columbia. Temporary exhibitions change every three weeks throughout the active University year.

The Simon Fraser collection includes several series and individual graphics by Inuit, Native, contemporary American and Canadian artists, as well as large scale works by major Canadian painters and sculptors.

Special Activities: Lectures and events are organized in collaboration with University departments. Through the loans program, individual works of art are loaned to members of the University community for installation in specific sites on campus.

The gallery is open regularly during exhibition dates Monday – Friday, 10 am – 4 pm; closed weekends and holidays.

The gallery is administered through the Dean of Arts Office, and operates through a gallery board.

Banking Facilities
222 Transportation Centre, (604) 668-3720 Tel, (604) 668-3071 Fax
A branch of the Bank of Nova Scotia is located on campus for the convenience of faculty, staff and students, with four off-site automated banking machines located in the Maggie Benston Student Services Centre, the north concourse of the Academic Quadrangle and in the West Mall Centre.

Address correspondence to The Bank of Nova Scotia, Simon Fraser University Branch, 8888 University Drive, Burnaby, BC, V5A 1S6.

Bookstore
Maggie Benston Student Services Centre, (604) 291-3656 Tel, (604) 291-3401 Fax, Harbour Centre store (604) 291-5048, www.sfu.ca/bookstore
The Simon Fraser University Bookstore, which occupies three levels in the Maggie Benston Student Services Centre, carries new and used books, stationery, clothing and giftware. Book selection includes general interest books, as well as textbooks for courses offered at the Burnaby campus and in the distance education program. General interest books are located on the upper floor and include a wide selection of reference books, study guides, literature, travel guides, cookbooks and other subjects. The bookstore also carries a extensive selection of stationery, university crested sportswear and memorabilia, and unique gift items.

The bookstore has a secondary location at the Harbour Centre campus. Textbooks for courses offered at Harbour Centre are only available at the downtown bookstore. For hours and information, call the number listed above, or visit our web site.

Burnaby Mountain Community Corporation
3100 Bennett Library, (604) 291-3220 Tel, (604) 291-3189 Fax, www.sfu.ca/bmcp
The Burnaby Mountain Community Corporation is responsible for overseeing the planning and development of a new community on approximately 200 acres of land within the University’s ring road.

This community will include new housing, commercial and recreational facilities, along with parks and open space. We welcome you to view our web site for more information, or visit our office off Convocation Mall.

Campus Community Services
1480 Maggie Benston Centre, (604) 291-4170 Tel, (604) 291-4341 Fax, www.sfu.ca/campus-community-services, Monday – Friday 8:30 am – 12:30 pm, 1:30 – 4 pm
Campus Community Services enriches the student’s university experience by providing programs and services, and developing policies that support student’s educational and personal goals. Our mandate is to ease the transition of new students through orientation services, to offer a wide scope of activities, programs and services that assist students with academic and social success throughout their time at SFU, and to provide opportunities to explore career options and better prepare for life in the larger community when they leave SFU.
Campus Community Services includes: Centre for Students with Disabilities, Childcare Centre, a variety of community events, Health, Counselling and Career Services, Nightline Crisis counselling and the Peer Educators program. First Nations Student Centre, Interfaith Centre, new student orientations, Recreational Services & Athletics, Residence and Housing, and the Volunteer Resource Centre.

New Student Orientations
Whether you are coming from the workforce, college, another university, or high school, orientation to Simon Fraser University is a must. We have several different orientation sessions, each geared to a specific audience. Discover SFU Orientation is run mainly by students. Our orientation ambassadors will share tips about program planning, parking, cheap textbooks and more. You can attend sessions that will provide you with strategies for academic success, give you ideas of stress and time management, as well as show you how to get involved and make use of the services at SFU.

For a nominal fee, you get an orientation package, a full day of programming, an hour and a half tour and lunch. Space is limited so register early. Discover SFU Orientation runs sessions in August for the fall semester, January for the spring semester, and April for the summer semester. For more information and to register, call (604) 291-3728, fax (604) 291-4341, or check us out on-line at www.sfu.ca/discover-sfu

Campus Security
Patrol Operations/Information Centre
50 Transportation Centre, (604) 291-3100 (24 hours), (604) 291-3469 Fax, www.sfu.ca/security

Campus security patrol, emergency response, campus information, safe walk program, complaint investigation and referral.

Parking Services
3110 West Mall Centre, parking@sfu.ca
(604) 291-5534 Tel
(604) 291-5386 Fax
(604) 291-4577 recorded information

All parking lots on campus except the visitor parking areas are reserved 24 hours for permit holders only. There is no free parking on campus.

Parking for undergraduates at the Burnaby campus is very limited. Parking permits for B lot ($93 per semester) are the most popular option, but due to demand for parking in the fall and spring semesters, B Lot permits must be allocated by lottery.

There are two lottery draws per year and they are held before the fall and spring semesters begin. Student may enter the lottery on the Parking Service’s home page on the Web at www.sfu.ca/security/Parking or in person at the Parking Services Office. You must have an SFU student number to enter.

There is an open sale period for renewable B Lot permits only once a year beginning on the first business day in April. Only a limited number of permits are sold on a first-come, first-served basis. A limited number of reserved spaces, available at a cost of $255 per semester, are sold on a first-come, first-served basis, year round. Evening/weekend parking permits are always available.

There are four visitor parking areas at the Burnaby campus. Visitor parking rates are $1.50 per hour up to a maximum of $9 per day.

More detailed information regarding parking can be found on the Parking Services web site at www.sfu.ca/security/Parking.

Cashiers’ Office
1411 Maggie Benston Student Services Centre, (604) 291-3218 Tel, (604) 291-4263 Fax

The Cashiers’ Office is responsible for the collection of student fees and deposit of university revenue. The centralized students’ accounts receivable system is managed by the Cashiers’ Office. All tuition fee payments and enquiries regarding the status of an account should be directed to this office.

For the convenience of students in downtown Vancouver, the Information and Registration Office at Harbour Centre campus will perform many of the functions of the Cashier’s Office at the Burnaby campus.

Office hours are 9 am – 4:30 pm, Monday to Friday.

Centre for Students with Disabilities

The Centre for Students with Disabilities was established to improve accessibility at Simon Fraser University by developing and updating University policies, procedures and programs. The centre is also responsible for providing direct services to students with a disability. These services include: assistance with note-taking; tutor support; access to adaptive technology; support for exam modifications; general advocacy, etc. Students requiring any of these services are expected to supply current documentation at their own expense and should contact the centre as soon as possible, preferably three months prior to the start of a semester.

The centre has an equipment lab of computers with access software (e.g. large text, voice output), a scanner, a Braille printer and a CCTV (closed circuit television for text or graphic enlargement). Most of the computers in the lab are on adjustable tables.

The Centre for Students with Disabilities also works with other University departments to ensure appropriate services are in place. Information on accessible on campus housing and accessible parking is available.

Course materials in alternative formats are also available for students through inter-library loans in the Bennett Library. Due to possible delays, contact the centre at least three months prior to the start of the semester.

Please contact the Centre for Students with Disabilities if you would like more information.

Childcare Services
Children’s Centre, West Side of Campus, (604) 291-4569 Tel, (604) 291-3058 Fax, www.sfu.ca/childcare-society

SFU Childcare Society has 11 programs offering quality childcare to children of students, staff and faculty. Our unique world-class facility provides full time and part time care to over 250 children aged 3 months to 12 years. The school aged children are transported off campus to attend two local Burnaby schools.

All childcare staff are fully qualified early childhood educators and provide children with a caring, enriched, developmentally balanced program. Parent participation in the program and board levels is an important part of our operations.

Fees are payable monthly. Childcare bursaries are available to eligible students and staff. The Ministry for Children and Families also subsidizes childcare fees for those parents qualifying under their financial need criteria. For information and/or a visit, call the Childcare office between 8 am and 5 pm at (604) 291-4569.

CJSF Radio
216 Transportation Centre, (604) 291-3727 Tel, (604) 291-3895 Fax

CJSF Radio is Simon Fraser University’s campus/community station, funded by Simon Fraser University students. The station’s mandate is to provide its listening community with programming content rarely available from the mainstream media. CJSF offers a wide variety of non-commercial music from all genres as well as special interest spoken word programming.

The station provides free airtime for public service announcements, and makes available a disc jockey service to the campus community for special events.

CJSF is currently operated by over 150 volunteers and new volunteers are always welcome. Station orientations are held regularly. In addition, CJSF offers semesterly work-study positions and grants a variety of opportunities to campus members and the Burnaby community.

You can listen to CJSF through Rogers Cable at 93.9 FM, on campus at 940 AM and on the Internet at www.cjsf.bc.ca. CJSF is currently applying for an FM licence to broadcast at 500 watts FM.

To find out more about your campus radio station, call us or drop by our offices.

School for the Contemporary Arts
(604) 291-3363 Tel, (604) 291-5907 Fax, www.sfu.ca/sca

Information on the School for the Contemporary Arts’ teaching programs can be found in the relevant undergraduate and graduate Faculty of Arts sections. The school also sponsors the following services for the campus community.

Public Events
The School for the Contemporary Arts presents a free performance, film screening, concert or artist’s demonstration in the SFU Theatre every Thursday at 12:30 pm during fall and spring semesters. In addition, more than 100 performances and visual art shows are scheduled throughout the year in the SFU Theatre, Studio II, the Martin Bartlett Performance Space at Alexander Centre downtown, and in the studios of the school. Programming for both the noon series and evening events features a mix of professional touring artists and students of the school. For information, contact the SFU Theatre box office at (604) 291-3514.

Professional Development Offerings
Praxis Film Development Workshop, (604) 291-3100, offers a resource centre, intensive workshops, public seminars, and courses on a broad range of film-related topics.
Dining Services
Administrative Office, Academic Quadrangle 2028, (604) 291-4481 Tel, Catering (604) 291-4377/4510
Simon Fraser University Dining provides a variety of convenient food outlets offering well-balanced, nutritional meals, fast food services, catering for groups, and convenience store shopping.
Piper Express debit card allows students, faculty and staff to purchase meals on a prepaid account from any of the following dining locations throughout the academic year. This account can be accessed by using either the pre-programmed Piper Express card or by having your own student card encoded for this purpose. Hours of operation are reduced for holidays, semester breaks and summer semester.

East Concourse
Orient Express
Enjoy the flexibility of the Sizzling Grill. Have a little or a lot — vegetarian, meat, seafood or chicken — with an array of delicious sauces. Incredible daily features are also available.
Open Monday – Friday, 11 am – 1:45 pm.

Mountain Top Deli
For the creative at heart, choose from gourmet breads, meats, cheeses and toppings to make that perfect sandwich. Plus we also offer the ever popular panini, now available in half orders.
Open Monday – Friday, 11 am – 3:30 pm.

Alexander MacKenzie Cafe
Hungry? Chicken or vegetarian Wraps, in Thai peanut and mango papaya flavours are for your choosing. Check out the grab and go health snack bar, with some of the finest dips this side of the 49th parallel. Or choose from our great daily entrees, burgers, sandwiches and pasta. Breakfast is served Monday – Friday, 7:30 – 10:45 am. The cafeteria is open until 7:30 pm.

Academic Quadrangle
White Spot Triple O’s
The home of the White Spot Triple O burger, thick cut onion rings, fresh cut fries, milkshakes and more.
Open 11 am – 4:30 pm, Monday – Friday.

Simon C’s
Our convenience store sells sandwiches, snacks, beverages, slurpees, pretzels, pastries, groceries, health and beauty aids, newspapers, magazines and stamps. Open 8 am – 9:30 pm Monday – Friday, 10 am – 6:30 pm Saturday – Sunday

Catering Service
A catering department meets all your catering needs.

West Mall Centre
Raven’s Cafeteria
Our nutritional entrees change daily. We offer a choice of traditional meat or vegetarian cuisine, a la carte breakfast and lunch grill choices, gourmet deli sandwiches, soup, chili and salad bar, pizza and pasta bar and made-to-order stir-fry delights. Got a sweet tooth? Check out our desserts and baked goods while enjoying the best view on campus!
Open seven days a week.

Raven’s Bistro
We proudly serve Starbuck’s coffee along with gourmet baked goods, pizza and other delicious savories. Treat yourself to an ice cream cone or a milkshake. Open 7:30 am to 10:30 pm Monday – Friday.

Centre for Distance Education
1300 West Mall Centre, (604) 291-3524 Tel, (604) 291-4964 Fax, toll free within BC 1-800-663-1411, www.sfu.ca/cde
Distance Education courses provide an alternative to traditional classroom learning for those who wish to continue their formal education but cannot attend scheduled classes on campus or at an off campus location. Since 1975, when Simon Fraser University introduced its first five distance education courses to 55 students, the program has grown to over 12,000 course enrolments a year in over 130 credit courses.
All courses carry full university credit. Students may complete many certificate, diploma and degree programs entirely by distance education.
Each student who takes a distance education course receives a complete learning package consisting of a study guide in which the course content is presented, and required assignments. The learning package may also contain a supplementary reading guide, audio and/or video cassette tapes, slides or manipulatives appropriate to the course. Increasingly, instructional technologies are being used to enhance distance education courses and to promote interaction between and amongst students and tutor markers.
Each course is assigned a tutor marker who is responsible for grading assignments and assisting students with course work. All have scheduled office hours for telephone and/or e-mail consultation.

First Nations Student Centre
1260 Maggie Benston Student Services Centre, (604) 291-3555 Tel, (604) 291-5882, www.sfu.ca/campus-community-services/nsc.html, Monday – Friday, 10 am – 6 pm
Support services and programs are available to students of First Nations ancestry (aboriginal, Metis, Inuit) through the Native Student Centre.
The centre develops academic support programs including student orientation and graduation activities, and provides referrals to and information concerning university and Aboriginal community resources.
Services include listings for volunteer work, employment and campus/community cultural events, and there are telephone and fax services also.
There is a First Nations academic advisor who can help with academic program planning including registration procedures, course selection and course withdrawals. The advisor will also assist with appeals and retroactive withdrawals.
A First Nations Student Association lounge is located in TC 3108 where students can meet in a relaxed atmosphere. The lounge, available 24 hours a day, is equipped with computers.

George and Ida Halpern Centre
Halpem Centre, (604) 291-4910 Tel, (604) 291-3420 Fax
The Halpern Centre was donated to the University to be used as a setting for cultural and intellectual endeavours which are not part of the scheduled credit offerings of the University. The centre serves as a venue for events of the highest scholarly, social and cultural value, including lectures by distinguished visitors, discussion groups, seminars, learned conferences, dissertation defences, art exhibits, musical performances and the like.
The centre is also available for booking by University departments and community groups whose activities are consistent with the centre’s stated purposes. There is no rental fee for University-sponsored events. Space bookings, reserved by a University individual, require sponsorship of the individual’s department or, in the case of student clubs or unions, through the Simon Fraser Student Society.

Harassment Resolution Office
Simon Fraser University’s harassment policy responds to the University’s responsibility under BC’s human rights code to prevent harassment, to provide procedures for handling complaints and to resolve harassment conflicts when they occur.
The harassment policy applies to all members of the University community including employees and students.
SFU’s harassment policy addresses personal harassment, sexual harassment and harassment based on a prohibited ground of discrimination. Complaints can be resolved through either informal or formal procedures, although it is important to note that personal harassment complaints can be dealt with only through informal procedures under the new policy.
The Harassment Resolution Office is dedicated to resolving harassment conflicts, and is open Monday to Friday from 8 am to 4 pm. Please call the office for more information on the policy, or for an appointment.
If you are involved in a situation you think may be harassment, as soon as possible call the Harassment Resolution Office.

Health, Counselling and Career Centre
0101 Maggie Benston Student Services Centre, (604) 291-4111 Tel, (604) 291-5888 Fax, www.sfu.ca/hccc
Our Mission
We exist to promote mind-body wellness to enable students to realize their full potential and achieve their academic, personal and career goals. Our services are responsive, professional and foster self-reliance. We work as an integrated team and value innovation and partnerships with students.
Key services include health services, counselling services, career services, learning skills and outreach services.

Health Services
0101 Maggie Benston Student Services Centre, (604) 291-4815 Tel, (604) 291-5888 Fax, medical emergencies: (604) 291-4500, Physicians after regular hours: (604) 522-2211/2311, 5:30 pm – 8:30 am, Monday – Friday, week-ends and holidays
The Health Services division of the Health, Counselling and Career Centre provides quality health care at both the Burnaby Mountain and the Harbour Centre campuses. We provide primary health care for students and emergency/urgent care for staff and faculty members. The clinic is staffed by a multidisciplinary team of health care providers including physicians, nurses, a health educator and support staff. We also operate a physiotherapy clinic and a BC Biomedical Laboratory onsite. Patients are seen by appointment or on a drop-in basis. Fees are covered by most provincial health plans. Don’t forget to bring your health card.
The following services are available for students: general health care, pap smears, breast exams, birth control information and counselling, STD testing and counselling, health education, immunizations and allergy shots, mental health, specialist clinics, travel medicine, and emergency response and first aid.
Physiotherapy Clinic
070 Chancellor Gymnasium Centre, (604) 291-3284
Tel, (604) 291-5781 Fax
The clinic is staffed by two physiotherapists, an
athletic therapist and an office assistant. Services are
provided to all members of the campus community.
Physiotherapists address orthopedic and sports
injuries, prevention, treatment and rehabilitation.
Services are available by appointment. No referral
is required, except for WCB or ICBC. A minimal user fee
is charged which may be covered by extended
medical insurance. The user fee is waived for those
on premium assistance, WCB or ICBC patients and
varsity athletes.

Counselling
0164 Maggie Benston Student Services Centre,
(604) 291-3694 Tel, (604) 291-5888 Fax
Free, confidential counselling services are available
for SFU students currently registered in credit courses
at SFU. Registered psychologists, a psychiatrist,
counsellors and counselor trainees provide short-
term individual, couple and group counselling. We
address personal, academic and career concerns.
Same day crisis appointments are available for those
in need. Groups and workshops are offered on a
range of personal development topics including stress
management, depression, performance anxiety,
communication skills, procrastination and body
image. Counselling Services also provides expert
consultation to staff and faculty, outreach to campus
groups and crisis intervention in the case of critical
incidents on campus.

Career Services
0300/1150 Maggie Benston Student Services Centre,
(604) 291-5362/3105 Tel, (604) 291-5888 Fax
Career Services provides a range of options for SFU
students and recent alumni who require assistance
with career development and job search. Career
counsellors, advisors and peer educators provide
workshops, programs, events, drop in sessions and
individual appointments to assist you with the
development of your own unique career plan and job
search strategies. Topics include career exploration,
career and occupational researching, networking,
information interviewing, workplace communication,
interview preparation, resume and cover letter
development.

Our career resource library offers a comprehensive
set of print and on-line resources to aid in your
planning process. Computerized career assistance
is available, along with self-help videos, books,
university and college calendars, specialized program
information, and a variety of other resources. Check
out our new software programs and CD Roms for
career exploration. Drop by during regular office
hours and receive personal assistance with your
immediate questions.

Take advantage of our on-line job posting service for
full time, part time and summer job opportunities. We
also co-ordinate on campus recruiting and specialized
career events. Sign up to our e-mail list (employment-
ctr-info) to receive regular updates and information
about employment opportunities, programs and
services.

Career Mentor Program
(604) 291-3215 Tel, (604) 291-5888 Fax
Did you know that SFU graduates employed in your
field of interest are ready and willing to help you with
your career development? The Career Mentor
Program provides SFU students and recent alumni
with unique opportunities to participate in information
interviews, networking, career planning and job
search with the assistance of mentors in the work
force. Learn to network, develop your resume and
practice your interview skills with expert help.

Outreach Services
(604) 291-5362 Tel, (604) 291-5888 Fax
Outreach services are provided on campus to groups
of students, faculty and staff. Staff deliver
presentations, workshops, seminars and small group
discussions on-site. These sessions address physical
and mental health issues, learning skills, career and
employment issues and other topics of interest to
students, faculty and staff. In addition, special events
are organized throughout the year. Our staff will come
to you.

In the Student Resource Centre we have computer
programs, self-help interactive videotapes and a
resource library which houses health, counselling,
learning skills, career development and job search
materials. Books, calendars, brochures and other
information can be found in the Resource Centre.
Drop by anytime during the day. Personal assistance
is available.

Learning Skills
(604) 291-5362 Tel, (604) 291-5888 Fax
The learning skills educator and peer educators
assist SFU students with unique learning needs at
university. Workshops and short courses, drop in
sessions and individual consultations are offered for
reading, writing, memory, concentration, exam
preparation, time management, presentation and
general learning skills. The learning skills team
provides outreach to classes or specialized groups.
Drop by Health, Counselling and Career Centre to
review our extensive collection of learning resources
and check out the many programs available to
enhance your academic success.

Students Supporting Students: Peer
Educators
(604) 291-5362 Tel, (604) 291-5888 Fax
Peer educators are registered students who have
been trained to deliver outreach programs and
provide assistance with student health issues,
academic performance, career development and
related issues. They work under the supervision of
the HCCC staff to organize special events on
campus, conduct education workshops and small
group discussions and provide one-on-one
consultation in each area of the service. The peer
educators also offer a lesbian, bisexual, gay,
transgendered or questioning (LGBTQ) peer support
program for students with concerns related to sexual
identity or coming out.

New student volunteers are welcome in all of our peer
support programs. Extensive training is provided each
year early in the fall semester.

SFU Nightline
(604) 688-5198 evenings, weekends and holidays
After regular hours, SFU Nightline operates a
telephone crisis intervention service, providing peer
counselling and support, information and referrals.
Student volunteers undergo extensive training using a
crisis-intervention model. When you call Nightline, an
answering service will answer and patch you through
to a student volunteer within 10 minutes.

Student volunteers undergo extensive training using a
crisis-intervention model. When you call Nightline, an
answering service will answer and patch you through
to a student volunteer within 10 minutes.

Instructional Media Centre
7512 Multi Purpose Complex, (604) 291-4311 Tel,
(604) 291-4900 Fax, www.imc.sfu.ca
The Instructional Media Centre (IMC) provides the
following services.

Media Collection
(604) 291-4300
Assistance is available for locating and acquiring
films, videos, slides, audio tapes and discs from
distributors and other institutions. Collections of video
tapes, films, slides, audio materials, and multimedia
programs are available on-line for research and course
instruction. Preview facilities are available.

Media Productions Services
Consultation, design and production of instructional
materials is available in formats such as video, audio,
photography, digital imaging, and graphics.

Audio Visual Services (AVS)
A wide variety of audiovisual and computer
equipment for classroom projects is available for loan
to students as well as advice and instruction in proper
use. When requested by faculty, audio recordings of
lectures can be produced for student use. The
cassettes and a listening facility are in the library. AV
Services has two locations: South Concourse, room
P9301, phone (604) 291-4828; West Mall Centre,
room 2522, phone (604) 291-5538. Hours of operation are 8 am to 10
pm Monday through Thursday (until 8 pm in the West
Mall Centre), and Fridays until 4:30 pm.

Hours of Service
8 am – 4:30 pm, Monday – Friday.

Interfaith/Chaplaincy Centre
1470 Maggie Benston Student Services Centre,
The University is served by an ecumenical and
interfaith chaplaincy comprising six chaplains
representing the Christianity faith and other religions.
They provide a wide spectrum of social and spiritual
services, and they are prepared to help anyone
including students, staff and faculty.

For special events, weekly services and meetings,
see Simon Fraser News or call (604) 291-3180.
Topics are warmly invited to visit our drop-in centre
and reading room, which is open 9:30 am – 3 pm,
Monday – Friday.

International & Exchange
Student Services
1200 Maggie Benston Student Services Centre,
(604) 291-4232 Tel, (604) 291-5880 Fax,
sfu_international@sfu.ca E-mail,
www.reg.sfu.ca/IESS
International & Exchange Student Services is
responsible for co-ordinating the University’s
exchange programs and other international
opportunities as well as encouraging a strong and
visible international student presence. Students and
recent graduates of Simon Fraser University have
access to a myriad of unique experiences and
opportunities by becoming involved in any of the
University’s many international and domestic
activities, including student exchanges and field
schools. The University can also offer some
assistance in accessing employment and volunteer
opportunities overseas.

International Students
IESS provides support and assistance with cultural
adaptation and responds to a wide range of enquiries
from international students, including clarification
of Canadian immigration requirements for study and
employment. In addition to orientations for new
international students, IESS offers a
students-helping-students program where a new
The centre also offers support to graduate and undergraduate visa students and their families. Services presently include:

- contact with Canada Immigration to clarify regulations and procedures
- advice on coping skills for adaptation to a new academic and cultural environment
- information on appropriate medical coverage
- assistance with identifying housing options, tenant rights and group sharing
- temporary mail facilities for new students
- liaison with academic departments and units in support of international student issues

International Exchange Programs

Students in their third and fourth years at Simon Fraser University have access to unique educational opportunities by becoming involved in a student exchange program. With planning, courses taken outside of SFU may be used toward your Simon Fraser University degree and need not extend your period of study. Simon Fraser University has exchange relationships in many countries around the world and in Canada.

A student approved for participation in a formal exchange program may, with the approval of his/her major department(s), undertake a maximum of 60 lower or upper division exchange credit hours while participating in the program. Students who have transferred to SFU are allowed to count the additional 30 exchange credits in addition to any transfer credit the student may have been previously awarded.

Transfer credit for exchange programs should be arranged before departure. Study at the host university may be possible in disciplines or subjects other than those listed below.

Undergraduate International Exchanges

<table>
<thead>
<tr>
<th>Country</th>
<th>City</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>Buenos Aires</td>
<td>University of Buenos Aires</td>
</tr>
<tr>
<td>Australia</td>
<td>Adelaide</td>
<td>Flinders University</td>
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<tr>
<td></td>
<td>Melbourne</td>
<td>Monash University</td>
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<tr>
<td></td>
<td>Melbourne</td>
<td>Swinburne University of Technology</td>
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<tr>
<td></td>
<td>Perth</td>
<td>Murdoch University</td>
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<tr>
<td>Chile</td>
<td>Santiago</td>
<td>Pontificia Catolica Universidad de Chile</td>
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<tr>
<td>China</td>
<td>Shanghai</td>
<td>East China Normal University</td>
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<tr>
<td>Cuba</td>
<td>Havana</td>
<td>Universidad de la Habana</td>
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<tr>
<td>Denmark</td>
<td>Aarhus</td>
<td>Aarhus University</td>
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<tr>
<td>England</td>
<td>Bath</td>
<td>University of Bath</td>
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<td></td>
<td>Brighton</td>
<td>University of Sussex</td>
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<td>Leeds</td>
<td>University of Leeds</td>
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<td></td>
<td>Norwich</td>
<td>The University of East Anglia</td>
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<td>France</td>
<td>Grenoble</td>
<td>Université de la Sorbonne</td>
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<td></td>
<td>Paris</td>
<td>University of the South Pacific</td>
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<td>Germany</td>
<td>Köln</td>
<td>Universität zu Köln</td>
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<td>Saarbrücken</td>
<td>Universität des Saarlandes</td>
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<td>Greece</td>
<td>Athens</td>
<td>National &amp; Kapodistrian</td>
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<td>Hong Kong</td>
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<td>University of Athens</td>
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<td>Japan</td>
<td>Osaka</td>
<td>Meiji Gakai Daigaku University</td>
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<td>Korea</td>
<td>Yokohama</td>
<td>Yonsei University</td>
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<td>Seoul</td>
<td>Seoul National University</td>
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<td></td>
<td>Taejon</td>
<td>Korea Advanced Institute of Science &amp; Technology</td>
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<tr>
<td>Mexico</td>
<td>Mexico City</td>
<td>Instituto Tecnológico Autónoma de México</td>
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<td>Guadalajara</td>
<td>Universidad de Guadalajara</td>
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<td>Monterrey</td>
<td>ITESM</td>
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<td>Puebla</td>
<td>Universidad de las Americas</td>
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<td>Netherlands</td>
<td>Groningen</td>
<td>Hanzehogeschool Groningen</td>
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<td>Utrecht</td>
<td>Universiteit Utrecht</td>
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<td>Norway</td>
<td>Oslo</td>
<td>Norwegian School of Mgmt.</td>
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<td>Oslo</td>
<td>University of Oslo</td>
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<tr>
<td>Philippines</td>
<td>Manila</td>
<td>De La Salle University</td>
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<tr>
<td>Scotland</td>
<td>Dundee</td>
<td>The University of Dundee</td>
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<td>Edinburgh</td>
<td>Heriot-Watt University</td>
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<td>Glasgow</td>
<td>Strathclyde University</td>
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<td>Singapore</td>
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<td>National University of Singapore</td>
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<td>Sweden</td>
<td>Lund</td>
<td>Lund University</td>
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<td>Switzerland</td>
<td>Basel</td>
<td>Universitat Basel</td>
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<td></td>
<td>Taiwan</td>
<td>National Taiwan</td>
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<td></td>
<td>Bangkok</td>
<td>Thammasat University</td>
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<tr>
<td>Thailand</td>
<td></td>
<td>University of New Mexico</td>
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<tr>
<td>USA</td>
<td>Albuquerque</td>
<td>University of New Mexico</td>
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<td></td>
<td>Boston</td>
<td>Northeastern University</td>
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<td></td>
<td>Bellingham</td>
<td>Western Washington University</td>
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<td></td>
<td>Orono</td>
<td>University of Maine</td>
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<tr>
<td></td>
<td>San Diego</td>
<td>San Diego State University</td>
</tr>
</tbody>
</table>

Eligibility for Exchanges

Participants on all exchanges must meet certain academic and residency requirements. All domestic and international exchange participants must:

- have completed upper division exchange credit hours before participating
- have completed at least 15 credit hours at Simon Fraser University prior to application
- be a full time student during the exchange period
- choose to study for one term or a full year at the host university

Information meetings for students interested in domestic or international exchanges will be held on Tuesday, September 26, 2000, Wednesday, October 18, 2000, Thursday, November 1, 2000, and Tuesday, January 9, 2001 from 1:30 to 2:30 pm in the Halpem Centre, room 126. Plan to attend one of these meetings.

Field Schools

Field schools are discipline-specific one-semester study abroad programs for groups of students. Accompanied by a professor of Simon Fraser University, participants will spend one semester abroad earning SFU credit.

Biological Sciences Field School in Fiji (summer 2001) (to be confirmed)

Sponsored by the Department of Biological Sciences, the University of the South Pacific in Suva will be the location for marine biology course work and research.

Chinese Studies Field School (summer 2001)

Sponsored by the Asia Canada program, the field school will spend one week at SFU followed by seven weeks in China — one week in Beijing and six weeks in Jinlin — studying intensive Chinese language as well as Chinese culture.

Hellenic Studies Field School (summer 2001)

Sponsored by the Hellenic studies program, the field school will spend one week at SFU followed by seven weeks of study in Kephallonia with field trips to surrounding areas.

Prague Field School (summer 2001)

Sponsored by the Faculty of Arts, the field school will spend eight weeks in Prague studying modern Czech culture and humanities courses.

South Pacific Linguistics Field School (summer 2001)

Sponsored by the Department of Linguistics, the field school will spend seven weeks in Fiji studying local dialects of Fijian language as well as Fijian culture.

Independent Study Abroad

Students may study at institutions in virtually any country and may receive Simon Fraser credit. Students must arrange these programs individually, and must also organize transfer credit using a Letter of Permission. Local financial, tuition, academic and language requirements must be met by the individual student. Information on procedures is available from IESS.

For more information, see Courses at Other Institutions in the Registration section.

W.A.C. Bennett Library

Burnaby Mountain, Library Hours (604) 291-4351, Library Information (604) 291-3869, Fax (604) 291-3022, Dial-in Computer Catalog Access: SFU students (604) 291-4721, faculty and
Access to Information, a special series of lectures, is open to all. The lectures are held on Friday from 9 am to 5 pm, and Saturday and Sunday from 10 am to 1 pm. Reference service is available Monday to Thursday from 9 am to 8 pm.

Information materials are available to disabled persons. A Visualtek machine and assistance in using library materials are available. Reserved study rooms, a Braille typewriter, and Macintosh microcomputers, laser printers, and software, including products from Adobe, Borland, Corel, FileMaker, Macromedia, Microsoft and Symantec, are available. Faculty and graduate students may use the library at the University of British Columbia. Service is obtained from the circulation division of that library. BC university libraries participate in inter-library lending which opens the collections of BC post-secondary institutions to all SFU faculty and students.

Hours
Sunday 11 am – 10 pm; Monday to Thursday 8 am – 10 pm; Friday 8 am – 6 pm; Saturday 11 am – 6 pm

Normally, the building closes during statutory holidays. Special extended hours are observed during final exams in the fall and spring semesters.

Samuel and Frances Belzberg Library
Simon Fraser University at Harbour Centre, (604) 291-5050 Tel, (604) 291-5052 Fax, www.harbour.sfu.ca/belzberg/belzberg.htm

The Belzberg Library has been in operation since January 1989 as a branch library serving the students and faculty of Simon Fraser University at Harbour Centre. The library provides a full range of services including reference, loan of library materials, access to course reserves, and provides access to course reserves in the main W.A.C. Bennett Library. The Belzberg Library is part of the university library system and is connected to other libraries on campus.

Loans
The loan policy is three weeks for in-demand items, and semester loan for general circulation material. High usage and course-identified materials are gathered in the reserve collection and are assigned shorter loan periods.

The circulation system is automated and borrowers are issued ID/library cards. Faculty and graduate students may use the library at the University of British Columbia. Service is obtained from the circulation division of that library. BC university libraries participate in inter-library lending which opens the collections of BC post-secondary institutions to all SFU faculty and students.

Media and Public Relations Office

Media and Public Relations Office is responsible for community relations and information dissemination. Major activities include publicizing campus events and achievements, media liaison, publication of Simon Fraser News and the operation of a speakers bureau. News and story ideas are always welcome.

Microcomputer Store
2000 Maggie Benston Student Services Centre, (604) 291-3098 Tel, (604) 291-4783 Fax, http://microstore.ucf.sfu.ca, micro_store@sfu.ca

The Microcomputer Store sells educationally-priced computer hardware, software, supplies and accessories to current SFU students, staff, and faculty. Educational discounts are available on a wide range of software, including products from Adobe, Borland, Corel, FileMaker, Macromedia, Microsoft and Symantec.
editor or write a letter to share opinions with the university community. In addition to being a valuable source of information, The Peak provides jobs and experience for other SFU students, maintains an archive, darkroom and web site, and is a member of Canadian University Press.

Recreational Services and Athletics


Recreational Services & Athletics provides the campus community with a variety of physical activities from recreational to competitive levels. Chancellor’s Gymnasium complex includes a fitness centre (Piper’s Gym), weight room (The Bog), six lane 25 metre pool, diving pool, combative room, squash/racquetball courts, outdoor tennis courts, outdoor climbing wall, 400 metre outdoor track, a multipurpose field, two grass fields, saunas, locker facilities, two gymnasia and a physiotherapy clinic.

Athletics

Since its 1965 inception, SFU’s athletics program enriches Canada with a winning tradition second to none. The Clan demonstrated its excellence in the 1998-99 season by securing a third consecutive Sears Director’s Cup. The cup is awarded to the top athletic program within the National Association of Intercollegiate Athletics (NAIA).

Simon Fraser University, the only Canadian program to compete in the NAIA, offers athletic scholarships to its student athletes along with excellent competitive opportunities.

Simon Fraser University Varsity sports programs include basketball, field hockey, football, golf, soccer, softball, swimming and diving, track and field, volleyball and wrestling.

Recreational Programming

The Recreational Services & Athletics programming is designed to meet all levels of aspiration and enhance skill development. Brochures are published, distributed and posted semestery outside the Recreational Services Office, located on the first floor of Chancellor’s Gymnasium Complex (room 110).

Aquatics — on-going courses are offered in children’s Red Cross lessons, adult learn-to-swim lessons, lap swimming, deep-water running, and advanced leadership courses.

Fitness — multi-level classes cater to a wide variety of individual needs and include specialty classes such as aquafit, hi-low, step and personal training consultations. Instruction is also offered for CPR, first aid and instructor training.

Non-credit instruction — classes offer semiannual instruction of up to 12 weeks in a large number of activities suited to varying levels of skill or fitness. Offerings include instruction in combative, dance, racquet sports, scuba, yoga and several outdoor recreational activities.

Intramural sport — intramural activities are offered to all individuals with a valid gym membership. Participation varies from involvement in regular league schedules to special events and tournaments. Activities take place both on and off campus.

Student sport clubs — a variety of clubs are sponsored by Recreational Services & Athletics. Competitive clubs compete in local leagues and tournaments (some at an elite level) and non-competitive clubs are available for groups with common interests.

Residence and Housing Office


There are several residences on campus.

- Madge Hogarth House, a women's traditional residence which accommodates 66 students
- Shell House, a traditional co-ed residence which accommodates 152 students
- McTaggart-Cowan Hall, a traditional co-ed residence which accommodates 200 students
- Hamilton Hall, a co-ed residence which accommodates 142 undergraduate students in single studio suites
- A townhouse complex which accommodates 396 single students in four bedroom townhouses
- Louis Riel House, a family apartment building containing 209 one and two bedroom units

McTaggart-Cowan Hall, Hamilton Hall and Louis Riel House offer rooms suitable for students with disabilities.

In the traditional residences, studios and townhouses, accommodations are fully furnished and are equipped with stoves and refrigerators. In addition, the townhouses have a dishwasher.

In the apartment residence, units are furnished with a stove and refrigerator. Apartments are reserved for couples, families with children, and single parent families.

Every student entering a residence is required to sign a lease or a rental agreement. It is renewable, based on the completion of residence and housing admittance and eligibility policy requirements.

Information for on campus residences may be obtained from the Summit brochure, the Internet address shown above, or the Residence Office, 226 Shell House. Applications for Louis Riel House are accepted year-round. Traditional residences, studios and townhouse application dates begin as follows.

- Fall 2000 – March 1
- Spring 2001 – September 21
- Summer 2001 – January 2
- Fall 2001 – March 1

Apply as soon as possible within the application period dates. As residence accommodation is limited at the University, priority is given to applicants based on their permanent home address and the date that their completed application and accompanying fee are received by the Residence and Housing Office.

Off Campus Housing

Off-Campus Housing Office, 1502 Maggie Benston Student Services Centre, (604) 291-3731 Tel, (604) 291-5506 Fax. Hours 1:30 – 3 pm, www.sfu.ca/offcampushousing

This office maintains a current listing of all types of housing available to students in the neighboring community. This information is posted at the Off-Campus Housing Office. The services are free to persons seeking accommodation. Listings are not inspected in any way, but offers of accommodation known to be unsuitable are not listed. Landlords listing their accommodation are required to pay $10 per listing for two weeks of display.

While the staff welcome enquirers and will offer general guidance, users of this service must make their own final selection. For general information, write to or fax the Off-Campus Housing Office, or find us on the Internet at the address listed above.

Simon Fraser Public Interest Research Group (SF PIRG)

326 Transportation Centre, (604) 291-4360 Tel, (604) 291-5598 Fax, www.sfu.ca/sfpg

The Simon Fraser Public Interest Research Group (SF PIRG) is a non-partisan, student-funded and directed campus resource centre. We bring together students, staff, faculty and community groups to organize around issues of public interest, such as the environment and social justice.

All students, faculty and staff are invited to borrow books, clippings and magazines from our resource library. You can also volunteer in our various action groups and develop a useful skills such as event planning, public speaking and desktop publishing. Drop by our offices and get involved.

Simon Fraser Student Society

2250 Maggie Benston Student Services Centre, (604) 291-3181 Tel, (604) 291-5843 Fax

SFSS and CFS Membership

Each SFU student is a member of the Simon Fraser Student Society (SFSS) and the Canadian Federation of Students (CFS). The SFSS is Local 23 of the CFS which is an alliance of nearly 400,000 students at over 55 student unions across the country. The SFSS works to improve student life at SFU and to fight for students’ rights. Working with other student unions across the country through the Canadian Federation of Students, the SFSS works for accessible public education for all Canadians.

Structure and Representation

The Student Society is comprised of every student attending SFU. The Society operates on a democratic basis composed of departmental student unions which appoint a representative to the decision-making body of the Society called Forum. Every spring, students elect representatives from each department as well as six executive officers who are responsible for the day to day management of the Society.

The Society provides funding and administrative support for departmental student unions and graduate caucuses — the grassroots constituencies of the Student Society. Student unions and grad caucuses elect student representatives to departmental committees, provide opportunities for students to socialize, and organize projects. Working with a student union or grad caucus, students have a vote on vital issues ranging from course offerings to government funding of education.

Membership Dues

The SFSS collects semestery fees and levies in order to fulfill its mandate of representing and servicing students. Each member of the society pays a membership due which funds the projects, services and advocacy of the society as well as paying for its space in the Maggie Benston Centre. Membership dues are also collected for the Canadian Federation of Students. All fees were first introduced through referendum, and voted on at one time or another by SFU students. SFSS and CFS membership dues are broken down as follows:

<table>
<thead>
<tr>
<th></th>
<th>Full Time</th>
<th>Part Time</th>
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</thead>
<tbody>
<tr>
<td>SFSS Dues</td>
<td>$23.35</td>
<td>$11.18</td>
</tr>
<tr>
<td>Building Fund</td>
<td>$15.00</td>
<td>$7.50</td>
</tr>
<tr>
<td>Capital Fund</td>
<td>$1.00</td>
<td>$.50</td>
</tr>
<tr>
<td>CFS</td>
<td>$6.56</td>
<td>$3.28</td>
</tr>
</tbody>
</table>

The remainder of the student activity fee is collected by the University and disbursed to the following campus organizations: CJSF Radio; Simon Fraser Public Interest Research Group (SF PIRG); and the Peak.
Advocacy
The SFSS works on a number of important issues including: fighting university budget cuts to the SFU tutorial system; lobbying the provincial and federal governments to restore funding to education; improving transit service to SFU; ensuring a student voice in development plans for Burnaby Mountain; and fighting to maintain the current provincial freeze on tuition.

Student Resources
Legal Clinic
For questions that you need answered by a lawyer, the SFSS provides a free legal clinic on Thursday afternoons. Make appointments through the SFSS general office. Free pamphlets with legal advice are also available in the SFSS executive office.

Photocopying
The SFSS Copy Centre, located on the 2000 level of the MBC, is a flexible, friendly environment which provides students with fast, cheap copying and printing services. The Copy Centre maintains many self-serve photocopiers across campus.

Women's Centre
The Women's Centre provides space to women on campus, and resources to both women and men. The Women's Centre consists of a 24 hour lounge, a resource office and extensive library. Campus men can access the library through catalogues housed at SFPIRG, and have access to referral and community information by phone. There is also a kitchen, microwave, free phone, and children's play area. New Collective members are always welcome and discussion groups, Wenlido and orientations are offered regularly so drop by TC 3013 to get involved.

Out on Campus
Out on Campus, the lesbian, bisexual, gay and transgendered collective of the SFU provides resources and organizational support for the university community as well as advocacy and social events. Out on Campus is composed of people from SFU's communities, and the Collective welcomes all who want to become involved. Out on Campus is located in TC 314 (north) and can be reached at (604) 291-5933, or check out the web set at www.sfu.ca/out-on-campus.

Ombuds Office
The Ombuds Office is an independent and autonomous agency funded by students through the SFSS. The role of the Ombuds Office is to ensure that all members of the University community receive fair and equitable treatment. The Ombuds Office is located at MBC 2205, or you can call (604) 291-4563 or e-mail: ombudsoffice@sfu.ca.

Quad Books
Located on the 2000 level of the Maggie Benston Centre, your student-owned Quad Books carries school supplies at low prices, together with Express Post, transit tickets and passes, and a fax service. Quad Books also operates the popular “Book BuyBack” during the second week of exams where you can sell and buy used textbooks to save money.

Financial Aid and Employment
Pub Bursary
As part of the Student Society’s ongoing work to make education more accessible for students, the SFSS allocates over $10,000 each year towards its Pub Bursary Program.

Simon Fraser Student Society
The SFSS provides many job opportunities for students at the Pub, Quad Books, the General Office and the Copy Centre. Job postings are displayed at the SFSS General Office as well as at Employment Services at MBC 1150.

Student Work Abroad Program
Administered by the Canadian Federation of Students, SWAP allows students to work and live in another country for up to two years. SWAP brochures are available at the T ravel CUTS office at MBC 2280.

Food
Atrium
This spacious licensed facility can be booked for social events including concerts and fundraisers.

Catering Services
Catering is one of the most popular services that the SFSS provides to its members and everyone in the SFU community. Throughout the years many have come to depend on the excellent quality and reasonable prices to make meetings and conferences much more enjoyable.

Higher Grounds Coffee Bar
Your Student Society coffee bar is located directly across from the library and is a quick-stop cappuccino bar with muffins, cookies, sandwiches, pizza, and lots of tasty to-go items. Bring your own mug for a discount price.

Highland Pub
The SFSS Pub is a favourite with students and the sooner you check out this great location the better. In addition to quenching your thirst the Pub offers great meals for very reasonable prices. You can even relax with a drink on the outdoor patio and take in one of the best views of the Lower Mainland.

Statistical Consulting Service
The service, a component of the Department of Mathematics and Statistics, provides advice and assistance in the design of experiments, surveys, and analysis of all manner of data to university and community clients. Launched in 1980, the service draws on the expertise of mathematics and statistics faculty and graduate students. The SCS has a full time director who is a qualified statistical consultant. Initial consultation is free.
Simon Fraser University at Harbour Centre


Associate Vice-President
W.G. Gill BA, MA, PhD (Br Col)

Simon Fraser University is committed to the renewal of individuals and organizations through programs of advanced learning.

The Harbour Centre campus in downtown Vancouver provides continuing education opportunities and public programs, or use the campus for public, corporate and other meetings. Classrooms, lecture theatres, meeting rooms and laboratories are designed and equipped to maximize the learning experience.

The Harbour Centre campus opened in 1989, the result of a close collaboration of the University and the business, professional and cultural communities, the City of Vancouver and the Province of British Columbia. This association has grown as the University continues to seek the advice and participation of the downtown community in the development of Harbour Centre’s mission and programs. Evidence of that continuing partnership is the new Technology, Innovation, Management and Entrepreneurship (TIME) Centre which supports the advanced education and research needs of the high technology sector.

Morris J. Wosk Centre for Dialogue
580 West Hastings Street, Vancouver V6B 5K3, (604) 291-5800 Tel, (604) 291-5060 Fax, dialogue@sfu.ca

The latest addition to the Harbour Centre campus is the Morris J. Wosk Centre for Dialogue which opened in the summer of 2000. A dedicated conference centre, this 42,000 square foot facility is available for use by university, business and community clients for a variety of events, and is the site for special university programming. It is a place where leaders and groups from all sectors will come to meet and resolve local, national and international issues.

Its unique features include the Asia Pacific Hall, with seating in the round for 154 people, which recognizes the federal government’s support and honors Canada’s Year of Asia Pacific. The University’s former chancellor, Dr. Joseph Segal, who gave outstanding leadership to the drive to build Harbour Centre, chairs the Council for the Wosk Centre. The heritage building was a gift to the University from Allied Holdings, developer of the adjacent hotel, condominium and retail complex.

Information and Registration Services
(604) 291-5000 Tel, (604) 291-5060 Fax, 9 am – 7:30 pm Monday to Thursday, 9 am – 5 pm Friday, (reduced hours may be in effect during semester breaks).
www.harbour.sfu.ca/general-info/inforeg.html

Director
R.B. MacLeod BComm (Mt All)

The office provides a wide range of services for all Harbour Centre students and prospective students including, but not limited to:
- information on all programs at Harbour Centre
- information on courses, programs and services at the Burnaby Mountain campus
- information on graduate programs
- assistance and information on admission to, and registration in, undergraduate and credit-free courses
- information on distance education courses and programs
- course changes
- fee payments

The Simon Fraser University at Harbour Centre catalogue of programs, courses and events as well as brochures describing individual programs are available at Information and Registration Services.

Admission and Registration
Registration in undergraduate and graduate courses is a two-step process. Students must first have been admitted to the University before they may choose the courses in which they wish to participate. Prospective applicants should note that admission to the University is competitive and that applications should be completed as early as possible. It is also important to note that consideration for admission is given for the University as a whole and is not specific to any campus. Therefore, students wishing to take undergraduate or graduate courses only at the Harbour Centre campus must meet all the admission requirements as approved by the University senate. For further information about undergraduate or graduate entrance to Simon Fraser University, please see the appropriate sections of this Calendar.

Those who are currently students of the University can select Harbour Centre courses through the usual course registration process. For detailed information on undergraduate course selection, please refer to the Registration section and for graduate information, please see the General Regulations, Graduate section.

Registration for and/or admission to most credit free programs is on-going and continues until the program or course is full. Interested students should call Continuing Studies at (604) 291-5100 for information about specific programs.

Samuel and Frances Belzberg Library
(604) 291-5050 Tel, (604) 291-5052 Fax, 10 am – 9 pm Monday to Thursday, 10 am – 7 pm Friday, 10 am – 5 pm Saturday (reduced hours are in effect during semester breaks), www.harbour.sfu.ca/belzberg/belzberg.htm

Head
K.V. Marotz BA (S Fraser), MLS (Br Col)

Belzberg Library serves students, staff and faculty of Simon Fraser University at Harbour Centre with a range of library services including reference assistance, loan of library material, access to course reserve items and requests for materials from the W.A.C. Bennett Library at the Burnaby campus. On-line services form an essential element of this electronic library. A web-based catalogue, searches of commercial and public databases, CD-ROM systems, and access to library files on the campus network are all available.

The library collection is developing to support the courses and programs offered downtown. It will grow to over 8,000 books and several hundred journal titles as well as microfilm and fiche collections.

Library Cards: The student identification card serves as library card; it is issued to Harbour Centre students enrolled in credit courses by Information and Registration Services. Students in credit-free courses at Harbour Centre may request a library card from the Belzberg Library. Cards for external users are available for an annual fee of $50.00.

Textbooks: All downtown credit and credit-free course textbooks are sold from a branch of the Simon Fraser University Bookstore located in the Harbour Centre Mall.

Academic Computing Services

Royal Bank Instructional Computing Facility
(604) 291-5030 Tel, 10 am – 10 pm Monday to Thursday, 10 am – 7 pm Friday, 10 am – 12 noon, 1 pm – 5 pm Saturday, closed Sunday, www.harbour.sfu.ca/ucs/Default.html

Senior Systems Consultant
M. Jutras

The Royal Bank Instructional Computing Facility at the Harbour Centre campus has four well-equipped teaching labs and a drop-in centre that may be used by students, faculty and Simon Fraser University staff in support of the academic and professional development programs offered downtown.

The teaching labs are not being used for scheduled classes or tutorials they are available for drop-in use. All users must be part of the University community and are required to have a valid student card or an authorized provisional use card.

Macintosh Lab: Equipped with 16 Apple Macintosh 7200/90 microcomputers for students and an additional machine connected to an overhead LCD display for use by the instructor. A color scanner, CD-ROM drives and zip drives are also included. The lab is connected to a Novell network server, HP4si laser printer, as well as Unix, other campus network services, and the Internet.

IBM Lab: Equipped with 16 AST Pentium 200 microcomputers for students and an additional machine connected to an overhead display for use by the instructor. The lab is connected to a Novell network server, laser printer, as well as Unix and other campus network services.

IBM Annex Lab: Equipped with eight student machines and one instructor machine, this smaller lab has the same equipment and services as the main IBM lab.

Drop-In Centre: Equipped with six Macintosh and 10 AST Pentium 200 microcomputers offering the same services as the other two labs. This area may not be reserved.

Himie Koshevoy Publishing Lab
Hours 10 am – 10 pm Monday to Thursday, 10 am – 7:00 pm Friday, 10 am – 12 noon, 1 pm – 5 pm Saturday, closed Sunday.

The Himie Koshevoy Publishing Lab, located on the second floor at Harbour Centre, is equipped with 18 Macintosh G3 computers with two-page color displays, an 11x17 printer, color scanner, CD-ROM player and zip drives. Access is by means of a valid SFU picture ID card.
Lectures, Exhibitions and Special Events
(604) 291-5100 Tel, cs_hc@sfu.ca
Simon Fraser’s campus community and the general public are invited to attend the many public lectures and special events held at Harbour Centre. These events include the Leon and Thea Koerner Foundation lectures in the liberal arts, city program lectures and others. Public events are free, but seating is limited. In most cases reservations are recommended. Please contact us to add your name to the mailing list.

Teck Gallery
(604) 291-4266 Tel
The Teck Gallery lounge in the concourse of the downtown campus shows regular exhibitions of art and design. The emphasis is local, with some international and historical exhibitions. Both western and eastern traditions are represented.

Undergraduate and Graduate Programs
Simon Fraser University offers graduate and undergraduate programs as well as professional development programs at the Harbour Centre campus. These programs are directed toward the advanced recurring educational needs of the urban populace.

At the introductory undergraduate level are certificate programs requiring approximately 30 credit hours of study. Diploma programs consist primarily of third and fourth year undergraduate courses. Courses for the programs listed below are often offered at the Harbour Centre campus. Refer to the Calendar Index to locate information about these programs.

Certificate in Actuarial Mathematics
Certificate in Applied Human Nutrition
Certificate in Chinese Studies
Certificate in Computing Studies
Certificate in Criminology (general and advanced)
Certificate in Family Studies
Certificate in First Nations Language Proficiency
Certificate in French Canadian Studies
Certificate in French Language Proficiency
Certificate in Health and Fitness Studies
Certificate in Liberal Arts
Certificate in Literacy Instruction
Certificate in Native Studies Research
Certificate in Public History
Certificate for Senior Citizens
Certificate in Spanish Language Proficiency
Certificate in Spatial Information Systems
Certificate in Teaching ESL Linguistics
Certificate in Urban Studies
Certificate in Women’s Studies
Post Baccalaureate Diploma in Communication
Post Baccalaureate Diploma in Community Economic Development
Post Baccalaureate Diploma in Computing Science
Post Baccalaureate Diploma in Criminology
Post Baccalaureate Diploma in Environmental Toxicology
Post Baccalaureate Diploma in Ethnic and Intercultural Relations
Post Baccalaureate Diploma in Gerontology
Post Baccalaureate Diploma in Humanities
Post Baccalaureate Diploma in Kinesiology
Post Baccalaureate Diploma in Public History
Post Baccalaureate Diploma in Social Policy Issues
Post Baccalaureate Diploma in Urban Studies
Graduate Diploma in Business Administration (on-line)

Continuing Studies

Dean
C. Yerbury BEd, MA, PhD (S Fraser)

Associate Dean
A. Cowan BA (Tor), MA (Carleton)

Harbour Centre programs address advanced recurring educational needs of the downtown business, professional and cultural communities through graduate degrees, undergraduate and degree completion programs and selected certificate programs. Also offered are intensive, specialized short courses, seminars and conferences developed from University and community resources.

Programs are held during the day, evening and on weekends. They are taught by faculty from the University, business, the arts and the professions. For more detailed program information, or to enquire about “in-house” programs which can be developed for companies and organizations, refer to the Continuing Studies section of the Calendar, or call the Continuing Studies general office at (604) 291-5100.

Harbour Centre
Research Institutes
The following institutes and centres are based at the Harbour Centre campus and provide a conducive environment for research. Consult the Calendar Index to locate further details about these organizations.

Institute for Applied Algorithms and Optimization Research
Canadian Centre for Studies in Publishing
Canadian Institute for Advanced Research
Centre for Research on Violence Against Women and Children
Gerontology Research Centre
David See-Chai Lam Centre for International Communication
Centre for Experimental and Constructive Mathematics
Geraldine and Tong Louie Centre for Rehabilitation, Ergonomics and Human Performance
Pacific Institute for the Mathematical Sciences
Council for North American Business Studies
Centre for Policy Research on Science and Technology
Scotiabank Resource Centre for Women Entrepreneurs

TIME Centre
(604) 291-4984 Tel, www.sfu.ca/time

The Technology, Innovation, Management and Entrepreneurship (TIME) Centre is a Simon Fraser University initiative to support technological enterprise in BC. Comprising the entire seventh floor of the Spencer Building at Harbour Centre, its anchor participants will be the Faculties of Business Administration and Applied Sciences. In addition it will house the Centre for Experimental and Computational Mathematics, 7th Floor Media, TeleLearning Network of Centres of Excellence, the TIME Business Centre and TIME Ventures and a university-industry liaison office.

Harbour Centre Services
Health, Counselling and Career Centre – Harbour Centre
300 Harbour Centre, (604) 291-5200 Tel
The Harbour Centre Health Services is open from 8:30 am to 5 pm, Monday through Thursday, and 8:30 to 11:30 am Friday.
Health Services provides a full range of medical care for students, faculty and staff. Physicians provide medical care in the same manner as a family doctor. Referrals are made for special health problems, surgical procedures, x-rays or special lab tests. Medical files are maintained in the strictest confidence.

Simon Fraser University Bookstore at Harbour Centre
(604) 291-5048 Tel, (604) 291-5219 Fax, www.sfu.ca/bookstore
The Simon Fraser University Bookstore at Harbour Centre is located in the Harbour Centre Mall. The Bookstore carries general books and textbooks for courses offered at the Harbour Centre campus. The Bookstore also carries Simon Fraser University crest sportswear and memorabilia, stationery and specialty gift items.
Undergraduate Studies
General Information

Student Academic Resources
3200 Maggie Benston Student Services Centre, 9 am - 7:30 pm Monday to Thursday, 9 am - 4:30 pm Friday, (604) 291-4356 Tel, (604) 291-4969 Fax, acadvice@sfu.ca E-mail, www.reg.sfu.ca

Academic Advising
Student Academic Resources provides academic advice for newly admitted and continuing first and second year students who have not declared a specialization (a term used to describe a major, minor, double major, joint major or an honors program – see below). Academic advisors, both professionals and student peers, assist students with course selection and program planning in any of our five faculties (Applied Sciences, Arts, Business Administration, Education and Science).

Special advisors are also available to assist students in academic difficulty. These advisors are trained to provide assistance to students about policies related to academic standing and continuance, withdrawing from courses, readmission after being required to withdraw due to poor academic performance and applications for retroactive withdrawals.

Academic Records, Registration and Administrative Services
Through its affiliation with the Office of the Registrar, Student Academic Resources also provides students with various other administrative services including the following.

Student documents
official and unofficial transcripts of academic record
letters of confirmation of registration
letters of permission to take courses at another institution
ID/Library cards

Changes to personal student data
changes of address and/or telephone numbers
changes to names
changes to immigration status

Course outlines for lower division courses (all credit courses numbered 001 to 299) and for all evening courses are available for pick up on the lower level of the Maggie Benston Student Services Centre, 0100.

Programs of Study
Simon Fraser University offers three main types of undergraduate programs: honors programs leading to an honors degree, general programs leading to a general degree, and an extended minor degree. Most departments offer all of these types of programs.

To be granted a degree, a student must satisfy certain requirements which ensure a depth of study and a coherent combination of courses. These requirements, called a degree program, are expressed in terms of the number of credit hours in lower and upper division courses to be taken in and outside the subject(s) of concentration. Depending on the extent of concentration in a subject area, a degree program may offer an honors program, a major program, a minor program, or certain combinations.

Students are encouraged to sample a wide range of courses before focusing on a particular area of concentration, but normally must commit themselves to their area(s) before entering the second half of the degree program. Students should be aware of any prerequisite studies for their programs that they may need to undertake in the first four levels. (See the Definitions section following.)

Honors Program
An honors degree requires completion of at least 132 credit hours, completion of an honors program and completion of approximately 48-50 credit hours of credit in specified upper division courses in the honors subject or field, normally taken in the upper divisions. Different honors programs have varying credit hour requirements in the lower division courses. (See faculty and departmental requirements.)

Joint Honors Program
A joint honors degree requires completion of at least 132 credit hours of credit and completion of a specific joint honors program, which would normally consist of a total of at least 50 credit hours of credit in upper division courses taken in two or more disciplines, as specified. Different joint honors programs have varying credit hour requirements in the lower division courses. (See faculty and departmental requirements.)

Major Program
A general degree requires at least 120 credit hours and, normally, completion of a major program. A major program requires approximately 28 to 30 credit hours of credit in upper division courses as specified in the major subject or field. Varying credit hour requirements are needed in the lower division courses for different major programs. (See faculty and departmental requirements. With special approval, two minors may be substituted for a major on the bachelor of education degree. The bachelor of general studies degree has broad requirements.)

Joint Major Program
A general degree may be obtained by completion of 120 credit hours of credit and completion of a joint major program. The specific joint major requires at least 30 credit hours of credit in upper division courses taken in two or more disciplines, as specified. Credit hour requirements in the lower division courses vary for different joint major programs. (See faculty and departmental requirements.)

Double Major Program
A general degree may include completion of two major programs. The student must complete the following.

- the lower division requirements for each of the major subjects selected
- at least 28 hours of upper division courses as specified in each of the two subjects in which the majors are to be claimed
- any other requirements of the particular departments concerned
- the requirements of the faculty in which the student will receive the degree

This permits study for two majors within a single faculty or across faculties. The bachelor’s degree awarded will be determined according to the faculty for which all requirements have been met or, if the requirements of more than one faculty have been met, then from which one of the faculties the student selects. (See Major-Minor Program following.)

Minor Program
A minor requires completion of at least 14 to 18 upper division credit hours as specified in the subject concerned. To qualify for a specific minor, at least seven credit hours of the upper division credit used toward the minor must have been completed through Simon Fraser University courses. A minor program also requires meeting any stipulated lower division requirements and may be used toward meeting the requirements of a degree program.

Extended Minor Program
This program consists of the lower division requirements for a major, and the upper division requirements for a minor. A student must have their program approved by the extended minor program advisor.

Major – Minor Program
A general degree may include the completion of a major program and of a minor program. The student must complete at least 28 hours of upper division courses as specified in the major subject and at least 14 to 18 hours of upper division courses as specified in the minor subject. The same upper division course may not be used for formal credit in both the major and the minor. The student must complete the lower division requirements for the major subject selected, all other requirements of the major department, the lower and upper division requirements for the minor selected, and the requirements of the faculty in which the student will receive the degree. This permits the undertaking of a major and of a minor within a single faculty or across faculties.

Double Major and Major – Minor Programs
Credit Value of Courses
In order to give sufficient weight to both majors in a double major program, the student may not apply the same upper division course for formal credit in both majors. Similarly, a student in a major-minor program may not use the same upper division course for formal credit in both the major and the minor. Also, a student undertaking a program consisting of more than one minor may not use the same upper division courses for credit toward more than one minor.

Where one course fulfills the content requirements of two related areas, additional replacement credits in upper division work satisfactory to one of the departments or program committees must be taken in order to fulfill the overall credit requirements for the double major or major-minor program.

For lower division requirements, one course could fulfill both content and credit requirements as a prerequisite, but no course can carry double credit value toward the total needed for a degree. In a number of combinations possible in the bachelor of arts or bachelor of general studies degree, certain constraints exist on the use of both lower and upper division courses.

Degree Requirements
Students are cautioned to refer carefully to overall requirements of the faculties for degree requirements, as the requirements for a specific degree must be fulfilled. If in doubt, seek advice from Student Academic Resources. Some departments require specific prerequisite courses for entry to some upper division courses, and some faculties require completion of a minimum number of upper division

Definitions
Some terms used in the preceding sections are explained in the Definitions section below.

- **Honors Program**: A program for students who wish to achieve a higher level of study in their major department.
- **Major Program**: A program consisting of a specified number of upper division courses in a major subject.
- **Minor Program**: A program consisting of a specified number of upper division courses in a minor subject.
- **Joint Honors Program**: A program consisting of a specified number of upper division courses in two or more majors.
- **Double Major Program**: A program consisting of two major programs.
- **Major-Minor Program**: A program consisting of a major program and a minor program.
courses taken in the upper divisions of study to fulfill degree conditions. Some faculties require completion of a minimum number of credits within the faculty to qualify for a degree. In some instances, therefore, a student seeking a double major or a major-minor involving subjects in more than one faculty may need more than 120 credit hours to fulfill the requirements of the general degree.

Changing Programs
A student who elected to take a double major or a major-minor program may change his/her decision and graduate with a major only, provided that the normal requirements for the major and requirements of the faculty concerned have been fulfilled. Notification of such changes must be filed with the departments concerned and the Office of the Registrar.

Second Bachelor's Degrees
A student who already holds a bachelor's degree (or degrees) may complete a second or subsequent bachelor's degree at the University, subject to the following conditions and regulations.

Normal admission policies apply to all applicants for further bachelor's degrees. First bachelor's degrees from certain jurisdictions may qualify the applicant to proceed to a first bachelor's degree only. For more information, please contact the admissions office, Office of the Registrar. The basic requirement for any further degree shall not be less than 60 credit hours of credit for a general degree, and not less than 72 credit hours of credit for an honors degree.

Of the minimum 60 credit hours required for a further general degree, not less than 44-45 credit hours must be upper division credit. Of the minimum 72 credit hours required for a further honors degree, not less than 60 credit hours must be upper division credit.

The department or program in which the further degree is being taken has the right to require completion of prerequisite lower division courses in addition to the minimum conditions specified above.

General University regulations covering a first bachelor's degree apply to further bachelor's degrees unless otherwise stated or clearly implied. These include, but are not limited to:
- minimum CGPA and minimum GPA calculated on the basis of all upper division courses taken at Simon Fraser University required for graduation
- maximum number of transfer credit hours that may be counted toward minor/major/honors programs

General faculty and departmental regulations apply, including completion of any group requirements not completed in a previous degree.

A student may not enrol in a further bachelor's degree program in a subject in which she/he already holds a degree. A student who has a minor (or equivalent) in a particular subject may enrol in a further degree with a major or honors program in that subject.

Credit earned towards a previous degree or diploma may not be used toward the further bachelor's degree. However, recognition may be given for the content of such previous work. In such cases, students will be required to obtain credit in appropriate courses in lieu of those for which exemption or advance standing has been granted.

Post Baccalaureate Diploma Program
A diploma program should, in general, consist of regular upper division university courses; graduate courses may be included. The study program should be the equivalent of one full year or more of university study (30 or more credit hours). Credit hours of credits applied to one diploma may not be applied to another Simon Fraser University certificate, diploma or degree, and vice versa. A first university degree or the equivalent is normally a prerequisite, but, if stipulated, mature applicants whose experience makes them particularly suited to a program may also be admitted.

Certificate Program
A certificate program should consist mainly of regular lower division courses. Upper division courses may be included. The study program should be the equivalent of between one half and one full year of university study (18 to 30 credit hours). See the Continuing Studies Office for further information regarding individual certificate programs. Credits applied to one certificate may be applied also to majors programs or minor programs or to a bachelor's degree under the normal regulations governing these programs, but may not be applied to another Simon Fraser University certificate or diploma.

Co-operative Education
A co-operative education program consists of four or five work terms to be completed while doing regular academic terms. See Co-operative Education.

Obligation to Declare Majors, Minors or Other Areas of Specialization
Students are expected to obtain formal approval to enter an area of specialization by the time they have earned 60 credits. 'Specialization' is a term used to cover programs such as majors, minors, double majors, honors, minors, extended minors, etc., and 'department' refers to the faculty or department or school or unit responsible for a program. There are some other programs (e.g., post baccalaureate diplomas, certificates) which may have some additional instruction regarding procedure since the students in these programs fall outside the usual flow of credit hours.

With regard to the area of specialization, students will be classified according to the following categories: Undecided, Intended, Conditionally Approved, Approved or Undeclared.

Undecided
This category will be used for any student who, prior to the successful completion of the 61st credit hour, has not recorded an intended specialization or who has not been granted conditionally approved or approved entry to a specialization. ‘Undecided’ will not be recorded for any student who has successfully completed 61 or more credit hours. Academic advising for undecided students is the responsibility of Student Academic Resources.

Intended
This category identifies the specialization(s) the student aspires to enter later in his/her studies at this University. This declaration may be made at the discretion of the student up to the 60th successfully completed credit hour but, at the discretion of the department responsible for the specialization, a student may be removed from this designation. A student so removed would require approval from the department to reinstate the ‘intended’ designation. Intended specialization(s) will not be recorded for any student who has successfully completed 61 or more credit hours.

Conditionally Approved
This category identifies a student who will be approved for entry to a specialization upon satisfactory completion of some stated condition(s). Use of this category is at the discretion of a department and will usually be limited to those cases where the student has very limited deficiencies and is taking immediate action to remove them. In granting conditional approval, the department or signing authority will set out to the student, in writing, the condition(s) that must be satisfied for approved entry to the specialization. Students who satisfy the condition(s) will be advised that they have been approved for entry to the specialization. Students who have tried unsuccessfully to complete the condition(s) may be advised that their conditional approval has been withdrawn, or, at the discretion of the academic department, the student may be conditionally approved for an additional semester (or semesters).

Academic advising for conditionally approved students is the responsibility of the department offering the particular specialization(s).

Approved
This category identifies the specialization of a student who has been formally approved by the department or signing authority for that specialization and may be granted at the discretion of a department or signing authority.

Academic advising for approved students is the responsibility of the department offering the approved specialization(s).

Undecided
This category will be automatically recorded for any student who, upon the successful completion of the 61st (or higher) credit hour, has neither an approved nor conditionally approved specialization. A student who transfers to the University and in the first semester exceeds 61 credit hours may have one semester to obtain approved or conditionally approved status. At the discretion of a faculty, option A or option B will be applied to resolve the student's status.

Option A
In the event that undecided status is applied to a student's record (i.e., there is no approved or conditionally approved program recorded), all references to degree/diploma objectives and faculty affiliation will be removed from the student's record.

Academic advising for undecided students so designated under option A is the responsibility of Student Academic Resources, but undecided students will be encouraged to approach a department directly, to discuss requirements for conditional or approved entry to a program or specialization.

Option B
In the event that undecided status is applied to a student's record (i.e., there is no approved or conditionally approved program recorded) the existing degree/diploma objectives and faculty affiliation will be retained but the student will be required to discuss his/her program objectives with the appropriate faculty advisor before further registrations are permitted with this status. The faculty advisor may allow the student to proceed with undecided status. If, in the opinion of the faculty advisor, the student's program objectives are unacceptable or unrealistic, the faculty advisor may have the degree/diploma objectives and faculty affiliation removed from the student's record, and the student may be referred to the Student Academic Resources office for further advising.

Academic advising for undecided students designated under option B with degree/diploma
Graduation Requirements

Each candidate for a degree, certificate or diploma must formally apply to graduate. Details on how to initiate the graduation process are contained in the Course Timetable and Exam Schedule published each semester. (See also the requirements as noted in the individual faculty sections.)

General Degree

For students enrolled at the University before fall 1991, the minimum requirement for graduation in a general degree program is a graduation grade point average of 2.00 calculated on the entire required 120 credit hours used for degree credit, or on the 60 credit hours of the final four levels for courses used for degree credit, including the normal 45 credit hours in upper division courses. The average is computed by dividing the total number of grade points earned by the total number of credit hours assigned for those courses, excluding duplicate courses. A GPA of not less than 2.00 is required in courses comprising the major studies.

The minimum requirements for graduation changed for students who enrolled at the University beginning in fall 1991 or thereafter. These students must achieve both a minimum cumulative grade point average (CGPA) of 2.00 and a minimum grade point average (GPA) of 2.00 calculated on all upper division courses. This GPA is calculated by dividing the total number of grade points earned in upper division courses by the total number of semester credit hours assigned for those courses, counting only the higher grade in courses that have been duplicated.

Individual faculties and departments may, with senate approval, maintain their own supplementary graduation requirements; therefore, students are advised to check individual faculty and departmental listings in case these have a higher minimum GPA or other additional requirements for graduation.

Honors Degree

For students enrolled in the University before fall 1991, the minimum requirement for graduation in an honors degree program is a graduation grade point average of 3.00. If the graduation grade point average is 3.50 or higher, the designation ‘first class’ will apply. The average is calculated on the entire required 132 credit hours in courses passed and used for credit toward the degree, or on the required final 60 credit hours of 300 and 400 division courses taken and used for credit toward the degree, with the exception of duplicate courses.

The minimum requirement for graduation in an honors program changed for students who enrolled in the University beginning in fall 1991 or thereafter. These students must achieve both a minimum CGPA of 3.00 and a minimum GPA of 3.00 calculated on all upper division courses taken at the University. This GPA is calculated by dividing the total number of grade points earned in upper division courses by the total number of semester credit hours assigned for those courses, counting only the higher grade in courses that have been duplicated. If a student has both an upper division CGPA and CGPA of 3.50 or higher, the designation 'first class' applies.

Individual faculties and departments may, with senate approval, maintain their own supplementary graduation requirements; therefore, students are advised to check individual faculty and departmental

objectives or faculty affiliation is the responsibility of undecided students with no degree/diploma objectives and faculty affiliation is the responsibility of

University must re-apply and meet any admission requirements in effect at that time.

Academic Year

Trimester

Simon Fraser University offers three full regular semesters of study within the twelve month calendar year.

Semester

The calendar year is divided into three academic terms of sixteen weeks each, called 'semesters.' Each semester has its own registration and final examinations. All academic courses in this Calendar are one semester long or fall into one of the shorter sessions, such as intersession or summer session. Students may enter at the beginning of any semester and attend one, two or three semesters within a calendar year. By attending continuously, it is possible for a student who entered from BC high school grade 12 (or equivalent) into the fall 1997 semester to graduate with a bachelor's degree at the end of the spring 2000 semester. Semesters are referred to by numbers or by names:

Example 1998

Semester 1
spring, Jan. to April, spring 1998 (1998-1)
Semester 2
summer, May to August, summer 1998 (1998-2)
Semester 3
fall, September to December, fall 1998 (1998-3)

To increase the accessibility of the summer program (May-August) to teachers and other members of the community, the summer semester has been enriched by two, two-month sessions, namely intersession (May-June) and summer session (July-August). These programs are offered in addition to the regular four month summer semester.

The following illustrates an academic year at SFU, fall semester: September – December spring semester: January – April summer semester: May – August intersession: May – June summer session: July – August

Levels

Undergraduates in Canada are traditionally classified as first year (Freshman), second year (Sophomore), third year (Junior), or fourth year (Senior) students. Since 'year' does not apply to the trimester system, the student's progress is expressed in terms of levels. 'Level' refers to the status of a student's program. Each level would normally equal one semester's work with a full course load; a typical four year bachelor's degree program consists of eight levels. The first four (i.e., the first 60 credit hours of credit) are lower divisions. Levels 5 and above are upper divisions. The term 'level' is not used for graduate programs.

Usually students in levels 1 and 2 take 100 series courses; those in levels 3 and 4 take 200 series courses; those beyond level 4 take 300 and 400 series courses.

Courses

Subject

A subject (or discipline) is a body of knowledge with arbitrary boundary lines, e.g. philosophy, chemistry or psychology. For convenience, professors of a subject are usually grouped together in a department.

Prerequisite

A prerequisite is a requirement needed to register in a course.

Definitions

Students

Simon Fraser University does not classify students as either full time or part time although there are varying course load requirements for many types of financial aid. For further information, see Financial Aid and Awards.

Qualifying Student

See the Graduate General Regulations section.

Regular Student

A regular student is one proceeding to a degree, diploma or certificate in any faculty. A regular student may already hold one or more bachelor's degrees.

Special Audit Student

Students who do not apply for admission to the University under the general admission regulations but who wish to audit credit courses may be given entry as special audit students. Special application procedures apply; complete information is given in the Continuing Studies section.

Special Student

A student already holding a first degree may, as a special student, register in undergraduate courses only. Credit for these courses may not be applied toward completion of any certificate, diploma, undergraduate or graduate credential at Simon Fraser University. First time applicants wishing to enrol as special students and students holding a first degree who have previously attended Simon Fraser University should refer to the Admission and Readmission section.

Visiting and Exchange Students

A visiting student is one who, as a bona fide student of another accredited institution, is permitted to take courses for credit only toward a degree, certificate or diploma at the home institution. Applicants who wish to become visiting students must meet all requirements for regular admission. In addition, students must submit a letter of permission from the registrar of the home institution. A visiting student wishing to become a regular student at Simon Fraser University must re-apply and meet any admission requirements in effect at that time.

Convocation Procedure

In late April, an information package is sent to each graduand who has been awarded a degree by senate in the previous fall semester, or who has applied for graduation in the current spring semester. Graduands who apply for summer semester graduation are sent information in late August.

Notification of Award by Senate

Following senate approval, each student who has been awarded a degree, certificate or diploma will receive a letter of confirmation from the registrar.

Convocation

Convocation is held in June and October annually. Students who fulfill their degree requirements during the fall or spring semesters may attend the June ceremony. Graduates of the summer semester convocate in October.

Application for Graduation/Granting of Degree, Certificate or Diploma

Each candidate for a degree, certificate, diploma, or co-operative education must formally apply for graduation. Details on how to initiate the graduation process are contained in the Course Timetable and Exam Schedule published each semester. See the Academic Calendar of Events in this publication for deadlines to apply for or to cancel applications to graduate.

General Information 23
Corequisite
A corequisite is a course to be taken at the same time as another course.

Division
'Division' relates to undergraduate courses: those numbered 001 to 299 inclusive are lower division courses; those numbered 300 to 499 are upper division courses. Graduate courses are numbered in the 500 to 999 series. In certain instances, upper division courses may be taken in the lower divisions and lower division courses in the upper divisions. Refer to specific regulations pertaining to requirements for degrees, certificates or diplomas.

Numbering of Courses
Each subject is divided into courses usually offered in semester length units, e.g., GEOG 212-3, Geography of Natural Hazards. Each course is identified by a subject name followed by a course number, the number of credit hours of credit, and the course title, e.g. ENGL 103-3, Introduction to Drama. The first course number digit represents the level of the course; the fourth digit indicates the credit hours of credit. For example, ENGL 103-3 is a first level course offering three credit hours of credit.

Lectures, Tutorials and Laboratories
Although there are variations among departments, instruction in lower division courses combines a large lecture section with small tutorial groups. The large lecture enables as many students as possible to hear the very best teachers. The small tutorial groups provide more personal instruction and an opportunity for discussion of readings and lecture material. A typical course consists of two lectures and one tutorial a week. Notable exceptions are the sciences and languages, where a laboratory may be involved.

Credit Courses
These courses carry credit hours of credit and count toward the total required for a degree, certificate or diploma, subject to the regulations governing the credential.

Credit Hours
Credit hours are assigned to each course; most courses have three credit hours. A normal course load for a student in full attendance in a semester is 15 credit hours. Credit hours are also called credit hours, credits, hours or credit hours of credit. Requirements for credentials (e.g., degrees, diplomas and certificates) are partially expressed as credit hours of credit.

The credit hour weight is shown for each course as follows:
Subject: Mathematics (MATH)
Course Number: 232
Credit hours: 3

Credit-Free Courses
These courses carry no credit and do not count toward a degree, certificate or diploma. At times, they have been termed 'non-credit courses.'

Distance Education Courses
Certain courses may be taken as correspondence (Distance Education) courses. The program parallels the campus semester system of the University, with the same sixteen week period for course completion.

<table>
<thead>
<tr>
<th>Four Year General Degree Program</th>
<th>Level</th>
<th>Credit Hours</th>
<th>Traditional Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Levels</td>
<td>1</td>
<td>15</td>
<td>1st year/freshman</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15</td>
<td>2nd year/sophomore</td>
</tr>
<tr>
<td>Upper Levels</td>
<td>5</td>
<td>15</td>
<td>3rd year/junior</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>15</td>
<td>4th year/senior</td>
</tr>
<tr>
<td>Total 120 credit hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Four Year Honors Degree Program</th>
<th>Level</th>
<th>Credit Hours</th>
<th>Traditional Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Levels</td>
<td>1</td>
<td>15</td>
<td>1st year/freshman</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15</td>
<td>2nd year/sophomore</td>
</tr>
<tr>
<td>Upper Levels</td>
<td>5</td>
<td>18</td>
<td>3rd year/junior</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>18</td>
<td>4th year/senior</td>
</tr>
<tr>
<td>Total 132 credit hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Introduction

This section is divided into five main areas as noted in the table of contents. The Admission Process describes the “how and when” of the various stages involved in applying to the University. All applicants details those admission requirements or policies applicable to any applicant. The next three sections — British Columbia, Canada and International — provide detailed admission requirements for the respective areas. Within each section, requirements are provided for secondary school, college and university level applicants. Finally, Re-admission explains the requirements and processes to be followed by previously admitted students wishing to re-commence their studies.

Admission Process

Those who have previously attended Simon Fraser University but who fit into any of the following categories may apply for re-admission (see following section).

• students who have not registered in courses at the University during the previous three semesters; or
• students who completed a degree or diploma program at the University and wish to take further courses; or
• students who were admitted for a single semester only, e.g. concurrent studies students

In all other cases students may register directly in courses.

Application Methods

Students may apply for admission in one of two ways: over the Internet and by paper form.

Internet Application

Application may be made from any computer which has a connection to the Internet and is equipped with browser software, enabling interpretation of data on the World Wide Web.

The form may be accessed from http://www.reg.sfu.ca which is the Simon Fraser University Office of the Registrar home page.

Application DEADLINES

The form may also be accessed from http://www.pas.bc.ca which is the World Wide Web site of the Post-secondary Application Service of BC (PASBC).

For fees, document requirements, etc., see the following sections. However, application and document evaluation fees should be sent after the form has been submitted electronically. Quote the reference number that is given to the applicant when the submission is acknowledged by the University.

Paper Application Form

Applications for admission must be made on the forms provided by the Office of the Registrar or on a form down-loaded and printed from our World Wide Web site (see above). The following supporting official documents must also be submitted from the issuing institution before any application will be considered.

• official copy of the appropriate school leaving certificate (e.g. BC Secondary School transcript of grades)
• official transcripts from all post-secondary institutions attended, whether or not the work was completed
• official reports of any standard tests written

Applications whose primary language is not English must take a standardized English test (see English Language Requirements) and have the results submitted directly from the testing agency to Simon Fraser University. In some circumstances, this requirement will apply to students who have attended secondary schools or post-secondary institutions in Canada.

All documents must be originals. Uncertified photocopies are not acceptable. Replaceable documents submitted with an application become the property of the University and will not be returned.

Official translations, certified by an educational or embassy official, or made by a certified translator are required for records not in English or French.

Applicants should submit application forms and any available documents as early as possible but not more than twelve months ahead of the semester they intend to begin studies. The deadlines for receipt of applications and documents are given below and in the Academic Calendar of Events (see “Academic Calendar of Events” on page 7). Applications received after the published deadline may be evaluated selectively at the discretion of the director of admissions.

Retention of Documents

The documents which you supplied to support applications for admission will be retained for three semesters, following the semester to which application is made. Then, application forms, transcripts and other materials related to applications will be destroyed. Irreplaceable documents will be returned to the applicant if requested at the time of application.

Protection of Privacy

Simon Fraser University gathers and maintains information used for the purposes of admission, registration and other fundamental activities related to being a Simon Fraser University community member and to attending a public post-secondary institution in the Province of British Columbia.

In signing an application for admission, all applicants are advised that the information they provide and any other information placed into the student record will be protected and used in compliance with British Columbia’s Freedom of Information and Protection of Privacy Act (1992).

All British Columbian applicants will be asked to provide their British Columbia personal education numbers (PEN) at the time of application. All others will be assigned a PEN by the British Columbia Ministry of Advanced Education, Training and Technology. Its uses are restricted to research and program evaluation. No identifiable personal information will be released.

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Secondary Schools ........................ 33
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Application Deadlines
- Fall semester (September to December), April 30 deadline.
- Spring semester (January to April), September 30 deadline.
- Summer semester (May to August), January 31 deadline.
- Intersession (May and June), January 31 deadline.
- Summer session (July and August), January 31 deadline.

Fees Payable upon Application
All applicants must pay an application fee. A document evaluation fee may also apply.

Application Fee
Each time an applicant applies for admission or readmission, a $25 application fee is required. This fee, non-refundable and not applicable to tuition fees, must accompany the application for admission or be paid soon after making an application.

Document Evaluation Fee
A document evaluation fee of $40 is assessed for all applicants whose academic records, in whole or in part, originate outside of British Columbia and the fee will be assessed to students making a second or subsequent application for admission or an application for readmission if such application includes either secondary school documents from outside Canada or post-secondary documents from an institution outside B.C. if these documents have not been evaluated previously. This fee is non-refundable and not applicable to tuition fees. This fee is waived if the documents originate from a secondary school located in Canada, or if the applicant is participating in a recognized exchange program between SFU and another institution.

Offers of Admission
Admission offers are valid only for one semester. Applicants who are admitted but do not register in classes or who register but withdraw from classes before or during their first semester must apply again if they wish to attend a subsequent semester.

Transfer Credit
Transfer credits are credits granted to students on admission on the basis of work done at another accredited institution; the transfer credits reduce the total number of credits which must be taken at Simon Fraser University for a degree, diploma or certificate. Transfer credit should not be confused with advanced standing — transfer credit is often given without any concomitant advance standing; the reverse may also be true.

Regulations
Total transfer and course challenge credit may not exceed 60 credit hours, and may not include more than 15 credit hours credit as upper division work. Within these limits, credits may be transferred for all courses passed, which are acceptable under University policies.
Transfer credit is not used in the calculation of the CGPA.
Transfer credit for ungraded passes (e.g. pass/fail) will be granted only if the course has been previously articulated for transfer credit and if all students in the course are graded in a similar manner.
Transfer credit is not granted for credit assessed by other institutions, for knowledge acquired outside formal instruction, but course challenge credit may

British Columbia and Yukon Secondary School Requirements
Faculty of Applied Sciences

<table>
<thead>
<tr>
<th>Communication, School of</th>
<th>See Faculty of Arts requirements. Admission is highly competitive. The admission target for Fall semester 2000 is approximately 30 new students.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computing Science, School of</td>
<td>Students applying for the computing science program may be admitted directly based on excellent high school grades or may be offered general University admission with the opportunity to apply for later admission based on Simon Fraser University grades. Admission is highly competitive. Selection will be based on the average achieved in English 12 and principles of mathematics 12, in addition to the overall admission average. Direct admission to fall semester 2001 requires secondary school graduation, English 12, and four or five additional courses at the grade 12 level or beyond (that is, including AP or IB courses) satisfying the following breadth constraints.</td>
</tr>
<tr>
<td>Engineering Science, School of</td>
<td>• English 12</td>
</tr>
<tr>
<td>Kinesiology, School of</td>
<td>• language 11 (beginner’s language 11 may be used)</td>
</tr>
<tr>
<td></td>
<td>• English 12</td>
</tr>
<tr>
<td></td>
<td>• chemistry 12</td>
</tr>
<tr>
<td></td>
<td>• principles of mathematics 12</td>
</tr>
<tr>
<td></td>
<td>• principles of physics 12</td>
</tr>
<tr>
<td></td>
<td>Admission is highly competitive. An additional application is required. See the School of Engineering Science section of this Calendar. The admission target for fall semester 2000 is approximately 75 new students.</td>
</tr>
</tbody>
</table>

Faculty of Arts

<table>
<thead>
<tr>
<th>Faculty of Arts</th>
<th>Locally developed courses are not acceptable unless approved in advance by Simon Fraser University.</th>
</tr>
</thead>
<tbody>
<tr>
<td>All departments or schools</td>
<td>• secondary school graduation</td>
</tr>
<tr>
<td></td>
<td>• principles of mathematics 11, language 11 (beginner’s language 11 may be used) and science 11 (acceptable subjects are biology, chemistry, earth science, principles of physics or applications of physics 11 and 12)</td>
</tr>
<tr>
<td></td>
<td>• English 12</td>
</tr>
<tr>
<td></td>
<td>• three additional grade 12 courses selected from the following.</td>
</tr>
<tr>
<td></td>
<td>AP art studio, drawing portfolio, AP art studio, general portfolio, AP calculus AB, AP comparative government and politics, AP economics, AP environmental science, AP history of art, AP psychology, biology, chemistry, comparative civilizations, English literature, French or French 12A, geography, geology, German, history, IB history East Asia, IB Italian, IB philosophy, IB psychology, IB theatre arts, Japanese, Latin, Mandarin, principles of mathematics, principles of physics, Punjabi, Spanish, writing.</td>
</tr>
<tr>
<td></td>
<td>Approved programme cadre and French immersion courses equivalent to the above are also acceptable, except that Français 12 is not accepted in lieu of English 12. The minimum average required for admission is 67% calculated on English 12 and the best three additional academic grade 12 subjects, as selected from the above list. Actual final percentage marks will be used, whenever available. Students who plan to major in economics, criminology, linguistics or psychology are advised to include principles of mathematics 12 in their secondary school programs. The admission target for Fall semester 2000 is approximately 950 new students.</td>
</tr>
</tbody>
</table>
Students completing certificates or diplomas should use toward the minor must have been completed at least seven credit hours of the upper division credit section for more information.

See work taken after initial registration must be passed to these regulations

Students who are attending, or who have attended Simon Fraser University for such work or knowledge.

Students who are attending, or who have attended Simon Fraser University should note that in addition to these regulations

• work taken after initial registration must be passed with a grade of C (2.0 or 60%) or higher to receive transfer credit; and

• students wishing to complete transfer credit after initial registration must obtain permission in advance, using the form available from the Office of the Registrar.

See Courses at Other Institutions in the Registration section for more information.

To qualify for a specific minor on a degree program, at least seven credit hours of the upper division credit used toward the minor must have been completed through Simon Fraser University courses.

Students completing certificates or diplomas should be aware that each program has its own specific restrictions on the amount of transfer credit permitted. Students should consult the appropriate sections in the Calendar for these limitations.

Special transfer credit regulations apply to the bachelor of general studies degree, bachelor of education degree to the bachelor of applied science degree in engineering science and to students attending other universities on formal exchange programs. Refer to the Faculty of Arts, Faculty of Education, and Faculty of Applied Sciences sections respectively.

An applicant seeking admission with transfer credit is advised that the courses transferred, together with those he/she subsequently takes at Simon Fraser University, must meet the general and specific requirements of the faculty and department in which he/she chooses to major or honor. Some of the transfer credit awarded may be designated ‘general elective credit.’ Individual faculties may restrict the amount of general elective credit that may be counted toward a degree in that faculty.

Individual departments may require students to repeat prerequisite courses for which they have received transfer for a D grade. The repeated courses will show on the student’s permanent record, but double credit will not be granted.

Advance Standing

Advance standing is placement to a certain level in a subject area granted on admission. The department concerned examines the applicant’s previous work, or asks him/her to take a placement test, and then places the applicant at a certain level in the sequence of courses in the department.

Program Approval

Newly admitted students who wish to take either a post baccalaureate diploma or a further undergraduate degree must obtain program approval from their faculty or department prior to registering in courses.

Enrolment Limitations

Examples of recent enrolment limits and consequent admission cut-off averages for admission to the Faculty of Arts are as follows.

<table>
<thead>
<tr>
<th>Fall Semester 1999</th>
<th>Basis of Admission</th>
<th>Limit</th>
<th>Minimum Arts Acceptance Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC grade 12 graduation</td>
<td>1,800</td>
<td>78%</td>
<td></td>
</tr>
<tr>
<td>grade 12 graduates from other provinces</td>
<td>150</td>
<td>78%</td>
<td></td>
</tr>
<tr>
<td>BC college transfer</td>
<td>600</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>degree holders and transfers from universities</td>
<td>450</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>other</td>
<td>50</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,150</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Completion of the minimum requirements does not in itself guarantee admission to any course, program, department or faculty at the University. In those instances where the number of qualified applicants exceeds the number that, in the opinion of the
University, can be accommodated, the University reserves the right to select from among the qualified applicants.

Admission and Approval into a Faculty and Credential

Students may apply for admission to one of five faculties: applied sciences, arts, business administration, education and science.

Applicants may indicate an alternate faculty in the event that they are not selected to the faculty of their first choice.

For example, a student’s first choice may be the Faculty of Business Administration (intended degree BBA). Due to insufficient space, this is not approved. The student’s second choice is the Faculty of Science (intended degree BSc). Due to the lack of a required course, this is not approved either. The student’s third choice is the Faculty of Arts (intended degree BA). The student may now proceed to seek entry to either the Faculty of Business Administration, or Faculty of Science, or may complete a BA in the Faculty of Arts.

Students are permitted to change faculties during the course of their studies, so those who are not selected to their chosen faculty may transfer between faculties later in their studies.

Actual final percentage marks will be used whenever available. If not given, the following equivalents are used in computing the average (for BC high school admission only).

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0 or 91%</td>
</tr>
<tr>
<td>B</td>
<td>3.0 or 79%</td>
</tr>
<tr>
<td>C+</td>
<td>2.5 or 70%</td>
</tr>
<tr>
<td>C</td>
<td>2.0 or 64%</td>
</tr>
<tr>
<td>C-</td>
<td>1.0 or 56%</td>
</tr>
</tbody>
</table>

All Applicants

The following admission requirements are extracted from the more complete regulations approved by senate. Authority for interpretation of the regulations rests with the senate committee on undergraduate studies; the University reserves the right to reject or accept any applicant.

All percentages stated are based on a pass mark of 50%. For schools and colleges operating on a pass mark other than 50%, the percentage required for admission is adjusted.

Applicants for off-campus and distance education programs must follow the same application procedures and meet the same requirements as regular on-campus students. Specific details on these programs are available in brochures published each semester (see Continuing Studies).

English Language Requirements

English is the language of instruction and communication in the University. Accordingly, an applicant whose primary language is not English, or whose previous education has been conducted in another language, must demonstrate a command of English sufficient to meet the demands of classroom instruction, written assignments and participation in tutorials and discussions.

The University will take into account the following factors in assessing an applicant’s facility in the English language.

• the primary language of the applicant (the language ordinarily spoken in the home and in the workplace)
• the duration of residency in an environment in which English is the predominant language
• the duration of study and the language of instruction in any secondary and post-secondary educational institutions
• the results obtained in any academic secondary and/or post-secondary courses in which a high standard of English is required.

Applicants will be deemed to have satisfied the English language requirement if they

• achieve an interim or final grade of 86% (A) or higher on a senior secondary school (grade 12) English or English literature course in a Canadian province other than Quebec;
• achieve a final grade of B or better on a post secondary course taken at a BC institution which transfers to Simon Fraser University as three or more English credits;
• graduate from a bachelor’s or higher degree program at a recognized university in which the language of instruction and examination is English.
• resident for at least four years in an English speaking environment

Applicants who consider English their primary language may request an exemption form.

International Baccalaureate

All applicants (including BC residents) who have completed the international baccalaureate diploma may be admitted subject to a minimum overall score of 27. Transfer credit will be granted for some higher level subjects passed with a grade of 4 or higher; no transfer credit will be granted for subsidiary level subjects. The maximum transfer credit awarded is 30 credit hours.

Students with incomplete or partial international baccalaureate programs will be considered for admission on the basis of secondary school graduation. Transfer credit will be granted for those higher level subjects passed with a grade of 5 or higher, as shown below.

<table>
<thead>
<tr>
<th>IB Examination</th>
<th>SFU Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>art/design</td>
<td>individual assessment</td>
</tr>
<tr>
<td>biology</td>
<td>BISC 101 (4), 102 (4)</td>
</tr>
<tr>
<td>chemistry</td>
<td>CHEM 121 (4), 122 (2)</td>
</tr>
<tr>
<td>computing studies</td>
<td>CMPT 101 (4), CMPT (2)</td>
</tr>
<tr>
<td>classical language</td>
<td>individual assessment</td>
</tr>
<tr>
<td>economics</td>
<td>individual assessment</td>
</tr>
<tr>
<td>English (language A)</td>
<td>ENGL (3)</td>
</tr>
<tr>
<td>English (language B)</td>
<td>no credit</td>
</tr>
<tr>
<td>French (language A)</td>
<td>FREN (3) or (6) depending on result of placement test</td>
</tr>
<tr>
<td>French (language B)</td>
<td>FREN (3) or (6) depending on result of placement test</td>
</tr>
<tr>
<td>geography</td>
<td>GEOG 100 (3), 111 (3)</td>
</tr>
<tr>
<td>history</td>
<td>HIST 225 (3), HIST (3)</td>
</tr>
<tr>
<td>history of East Asia</td>
<td>HIST (3)</td>
</tr>
<tr>
<td>Italian B</td>
<td>ITAL 100 (3), 101 (3)</td>
</tr>
<tr>
<td>Japanese B</td>
<td>JAPN (6)</td>
</tr>
<tr>
<td>mathematics</td>
<td>MATH 151 (3) with a score of 6 or 7</td>
</tr>
<tr>
<td>mathematics, further</td>
<td>MATH 151 (3) and 152 (3) with a score of 6 or 7</td>
</tr>
<tr>
<td>music</td>
<td>individual assessment</td>
</tr>
<tr>
<td>organization &amp; management studies</td>
<td>individual assessment</td>
</tr>
<tr>
<td>philosophy</td>
<td>PHIL (6)</td>
</tr>
<tr>
<td>physics</td>
<td>PHYS 101 (3), 102 (3)</td>
</tr>
<tr>
<td>physical science</td>
<td>no credit</td>
</tr>
<tr>
<td>psychology</td>
<td>PSYC 100 (3), 102 (3)</td>
</tr>
<tr>
<td>social anthropology</td>
<td>no credit</td>
</tr>
<tr>
<td>Spanish B</td>
<td>SPAN (6)</td>
</tr>
<tr>
<td>theatre arts</td>
<td>FPA (3) theatre, FPA 150 (3)</td>
</tr>
</tbody>
</table>

Required English Tests

Applicants who, in the opinion of the University, do not have sufficient experience or skills in written and spoken English will be required to achieve a satisfactory score on one of the following tests.

• TOEFL CBT (computer based test) with a minimum score of 230 including a minimum essay score of 4.5, or
• TOEFL CBT with a minimum score of 250, or
• International English Language Testing System (IELTS) with a minimum score of 6.5 on the Academic Modules, or
• TOEFL CBT with a minimum score of 207 and completion of Simon Fraser University’s English Bridge Program.

Test scores must be sent directly from the respective testing agency to Simon Fraser University.

English Bridge Program

This ten week intensive English program is offered by Simon Fraser University’s Language Training Institute in the Faculty of Arts, on the main Burnaby campus. Emphasizing the English language skills needed in the academic setting, the program is designed for students who are otherwise fully admissible to the
Advanced Placement Program

Transfer credit and/or advanced standing will be granted to students who complete certain advanced placement program examinations with grades of 4 or 5. Transferable subjects are as follows.

<table>
<thead>
<tr>
<th>APP Examination</th>
<th>SFU Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>history of art</td>
<td>FPA VSAR HIST (3), FPA 167 (3)</td>
</tr>
<tr>
<td>studio art – general portfolio</td>
<td>FPA (6) VSAR studio</td>
</tr>
<tr>
<td>studio art – drawing portfolio</td>
<td>FPA (6) VSAR studio</td>
</tr>
<tr>
<td>biology</td>
<td>transfer credit: BISC 101 (4), 102 (4)</td>
</tr>
<tr>
<td>calculus AB</td>
<td>transfer credit: MATH 151 (3)</td>
</tr>
<tr>
<td>calculus BC</td>
<td>transfer credit: MATH 151 (3), 152 (3)</td>
</tr>
<tr>
<td>chemistry</td>
<td>Advanced standing in CHEM 120, 122</td>
</tr>
<tr>
<td>computer science A</td>
<td>transfer credit: CMPT 101 (4)</td>
</tr>
<tr>
<td>computer science AB</td>
<td>transfer credit: CMPT 101 (4)</td>
</tr>
<tr>
<td>economics – micro</td>
<td>contact the economics department for a 12 credit hour prerequisite waiver for ECON 103 or ECON 105</td>
</tr>
<tr>
<td>economics – macro</td>
<td>contact the economics department for a 12 credit hour prerequisite waiver for ECON 103 or ECON 105</td>
</tr>
<tr>
<td>English language &amp; composition</td>
<td>transfer credit: ENGL (3)</td>
</tr>
<tr>
<td>English literature &amp; composition</td>
<td>transfer credit: ENGL (3)</td>
</tr>
<tr>
<td>environmental science</td>
<td>transfer credit: BISC (3)</td>
</tr>
<tr>
<td>French</td>
<td>transfer credit: FREN (3) or (6) depending on result in placement test</td>
</tr>
<tr>
<td>German</td>
<td>to be determined</td>
</tr>
<tr>
<td>government – US</td>
<td>to be determined</td>
</tr>
<tr>
<td>government – comparative</td>
<td>to be determined</td>
</tr>
<tr>
<td>human geography</td>
<td>transfer credit: GEOG 102 (3)</td>
</tr>
<tr>
<td>American history</td>
<td>transfer credit: HIST (3)</td>
</tr>
<tr>
<td>European history</td>
<td>transfer credit: HIST 106 (3)</td>
</tr>
<tr>
<td>Latin I</td>
<td>transfer credit: HUM 161 (3)</td>
</tr>
<tr>
<td>Latin II</td>
<td>transfer credit: HUM 162 (3)</td>
</tr>
<tr>
<td>music – theory</td>
<td>to be determined</td>
</tr>
<tr>
<td>music – listening and literature</td>
<td>to be determined</td>
</tr>
<tr>
<td>physics B</td>
<td>transfer credit: PHYS 101, 102 (6)</td>
</tr>
<tr>
<td>physics C – mechanics</td>
<td>transfer credit: PHYS 120 (3) see note below.</td>
</tr>
<tr>
<td>physics C – electricity &amp; magnetism</td>
<td>transfer credit: PHYS 121 (3) see note below.</td>
</tr>
<tr>
<td>psychology</td>
<td>transfer credit: PSYC 100, 102 (6)</td>
</tr>
<tr>
<td>Spanish language</td>
<td>advanced standing in SPAN 303</td>
</tr>
<tr>
<td>Spanish literature</td>
<td>advanced standing in SPAN 240, SPAN 103</td>
</tr>
<tr>
<td>statistics</td>
<td>to be determined</td>
</tr>
</tbody>
</table>

Course challenge (credit by examination) is also available in some disciplines.

Note: Please note that the following topics are not covered in APP physics C but are included in PHYS 120 and 121: heat, kinetic theory, thermodynamics, wave motion, interference diffraction, geometric optics and some topics in modern physics and special relativity.

Diverse Qualifications

Undergraduate Admission Policy

Each semester, many more admission applications are received than can be accepted. Academic performance is the main criterion for admission and is used exclusively in 90% of cases. However, it is recognized that some candidates have other attributes and achievements which should be recognized in determining admission. The University seeks to admit not only applicants who are academically very well qualified but also those who meet minimum admission standards and have • demonstrated commitment and/or excellence in other endeavours, or • presented a clear and valid reason for attending the University, or • succeeded in their studies in spite of difficult circumstances.

The University will select up to 10% of new students, taking into account these diverse qualifications. To be considered for admission under this policy, complete a personal information profile form and submit it with one letter of reference.

This admission policy is not available to Faculty of Science applicants.

This policy applies only to candidates who meet the published minimum academic admission requirements and the English language requirement.

Integrated Studies Programs for Mid-Career Adults

Integrated Studies Programs for mid-career adults are cohort-based, employer-sponsored undergraduate degree completion opportunities leading to the Bachelor of General Studies degree. A flexible admission policy allows recognition of non-traditional learning experiences and a set curriculum enables degree completion within a pre-established time frame — usually three years — while candidates continue to work full time.

Mature applicants with a minimum of 5-8 years of work experience, and support of their employer to complete an undergraduate degree, are encouraged to contact the program director, Integrated Studies Programs, at (604) 291-5072, for information about currently available programs (see “Integrated Studies Program” on page 116).

British Columbia and Yukon Applicants

Applicants from BC or Yukon may be admitted from secondary school, from a community or university college, or from a university. Refer to those sections that follow. Several special categories of admission also exist for BC applicants (see “Special Categories” on page 31).

Secondary Schools

Applicants may be admitted for the Faculties of Arts, Business Administration and Science or to one of the four programs in the Faculty of Applied Sciences. Please see “British Columbia and Yukon Secondary School Requirements” on page 26.

Independent Schools

The University accepts applications from students attending independent schools adhering to the BC secondary school curriculum. Applicants must have written any secondary school examinations administered by the provincial Ministry of Education in courses used towards graduation. Examination results will be evaluated in the same manner as if the applicant were attending a public secondary school.

BC Secondary School Students Taking Advanced Placement or International Baccalaureate Exams

BC secondary school students who take AP or IB courses and who take the external exams offered in these programs may receive transfer credit (see separate lists).

Advanced placement or international baccalaureate courses in a number of disciplines may be used in place of equivalent provincially approved BC grade 12 courses.
The external exams marks will be converted as follows for the purpose of determining admission.

<table>
<thead>
<tr>
<th>AP Exam Grade</th>
<th>IB Exam Grade</th>
<th>Equivalent Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>7</td>
<td>96</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>86</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>76</td>
</tr>
</tbody>
</table>

**BC Adult Graduation Diploma**

This credential is available to adults who take courses to complete graduation through a secondary school, adult education centre or a community college.

Applicants who have completed the diploma and who are at least 19 years of age may be admitted if they have completed:

- four courses (16 credits) at grade 11 or advanced level to include English, mathematics, social studies or First Nations 12, an experimental or laboratory science
- four courses (16 credits) at the grade 12 or provincial level to include English and three additional subjects selected from: biology, mathematics, chemistry, English literature, languages, statistics, geography, history, physics

All four grade 12 or provincial level subjects must be graded: a minimum average of C+ or 67% is required, based on the grading scale set by the Ministry of Education.

Entry requirements to business administration, computing science, engineering science, kinesiology and the Faculty of Science parallel those for BC secondary school graduates.

**Calculus Examination Certificate**

All prospective Simon Fraser University, University of British Columbia, University of Northern British Columbia and University of Victoria students who have completed, or who are registered, in a secondary school calculus course are eligible to write a calculus challenge examination. Students who pass this exam will be awarded a UBC - SFU - UVic - UNBC Calculus Examination Certificate that permits the holder to obtain calculus transfer credit at one of these universities.

Secondary school students can write the exam, which must be done prior to entering one of the four participating BC universities.

Only one attempt to write this exam is permitted. The exam’s resulting grade will be converted into the individual university’s equivalent grade. These equivalencies are noted on the certificate.

**Calculus Course Credit**

A student who has passed the calculus challenge exam and is registered at Simon Fraser University, may be awarded transfer credit: MATH 151 (3).

Students already eligible for transfer credit because of high AP or IB scores will keep this eligibility regardless of their examination score and can waive the examination score and/or credit.

**Examination Locations**

Each year a university will host the calculus challenge examination. In 2000 Simon Fraser University will conduct the exam.

Exams are held twice a year. The April exam is held at participating high schools, or at the host university. The August exam takes place only at the host university.

**BC and Yukon College Transfer Requirements**

**Faculty of Applied Sciences**

**Communication**

Students planning to enter the BA degree program must satisfy the same requirements as for the Faculty of Arts. Admission is competitive.

**Computing Science**

Students applying for the computing science program may be admitted directly based on excellent college grades or may be offered general University admission with the opportunity to apply for later admission based on Simon Fraser University grades. Admission is highly competitive.

For direct entry from college to fall semester 2001 and subsequent semesters, students must complete at least seven courses that receive the following transfer credit assignments.

- one writing course awarded: PHIL 001 or three credits in English
- mathematics course receiving credit for two of the following: MACM 101, 201, MATH 151, 152 and 232
- computing courses receiving credit for two of the following: CMPT 101, 150, 201, 250 and 275
- one physical sciences course awarded at least three credits in biological sciences, chemistry, kinesiology or physics
- one social sciences course awarded at least three credits in archaeology, communication, Canadian studies, criminology, economics, history, political science, psychology, sociology and anthropology or women’s studies

Admission will be based on a grade point average computed over the best seven courses satisfying these constraints. All seven courses must have been taken from a single institution within a two year period. No course may be included in the average if it is considered a duplicate of any previous course taken.

Students planning to enter the BSc degree program in fall semester 2000 must satisfy the same requirements as for the faculty of arts and the following requirements depending on the number of credit hours completed:

- have completed at least 30 semester hours of transfer credit, including CMPT 101, 150 (or 105) and MACM 101 and
- have completed at least 45 semester hours of transfer credit including CMPT 101, 150 (or 105), MACM 101 and CMOT 201 or
- have completed at least 57 credit hours including the lower division requirements as discussed in the School of Computing Science section.

Admission is highly competitive. Acceptance as an approved computing science student is based both on overall academic performance as measured by the CGPA and on specific academic performance in computing-related GPA (CRGPA). The CRGPA for a program is the GPA calculated on all courses used for the lower division requirements for that program.

**Engineering Science**

Students planning to enter the BASc degree program must satisfy the same requirements as for the faculty of arts and to include at least 30 semester hours of credit in transferable science or engineering courses.

Admission is highly competitive.

An additional application is required. See the School of Engineering Science section of this Calendar.

**Kinesiology**

Students planning to enter the BSc (Kinesiology) degree program must satisfy the same requirements as for the faculty of arts and include the equivalents of the following courses among either their college transfer courses or secondary school courses.

- biology 12
- mathematics 12
- chemistry 12 or principles of physics 12

at least 24 semester hours of transfer credit in the following courses

- BISC 101-4
- CHEM 121-4, 122-2, 281-4
- KIN 142-3
- MATH 151-3, (or 154-3), 152-3 (or 155-3)
- PHYS 101-3, (or 120-3), 102-3, (or 121-3), 130-2, (or 131-2)

Admission is highly competitive.

**Faculty of Arts**

**Communication**

Students planning to enter the BA degree program must satisfy the same requirements as for the Faculty of Arts. Admission is competitive.

**Computing Science**

Students applying for the computing science program may be admitted directly based on excellent college grades or may be offered general University admission with the opportunity to apply for later admission based on Simon Fraser University grades. Admission is highly competitive.

For direct entry from college to fall semester 2001 and subsequent semesters, students must complete at least seven courses that receive the following transfer credit assignments.

- one writing course awarded: PHIL 001 or three credits in English
- mathematics course receiving credit for two of the following: MACM 101, 201, MATH 151, 152 and 232
- computing courses receiving credit for two of the following: CMPT 101, 150, 201, 250 and 275
- one physical sciences course awarded at least three credits in biological sciences, chemistry, kinesiology or physics
- one social sciences course awarded at least three credits in archaeology, communication, Canadian studies, criminology, economics, history, political science, psychology, sociology and anthropology or women’s studies

Admission will be based on a grade point average computed over the best seven courses satisfying these constraints. All seven courses must have been taken from a single institution within a two year period. No course may be included in the average if it is considered a duplicate of any previous course taken.

Students planning to enter the BSc degree program in fall semester 2000 must satisfy the same requirements as for the faculty of arts and the following requirements depending on the number of credit hours completed:

- have completed at least 30 semester hours of transfer credit, including CMPT 101, 150 (or 105) and MACM 101 and
- have completed at least 45 semester hours of transfer credit including CMPT 101, 150 (or 105), MACM 101 and CMOT 201 or
- have completed at least 57 credit hours including the lower division requirements as discussed in the School of Computing Science section.

Admission is highly competitive. Acceptance as an approved computing science student is based both on overall academic performance as measured by the CGPA and on specific academic performance in computing-related GPA (CRGPA). The CRGPA for a program is the GPA calculated on all courses used for the lower division requirements for that program.

**Engineering Science**

Students planning to enter the BASc degree program must satisfy the same requirements as for the faculty of arts and to include at least 30 semester hours of credit in transferable science or engineering courses.

Admission is highly competitive.

An additional application is required. See the School of Engineering Science section of this Calendar.

**Kinesiology**

Students planning to enter the BSc (Kinesiology) degree program must satisfy the same requirements as for the faculty of arts and include the equivalents of the following courses among either their college transfer courses or secondary school courses.

- biology 12
- mathematics 12
- chemistry 12 or principles of physics 12

at least 24 semester hours of transfer credit in the following courses

- BISC 101-4
- CHEM 121-4, 122-2, 281-4
- KIN 142-3
- MATH 151-3, (or 154-3), 152-3 (or 155-3)
- PHYS 101-3, (or 120-3), 102-3, (or 121-3), 130-2, (or 131-2)

Admission is highly competitive.
BC and Yukon College Transfer Requirements

Faculty of Business Administration

Students planning to enter the BBA degree program must meet the same requirement as those given for the faculty of arts, except that the equivalents of the following courses must be passed with a C- grade or higher:

- BUEC 232-3
- BUS 237-3, BUS 251-3, BUS 272-3
- ECON 103-3, ECON 105-3
- MATH 157-3 (or MATH 151-3 or MATH 154-3)
- and two of ENGL 101-3, ENGL 102-3, ENGL 103-3, ENGL 104-3, ENGL 105-3, ENGL 199-3, PHIL 100-3, PHIL 120-3

Admission is highly competitive. Most transfer students enter the University’s Faculty of Arts before they are approved into the Faculty of Business Administration (see Faculty of Business Administration section of this Calendar). The admission target for fall semester 2000 is approximately 125 new students.

Faculty of Science

Students planning to enter the BSc degree program must satisfy the same requirement as those given for the faculty of arts, except that the equivalents of the following courses must be included among either the college transfer courses or secondary school courses:

- principles of mathematics 12 (or equivalent) with a minimum grade of C+ or
- two of grade 12 biology, chemistry, physics, geology or geography (or equivalents) with a minimum grade of C+ in each

Post-secondary courses, bearing university transfer credit, such as PHYS 120, satisfy the respective grade 12 course requirement (i.e. physics 12). If transferable courses are used, a C minimum grade is acceptable.

Admission is competitive. The admission target for fall semester 2000 is approximately 50 new students.

Application to write the exam
Application to write the exam must be made to the mathematics department at the university that is hosting the exam in that year. Apply by March 15 for the April exam, or by July 19 for the August exam.

Examination information
The exam is a three hours in duration.

For further inquiries about writing the calculus examination and the Calculus Examination Certificate, contact the following:

- 2000 Exam at Simon Fraser University
- Math Challenge 151, Department of Mathematics and Statistics, 8888 University Drive, Simon Fraser University, Burnaby, BC, V5A 1S6; telephone (604) 291-3332; fax (604) 291-4947; e-mail mast_chair@sfu.ca

Upgrading BC Grade 12 Grades
Applicants who wish to improve their grades in BC grade 12 courses may do so in accordance with Ministry of Education policies, except that the final grade in a provincially-examinable course may not be increased by taking a college course deemed to be its equivalent.

For example, an applicant who has achieved a mark of 66% in principles of mathematics 12 may not count in her/his admission average a subsequent, higher grade (say B’ or 73%) in a college ABE provincial level mathematics course taken through a college.

Community and University Colleges

Transfer Credit Guide
A transfer guide, listing all first and second year (lower division) transferable courses and the Simon Fraser University course equivalents is accessible through the World Wide Web at www.bc.ca/bccat.

Associate of Arts/Science Degree Holders
Graduates with AA or ASc degrees from BC or Yukon community colleges will be offered first priority in admission to the faculties of arts and science respectively, subject to the following conditions.

- successful completion of at least 54 credit hours, transferable to Simon Fraser University
- minimum 2.0 admission GPA based on the transferable courses

Associate in Science Diploma
Guaranteed admission to the Faculty of Science is offered to associate in science diploma graduates from Kwantlen University College. Specific courses and a minimum 2.50 GPA are required. Please contact admissions for further information.

University Transfer
Applicants in good standing at other recognized universities may be admitted on completion of at least one full year (30 credit hours) of transferable work with a minimum average of 60% (2.0). Other requirements are the same as those for students transferring from a British Columbia community or university college.

The following conditions apply:

- studies must have been at a fully accredited institution granting baccalaureate or higher degrees
- the studies presented for transfer credit must be acceptable to a leading university in the home country toward a program similar to the one to which admission is sought

University Degree Holders
Applicants holding degrees may be admitted to undergraduate studies to undertake a second or subsequent degree at the bachelor’s level, or to undertake a diploma or certificate. Applicants may also gain admission as special students to take undergraduate courses which are not for credit toward a degree, diploma or certificate program.

Applicants with baccalaureate degrees from recognized universities may be admitted with a minimum average of 2.0 or 60% based on the last two years of degree (or post degree) work attempted.

Special Categories
Simon Fraser University is interested in extending learning opportunities to British Columbia residents who may not qualify under the regular categories of admission. The number of such admissions is limited by the availability of resources, and is not automatic. Four special categories are available — mature student entry, early entry, concurrent studies and irregular admission.

Only Canadian citizens or permanent residents are eligible for these special categories. Applicants must meet one of the following residency qualifications (documentary evidence should be submitted). They must have:

- been born in BC,
- been a resident of BC for the six months prior to the proposed date of entry to Simon Fraser University.

Only Canadian citizens or permanent residents are eligible for these special categories. Applicants must meet one of the following residency qualifications (documentary evidence should be submitted). They must have:

- been born in BC,
- been a resident of BC for the six months prior to the proposed date of entry to Simon Fraser University.
- resided in BC for a total of five years at some time.

Mature Student Entry
Applicants aged 23 years or older who have attempted less than one year of post-secondary transferable course work, and who do not meet regular admission requirements, may be given consideration as mature students. In addition to normal documents, mature applicants must submit a personal information profile or equivalent letter of intent and at least one letter of reference (see Diverse Qualifications section above). Applicants who have successfully completed some post-secondary work, usually three to four transferable academic courses (nine to twelve credit hours), and ensured that they have no background deficiencies in essay writing, mathematics, etc. will receive preference.

Applicants who have completed a year or more of transferable post-secondary work (i.e. 30 credit hours or more) are ineligible for mature student entry and
may be considered for admission as transfer students.

**Early Entry**
This category is for outstanding students who have completed grade 11; applicants must have exceptional academic records and mature intellectual development. Admission under this category is at the discretion of the director of admissions. Applicants must submit letters of recommendation from their school principals, along with official copies of their academic records. For more information, please contact the director of admissions.

**Concurrent Studies**
Students with superior academic records may apply for limited admission to take one or two university courses while still attending secondary school. Admission is limited to one semester, with a maximum of two courses in the semester. Credit for these courses may be applied to academic degrees if the student is subsequently admitted to a regular program at the University. Applications should be supported by a letter of recommendation from the school principal or designate, and an official copy of the academic record. Admission under this category is at the discretion of the director of admissions and the respective faculty dean. Inquiries should be directed to the director of admissions.

**Irregular Admission (Education)**
Applicants may apply for irregular admission, giving limited access to certain courses offered by the Faculty of Education. This category allows certified teachers in BC, who seek professional development opportunities, to avoid long term deadlines and full documentation of their academic histories. Normal admission deadlines are waived, but published minimum admission requirements apply. Irregular admission students may not pursue a credential at Simon Fraser University (e.g. a degree) and receive no registration priority. They may take no more than eight credit hours per semester to a maximum of 16 in total. Eligibility to re-register after each semester is subject to the approval of the Faculty of Education. For further information, contact the Faculty of Education at (604) 291-5830.

**Canadian Applicants**
Canadian applicants may be admitted from secondary school and CEGEP, from college or from university. Refer to those sections that follow. (BC applicants should refer to the section BC and Yukon Applicants.)

**Secondary Schools and CEGEP**
Please consult the current publication Summit for more detailed information. See accompanying Canadian Secondary School and CEGEP Requirements chart for the general admission requirements. Exceptions are noted below.

When eligible applicants exceed the number that can be accommodated, the University reserves the right to select from among the qualified applicants.

**School of Computing Science**
Students applying for the computing science program may be admitted directly based on excellent high school grades or may be offered general University admission with the opportunity to apply for academic courses offered in the other course groups as shown below.

### Canadian Secondary School and CEGEP Requirements

<table>
<thead>
<tr>
<th>Area</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta, Alberta,</td>
<td>Academic grade 12 completion leading to graduation including at least five courses, selected as follows.</td>
</tr>
<tr>
<td>Nunavut and Northwest</td>
<td>1. English</td>
</tr>
<tr>
<td>Territories</td>
<td>2. at least three additional courses selected from among: biology 30, chemistry 30, language 30,</td>
</tr>
<tr>
<td></td>
<td>language 31, math 30, math 31, physics 30, social studies 30, science 30, world geography 30,</td>
</tr>
<tr>
<td></td>
<td>world history 30</td>
</tr>
<tr>
<td></td>
<td>3. additional level 30 or 31 courses acceptable and necessary for the completion of grade 12</td>
</tr>
<tr>
<td></td>
<td>Admission average will be based on English 30 and the three best courses in group 2</td>
</tr>
</tbody>
</table>

| Saskatchewan             | Academic level three (grade 12) completion leading to graduation, including at least seven academic subjects selected as follows. |
|                          | 1. English A30 and B30 (or French Immersion 30)                                               |
|                          | 2. one of mathematics A30, mathematics B30 or mathematics C30                                |
|                          | 3. at least two additional 30 numbered courses selected from among the following: biology,   |
|                          | calculus, chemistry, Français A or B, French, geography, history, mathematics, other        |
|                          | languages or physics                                                                         |
|                          | 4. additional courses acceptable and necessary to graduate.                                  |
|                          | Admission average will be based on English A30, B30, the best mathematics course in group two |
|                          | and the best two remaining courses in groups two or three.                                    |
|                          | **Note:** English is a double course so this average is over five courses but only four subject |
|                          | areas.                                                                                         |

| Manitoba                 | Academic program which will lead to graduation including at least five courses selected as    |
|                          | follows.                                                                                       |
|                          | 1. English 40S (2 credits)                                                                     |
|                          | 2. at least three additional courses selected from applied mathematics 40S, biology 40S,      |
|                          | chemistry 40S, history of Western civilization 40S, human geography 40S, language 40S,      |
|                          | physics 40S, pre-calculus mathematics 40S, world issues 40S.                                   |
|                          | 3. at least one additional 40S or 40G or 40A course and further courses required for graduation|
|                          | Admission average will be based on English 40S and the three best courses in group two        |

| Ontario                  | OSSD (or OSSHGD) including six OACs and including the following.                             |
|                          | 1. one OAC English (language and literature recommended) or OAC Français                        |
|                          | 2. at least three additional OAC courses selected from classical civilization, classical    |
|                          | studies, English, Français, other languages, algebra and geometry, calculus, finite          |
|                          | mathematics, biology, chemistry, computing science, physics, geography, history, and         |
|                          | not more than one of visual art, drama or music, economics, law, sociology                    |
|                          | 3. additional OAC courses necessary to complete the OSSD                                       |
|                          | Admission average will be based on OAC English or François and the three best courses in      |
|                          | group two excluding visual art, drama, music, economics, law and sociology.                   |

| Quebec                   | Applicants from CEGEP must present either a completed DEC or at least one year of an         |
|                          | approved academic program. Contact Admissions, Office of the Registrar for information.       |
|                          | Applicants from Quebec grade 12 must present the following:                                  |
|                          | 1. English 12 or Français 12                                                               |
|                          | 2. at least three additional university preparatory grade 12 courses selected from           |
|                          | mathematics, sciences, languages, literature, social sciences, history, geography            |
|                          | 3. additional academic subjects required for graduation                                      |
|                          | Admission average will be based on one course from group one and the three best courses in   |
|                          | group two.                                                                                  |

| New Brunswick            | Applicants must supply evidence of completion of an academic (i.e. college preparatory)     |
|                          | program which will lead to graduation and includes at least six courses as follows.           |
|                          | 1. English 121 and 122 (or Français 121 or 122)                                               |
|                          | 2. at least three additional grade 12 academic (college preparatory) courses selected from    |
|                          | among advanced mathematics, biology, Canadian literature, chemistry, computer science,       |
|                          | English, environmental science, François, French, geography, history, mathematics, physics    |
|                          | 3. additional grade 12 academic (college preparatory) courses acceptable and necessary to     |
|                          | complete grade 12.                                                                           |
|                          | Admission average will be based on English 121 or 122 and the three best courses in group two |


Canadian Secondary School and CEGEP Requirements

Prince Edward Island

Academic or advanced academic program which will lead to graduation and including at least five academic and/or advanced academic subjects selected as follows.

1. English 621
2. at least three additional courses numbered 621 selected from biology, chemistry, French, French, geography, history, mathematics, other languages, physics
3. additional courses required to graduate

Admission average will be based on English 621 and the three best courses in group two.

Academic (i.e., university preparatory) program which will lead to graduation, including at least five subjects selected as follows.

1. English 441, English enriched 445 or English 541
2. at least two additional courses numbered 441 or 541 (or grade 12 equivalents) selected from biology, Canadian literature, chemistry, French, history, mathematics, other languages, physics or math 442
3. additional courses numbered 441 or 541 from those listed in group two, or from comparative religion, computer studies, economics, geography, home economics, law, modern world problems, music, physical and health education, political science or sociology, or statistics required for graduation (i.e., to total at least five courses numbered 441, 541 or grade 12).

Admission average will be calculated on best course in group one, the best courses in group two, and the best further course in group two or either geography or modern world problems from group three.

Nova Scotia

Academic program which will lead to graduation and includes at least 13 credits as follows.

1. language 3101 and either English 3201 (thematic literature) or 3202 (literary heritage)
2. mathematics 3200 or 3203
3. any one of biology 3201, chemistry 3202, geology 3203, physics 3204
4. any one of advanced writing 3103, geography, history, global issues 3203 or languages at the 3000 level
5. at least two additional 3000 level academic credits from groups 1 to 4
6. additional academic credits required to graduate (i.e. at least 13 credits)

Admission average will be weighted according to the credit value of each course and will be calculated on both courses in group one, the better course in group two and the two best courses in groups three or four (total normally nine credits).

Newfoundland

Academic program which will lead to graduation and includes at least 13 credits as follows.

1. language 3101 and either English 3201 (thematic literature) or 3202 (literary heritage)
2. mathematics 3200 or 3203
3. any one of biology 3201, chemistry 3202, geology 3203, physics 3204
4. any one of advanced writing 3103, geography, history, global issues 3203 or languages at the 3000 level
5. at least two additional 3000 level academic credits from groups 1 to 4
6. additional academic credits required to graduate (i.e. at least 13 credits)

Admission average will be weighted according to the credit value of each course and will be calculated on both courses in group one, the better course in group two and the two best courses in groups three or four (total normally nine credits).

later admission based on Simon Fraser University grades. Admission is highly competitive.

Students planning to enter the BSc degree program in fall 2000 must satisfy the same requirements as for the faculty of arts and should have completed a senior math course. Admission is highly competitive.

Applicants to the fall semester 2001 must meet the general admission requirements which should include the following breadth requirements in senior courses.

• a math course
• two science courses
• one social science course

School of Engineering Science

Applicants to the engineering science program must meet the general admission requirements and should have completed senior courses in math, chemistry, physics and computer science. Admission is highly competitive.

School of Kinesiology

School of Kinesiology applicants will be eligible for formal acceptance into the kinesiology major program [bachelor of science (kinesiology)] if they

• fulfill the general University admission requirements
• complete a senior biology course
• complete a senior mathematics course
• complete at least one senior chemistry or physics course

A senior computer science course is recommended, if available. Admission is highly competitive.

Faculty of Business Administration

Business administration applicants must have a senior mathematics course. Admission is highly competitive.

Faculty of Science

Faculty of Science applicants must meet general admission requirements and should have completed senior courses in math and at least two of biology, chemistry, physics, computer science, geology and geography.

Colleges (except Quebec)

The following requirements refer to admission to the Faculty of Arts, except where otherwise stated.

Applicants who have attended a college in a transfer program articulated with Simon Fraser University must complete at least one full year (30 credit hours) of transferable work with a minimum average of 2.0 or 60%.

Applicants who have attended other community colleges in academic programs must have completed at least one full year (30 credit hours) of transferable work with a minimum average of 2.40 or 65%.

Other Countries

For information regarding secondary school admission requirements for students from other countries, please refer to our Admission Guide for International Students or follow the links from www.reg.sfu.ca

United States of America

Students who will graduate from US secondary schools may be considered for admission if they have, or are predicted to have, a GPA of 3.2 or higher based on a combination of grade 11 and 12 academic courses and above, test scores (typically SAT V+M 5120 or ACT §26). Other factors will be considered, such as honors, rank in class, and advanced academic courses (e.g. international baccalaureate, average advanced placement program).

University or College Transfer

See that section above under British Columbia and Yukon Applicants.

University Degree Holders

See that section above under British Columbia and Yukon Applicants.

International Applicants

International applicants may be admitted from secondary school, from a college, or from a university, or applicants may already hold a university degree. Refer to those sections that follow.

The University limits new international students to not more than 7% of each year’s entry.

Secondary Schools

The following requirements refer to admission to the Faculty of Arts, except where otherwise stated.

United States of America

Students who will graduate from US secondary schools may be considered for admission if they have, or are predicted to have, a GPA of 3.2 or higher based on a combination of grade 11 and 12 academic courses and above, test scores (typically SAT V+M 5120 or ACT §26). Other factors will be considered, such as honors, rank in class, and advanced academic courses (e.g. international baccalaureate, average advanced placement program).

Other Countries

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University or College Transfer

See that section above under British Columbia and Yukon Applicants.

University Degree Holders

See that section above under British Columbia and Yukon Applicants.

Readmission and Re-registration

Students who have previously attended, completed at least one full semester at Simon Fraser University and who fall into any of the following four categories must apply for readmission or re-registration by completing the application for readmission form
available from the Office of the Registrar. Please see “Special Fees” on page 42.

• absence from the University for three or more consecutive semesters. A student who does not register in at least one of three consecutive semesters is considered to have withdrawn. These applicants will be asked to state educational and other relevant activities since the last semester attended, and to submit official transcripts from any post-secondary educational institution(s) attended during their absence.

• voluntary withdrawal from first semester of attendance. New students who withdraw before completing any course work are required to apply for readmission if they wish to register in a subsequent semester, unless they withdrew under extenuating circumstances, after the application deadline for the subsequent semester.

• completion of academic goals. Students who complete a credential (bachelor’s degree, diploma, or professional development program if already a graduate,) in any semester must apply for readmission to enrol in additional courses at the University in a subsequent semester. This requirement also applies to those students who have submitted formal application for graduation and who wish to continue their studies in a semester following the one in which degree requirements were met.

• completion of a semester by a concurrent studies student who wishes to continue at the University

• previously attended as a visiting or exchange student and who wishes to complete a Simon Fraser University credential

Those who receive certificates or who complete a professional development program before their bachelor’s degrees may register in subsequent semesters without applying for readmission.

An application by former Simon Fraser University students may be categorized as

• re-registration: the student has completed no academic work during the time away from Simon Fraser University, and is in academic good standing.

• readmission: the student has either completed a credential, such as a degree, or has taken course work elsewhere, or was required to withdraw from Simon Fraser University.

Holders of Simon Fraser
University Bachelor’s Degrees

In addition to submitting an application for readmission, former Simon Fraser University students who plan to undertake a program of study leading to an additional bachelor’s degree or toward a diploma are urged to obtain program approval from the appropriate department and faculty as soon as possible. Such students entering certificate programs should obtain approval from their faculty advisors.

Students holding SFU bachelor’s degrees may also apply for readmission to undertake undergraduate courses as special students. Normally, no approval is required.
Registration

Registration is the process of formally assigning and recording the enrolment of a student in a course or courses. Registration is open only to those who have been already admitted or readmitted to the University, or who are eligible to re-register. An exception to this condition is that special audit students need not be formally admitted before registration (see General Information).

Under the trimester system a student must register separately in courses for each semester or session of attendance with the exception that registration for any of the summer session, intersession and summer semester may be combined. Students are given access to the telephone registration system based on the registration priority number (RPN). The RPN is based on the student’s cumulative grade point average and on the number of hours completed and in progress. In RPN order, students are assigned a date from which access to the telephone registration system is activated.

Note: The registration procedure for designated off-campus programs and distance education courses is the same as for on campus courses. Specific details on these programs are available in brochures published each semester; for further information see the Continuing Studies section.

Information on how to register and details concerning the day, time, place and instructor for courses is provided each semester in the Course Timetable and Exam Schedule. Simon Fraser University reserves the right to make changes in these arrangements without notice although the University will endeavor to inform students affected by such changes.

New Students

After the application for admission has been assessed, the applicant will be advised of his/her eligibility for admission. If admitted, the student will receive full instruction on the procedure to be followed to register for courses.

Continuing Students

Students who have registered for one or more of the last three semesters and who are eligible to continue (see General Regulations), will be advised of registration procedures and deadlines well in advance of each semester.

Former Students

Under certain conditions, former students must submit formal application for readmission in order to continue academic studies at the University (see Admission and Readmission).

Course Loads

The following maximum course loads apply to all students, but certain students may be granted permission by their respective faculties to register in course overloads (see below).

Regular Session

The maximum course load for all students who are not registered for summer Session courses only, or intersession courses only and who are not entering their graduation semester is as follows:

- Applied Sciences, Arts, Business Administration or Education – 16 hours of lower division courses, or 18 hours of upper division courses
- Science – 18 hours of lower or upper division courses

- Engineering Science – 20-22 hours of any courses (permission of the director is required for course loads below 15 hours).

Interession or Summer Session Only

Students enrolling for the intersession or summer session only, may not enrol in programs having a total value in excess of nine credit hours, except where course combinations may require registration in a program of 10 credit hours; however, no student will be permitted to undertake a program of more than 10 credit hours of work.

Summer Semester, Intersession, Summer Session Combinations

The normal course load limits apply to students who register in combinations of the above. For purposes of course load values only, in the regular summer semester the course load value corresponds to the credit hour credit allocated for the course. In the intersession or summer session, the course load value is twice the credit hour credit shown for the course. (This arises because in the shorter session classes must meet twice as often or for longer periods to equal the time of the regular semester.)

Therefore in calculating course load value, note the following example.

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
<th>Course Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 371-5</td>
<td>5 equals 5</td>
<td></td>
</tr>
<tr>
<td>(if taken in summer session)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARCH 372-5</td>
<td>5 equals 10</td>
<td></td>
</tr>
<tr>
<td>(if taken in eight week intersession or summer session)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Course Load</td>
<td>10 equals 15</td>
<td></td>
</tr>
</tbody>
</table>

Course Overloads

No student who is on academic probation may register in a course overload.

In the Faculty of Applied Sciences, approved majors who wish to register in an overload require permission of the director of their school. Other Applied Sciences students require permission of the dean of the faculty.

In the Faculties of Arts, Business Administration, and Education only, a student who requires an overload in order to fulfill graduation requirements in the semester for which he/she is registering may be allowed, with the dean’s permission, to register in an overload. Refer to the Faculty of Arts Load Level section for information.

In the School of Engineering Science, permission of the director is required for course overloads exceeding 22 hours.

In the Faculty of Science, a student entering the graduating semester requiring specific courses in order to fulfill graduation requirements in the semester for which the student is registering, may be permitted to enrol in courses totalling up to 21 hours, provided either the cumulative grade point average or the most recent semester grade point average is 3.0 or higher.

A limited number of overloads may be approved by the dean of the faculty in which the student is registered on an individual basis during the course change period.

Limits on Duplication of Courses

The number of courses which a student may duplicate in a degree program is limited to five. This limit may be extended by the dean of the faculty.

Students attempting a course for the first time shall be given the opportunity to register prior to any students who are presently registered in the course or who have passed the course with a C- or better.

Students who intend to register in their sixth or subsequent duplicate course should seek advice from their major department or the Academic Resource Office before submitting their requests for extension of the limit to their respective dean.

No individual course may be duplicated more than once except with the permission of the department offering the course. Students wishing to register in a course for the third or subsequent time should consult an advisor in the department.

Courses at Other Institutions/ Letters of Permission

Simon Fraser University students who wish to take academic work at other institutions for credit toward an undergraduate degree, diploma or certificate at this University must obtain permission in advance from their department chair (if a major has been declared) and the dean of their faculty. A form for this purpose may be obtained from the Office of the Registrar. When approval has been granted, the Office of the Registrar will issue a Letter of Permission form to the institution which the student plans to attend, if required by that institution.

Except as noted below, total transfer and course challenge credits may not exceed 60 credit hours and not more than 15 credit hours of transfer credit may count toward upper division requirements. Each diploma and certificate program has its own specific limit, and students should consult the appropriate section of this Calendar for such restrictions. Within these limits, credit may be transferred for all courses passed with a grade of ‘C’ (2.0 or 60%) or higher, and which are acceptable under Simon Fraser University’s transfer policies. Transfer credit is not used in the calculation of the cumulative grade point average. Students should refer to the Admission and Readmission section for transfer credit information.

For information concerning maximum transfer credit pertaining to Education (EDUC) 401/402, 405, see the Faculty of Education regulations.

For students working toward a bachelor of general studies degree, special regulations provide more hours of transfer credit from a degree granting institution recognized by Simon Fraser University. Please refer to the Faculty of Arts section.

Students who are pursuing a bachelor of applied science degree in engineering science should see the Engineering Science section.

Duplicate Transfer Credit

Students may not receive transfer credit for a course which is a duplicate of a course passed at Simon Fraser University.

If a student registers for a duplicate course, and completes the course with a passing grade, the transfer credit will remain on the academic record as a duplicate, with a zero credit value. If the course is completed with a failing grade, or is dropped, the transfer credit will remain on the academic record. A department may permit credit to count for both a
transfer course and a Simon Fraser University course, if the course content is judged to be sufficiently different. Current limits on course duplication will not apply to duplicate transfer courses. The implementation of this policy will not affect the method of calculating grade point averages.

Course Challenge
Course challenge is a method by which a student may obtain credit for course material learned elsewhere (i.e. outside Simon Fraser University). A maximum of 60 credit hours of credit may be obtained by the combined mechanism of course challenge and transfer credit.

A student must be eligible to register in order to register for course challenge.

- course challenge is not permitted for a course for which credit has already been obtained at Simon Fraser University or through transfer credit. A student may not register in one semester for both regular enrolment and course challenge in the same course at the same time, but must select one or the other, and may not change that decision in that semester later than ten days following the commencement of University classes
- a student is not entitled to register for course challenge if he/she has recorded two challenges as either unsuccessful or unattempted
- a student is not permitted to challenge a courses(s) he/she has previously failed at Simon Fraser University
- course challenge is not included in the grade point average

Please note the following with regard to course challenges in the Department of French and in the Latin American Studies Program.

With approval, a student may register and pay fees for challenge in a specified sequence of courses in a given language. If the student satisfactorily completes a course in the given language at an advanced level, then formal challenge assessment of the preceding level(s) should be undertaken to avoid two challenges without success based solely on the advanced assessment.

Registration for Course Challenge
Any eligible student who wishes to register for course challenge must obtain an official course challenge registration form from the Office of the Registrar or the academic department, seek approval of the appropriate department chair to register for course challenge in that department, and return the completed form to the Office of the Registrar or the academic department by the tenth day following commencement of classes. Normally, a student may not complete registration for course challenge after the end of the tenth day of classes. During the first ten days of classes, a student may change registration in course challenge from one course to another or to regular enrolment in courses, but may not withdraw from course challenge without substitution of regular course enrolment. After the tenth day of classes, no further course challenge changes will be permitted.

Course Audit
A student who has satisfied the admission requirements of the University may attend a specific course(s) as an auditor upon completion of the necessary registration procedures, which include written approval of the department concerned.

Audit will be recorded as ‘AU’ on a student transcript if the student fulfills the requirements agreed to by the student and the instructor at the time of registration. Minimally, these requirements should comprise regular attendance at class meetings, completion of readings and participation in class activities. Audited courses will not count towards degree requirements.

During the normal course change period a student may change registration in course audit from one course to another, or to regular enrolment in the course, or from regular enrolment to course audit. Normally, no further registration in course audit will be permitted after the extended course change period has ended. For information on fees assessed for course audit refer to Undergraduate Fees.

Note: Course audit and special audit are for different categories of students. Those interested in gaining entry as special audit students should consult the Continuing Studies section.

Medical Requirements
Simon Fraser University does not require a pre-admission medical examination, but does reserve the right to require a student to submit a medical certificate at any time. It is the student’s responsibility to have adequate hospital and medical insurance coverage. Adequate medical and hospital insurance is that which is provided under the Medical Services Plan of BC, or any other plan, government or private, which provides coverage equivalent to that offered under the Medical Services Plan of BC. Students who seek medical treatment through either the University Health Services or off-campus medical facilities must provide evidence of medical insurance. Failure to provide adequate information will result in the student being charged directly for services rendered. It is important for students to remember that while we in BC take health care for granted under the Medical Services Plan of BC, those who do not have medical coverage will bear the costs, which can be expensive.

The University assumes no liability for any failure by the student to maintain adequate medical or hospital (or dental) insurance, nor is the University responsible for any costs not covered by the student’s personal insurance plan(s), whether it is Medical Services Plan coverage or otherwise. It should be understood that the University itself carries no medical, hospital or dental insurance coverage on students’ behalf.

Questions regarding hospital or medical insurance should be directed to the Medical Services Plan of BC, telephone (604) 683-7151 (toll free).

Students who are not citizens or permanent residents of Canada should contact a private insurance company for coverage during the waiting period to obtain the Medical Services Plan coverage. For information on available private medical plans, contact International & Exchange Student Services, telephone (604) 291-4232.

Program/Course Changes and Withdrawals

Program Changes
Program changes to academic goal, or to honors, major or minor subject declarations or intentions may be entered for necessary departmental approval on the program approval form available from the major department or the Office of the Registrar.

Course Changes
You are urged to read the tuition refund policy carefully to avoid, or minimize, financial penalty for dropping courses for which you register. Details of the policy, and deadlines, appear in the Undergraduate Fees section of the Calendar and, also in the Course Timetable and Exam Schedule. Failure to attend classes does not constitute withdrawal from a course. Courses that are not formally dropped will be given a failing grade; payment for the course’s tuition fee is required.

Semester Course Changes
The Course Timetable and Exam Schedule that is published each semester contains detailed instruction on the procedures, and semester specific deadline dates to be followed, to change courses during the registration process and after the start of classes. The deadline dates may vary for the intersession and summer session.

Summer Session and Intersession Course Changes
For course change information in the intersession and summer session, refer to the summer semester Course Timetable and Exam Schedule.

Normal Course Change Period

Regular Semester – Class Days 1-5
Courses may be added or dropped without prior approval of the department offering the course. Courses that are dropped will not receive a notation on the student’s academic record.

Changes to courses registered for course challenge or for course audit must be approved by the department offering the course. During this time period a student may change registration in course challenge from one course to another, or to regular enrolment in the course.

Registration for course audit and course challenge is not available by telephone registration; registration and course changes must be done in person at the department offering the course.

Extended Course Change Period

Regular Semester – Class Days 6-15
After the fifth day of classes to the 15th day of classes, courses may be added only with special permission of the chair and instructor concerned. No courses can be added or changed to audit status after this time. Courses may be dropped without notation on the student’s academic record. However, if a student drops all courses for the semester, the withdrawal will be noted on the academic record. A student may not withdraw from course challenge without substitution of a regular course enrolment.

During the first ten days of classes, he/she may change registration in course challenge from one course to another, or to regular enrolment in the course. Permission of the department is required.

Course Drop Period

Regular Semester – Class Days 16-25
No courses can be added or changed to audit status after the fifteenth day of classes.

After the 15th day of classes to the 25th day of classes, courses may be dropped without prior approval of the department offering the course when the course is dropped via the telephone registration system. Courses dropped within this period will be automatically recorded with a WD notation on the student’s academic record. If a course is dropped under extenuating circumstances, the approval of the chair and instructor is required, and the notation will be WE rather than WD.

During the sixth to twelfth week of classes a course may be dropped only in extenuating circumstances. There will be a notation WE on the student’s academic record for specific courses dropped. These drops require the approval of the instructor and the chair. Normally, no courses may be dropped after the twelfth week of classes unless approved by the appropriate faculty.
**Note:** Extenuating circumstances are defined as unusual circumstances beyond the student's control which make it impossible for the student to complete the course. If a course drop is being considered after the 12th week of classes, it is imperative that students seek advice from Academic Resources.

**Withdrawals from the University**

Students wishing to withdraw from all courses in a semester must refer to the *Course Timetable and Exam Schedule* published each semester for the procedures to be followed.

Once official notification of withdrawal has been received and accepted, official records will be updated to record the date on which withdrawal from the semester was effected. The date of withdrawal for students who withdraw after the fifth day of classes will be recorded on the student’s academic record.

**Library/Identification Cards**

A student library/identity card is provided to registered students. This card is required when borrowing books from the Library and for other on-campus identification purposes. Students must retain expired cards for re-validation at the start of the next semester in which they register. In the event that this card is lost, destroyed or damaged, a replacement card may be obtained from the Office of the Registrar upon payment of a fee.

**Student Responsibility**

A student will be expected to fulfill the requirements and write the examinations in all courses for which he/she is registered after the date shown in the *Course Timetable and Exam Schedule* as the last date to drop courses. It is the student’s responsibility to ensure that the Office of the Registrar has the proper information regarding courses in which the student is registered. Except in cases of illness, or for compassionate reasons, failure to write the examination constitutes a failure in the course.

A student may receive credit for only the courses in which he/she is officially registered according to the registrar’s records.

**Class Interruption**

Simon Fraser University makes reasonable efforts to ensure that its classes and courses of instruction proceed on a regular basis without interruption. Faculty have certain discretion to cancel or change the timetable for their classes; they will endeavor to give reasonable notice of any cancellation or change. Simon Fraser University will not be responsible for cancellation or change of any class. Neither will Simon Fraser University be responsible for the interruption or termination of any class or course of instruction which results from fire, riot, labor disruption or any other event which occurs despite the University’s efforts, or for failure to give notice of the interruption or termination.
General Regulations

Academic Honesty
All members of the University community share the responsibility for the academic standards and reputation of the University. Academic honesty is a cornerstone of the development and acquisition of knowledge. Academic dishonesty is a condition of continued membership in the university community.

Academic dishonesty, like other forms of dishonesty, is misrepresentation with intent to deceive or without regard to the source or the accuracy of statements or findings. Academic dishonesty, in whatever form, is ultimately destructive of the values of the University; it is, furthermore, unfair and discouraging to the majority of students who pursue their studies honestly. Scholarly integrity is required of all members of the University.

The following examples are representative but not exhaustive of activities constituting academic dishonesty: plagiarism (presenting the work of another person as your own); submitting the same work more than once without prior approval; cheating; impersonation; submitting false records or information; stealing or destroying the work of another student; removing, mutilating, misplacing or unauthorized or inappropriate use of computers, calculators and other forms of technology in course work, assignments or examinations.

The University code of academic honesty is contained in policy T10.02 or in the Course Timetable and Exam Schedule mailed every semester, or on the World Wide Web via http://www.reg.sfu.ca.

Penalties for Acts of Academic Dishonesty
Penalties imposed by the University for academic dishonesty may include one or more of the following: a warning, a verbal or written reprimand, reassessment of work, failure on a particular assignment, failure in a course, denial of admission or readmission, forfeiture of awards or financial assistance, suspension or expulsion from the University.

Student Conduct
Simon Fraser University is committed to creating a scholarly community characterized by civility, diversity, free inquiry, mutual respect and individual safety. The code of student conduct is intended to define students’ basic responsibilities as members of the academic community, to define inappropriate student conduct and to provide procedures and penalties to be invoked and applied if they engage in such unacceptable behaviour. Each student is responsible for his/her conduct which affects the University community. The code shall not be construed to unreasonably prohibit peaceful assemblies, demonstrations or free speech.

The following activities are representative but not exhaustive of behaviours constituting misconduct: disruptive or dangerous behaviour; behaviour which results in damage, destruction and theft of University property or the property of any member of the University; forgery or alteration of University documents or records; misuse of University resources including information (computing) resources; unauthorized entry or presence in University premises; misuse of student disciplinary procedures.

The University code of student conduct is contained in policy T10.01 available in the Library or any departmental office, or in the Course Timetable and Exam Schedule published every semester, or on the World Wide Web via http://www.reg.sfu.ca.

Penalties for Acts of Student Misconduct
Penalties imposed by the University for misconduct may include one or more of the following: a verbal or written reprimand, exclusion from specified areas of the University, restitution or other ameliorative measures, suspension or expulsion from the University.

Procedures for Academic Dishonesty and Student Misconduct
Procedures to be followed by the University in imposing a penalty for acts of academic dishonesty or acts of misconduct or an appeal therefrom are detailed in the policy establishing the university board on student discipline (policy T10.03) and in the policy establishing the senate committee on disciplinary appeals (policy T10.04) respectively. These policies are available in the Library or any departmental office, or in the Course Timetable and Exam Schedule published every semester, or on the World Wide Web via http://www.reg.sfu.ca.

Examinations
Final examinations will normally be held during the last two weeks of each semester. Examination period dates are outlined in the Academic Calendar of Events, and in the Course Timetable and Exam Schedule mailed every semester, or on the World Wide Web via http://www.reg.sfu.ca.

Penalties imposed by the University for misconduct may include one or more of the following: a warning, a verbal or written reprimand, reassessment of work, failure on a particular assignment, failure in a course, denial of admission or readmission, forfeiture of awards or financial assistance, suspension or expulsion from the University.

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Grades
Scale
The student is awarded a final grade at the end of the semester for each credit course. Each grade will appear on the student’s record as a letter grade and numerical equivalent as follows.

<table>
<thead>
<tr>
<th>Letter grade</th>
<th>Definition</th>
<th>Numerical equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>Excellent performance</td>
<td>4.33</td>
</tr>
<tr>
<td>A</td>
<td>4.00</td>
<td></td>
</tr>
<tr>
<td>A-</td>
<td></td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>Good performance</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td></td>
<td>2.67</td>
</tr>
<tr>
<td>C+</td>
<td>Satisfactory performance</td>
<td>2.33</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td></td>
<td>1.67</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>F</td>
<td>Unsatisfactory performance</td>
<td>0.00</td>
</tr>
</tbody>
</table>

AE Aegrotat standing, compassionate pass

Note: Credit is granted for A+, A, A-, B+, B-, B, C+, C, C-, P, D, CC, AE, CR. No credit is granted for F, N, DE, W, AU.

Scale Changes
In the first two semesters (65-3, 66-1), A- and C+ grades were awarded; these grades were discontinued with the third (66-2) semester, as was the T (standing granted) grade. A- and C+ were re-established with the 67-3 semester, discontinued in 79-2 semester and re-established in 79-3. Prior to fall semester 1979, numerical equivalents assigned to grades differed from those given above as follows: A+ and A = 4.00; B+ and B = 3.00; C+ and C = 2.00.

Explanation of Grades/Notations
AE Grades
Aegrotat standing (AE) in an incomplete course may be awarded on medical or compassionate grounds by the registrar acting on the recommendation of the instructor or chair of the department concerned when written evidence is submitted to substantiate a request for such standing and when the course requirements for credit have been substantially fulfilled. This evidence normally must be received by the registrar or department within 96 hours of a scheduled final examination or within 96 hours of the last day of lectures of the semester for which such standing is requested. Courses for which aegrotat standing is awarded are not included in the calculation of grade point average.

AU Notation
Audit will be recorded as AU on a student transcript if the student fulfills the requirements agreed to by the
student and the department at the time of registration. Minimally, these requirements should comprise regular attendance at class meetings, completion of readings and participation in class activities. Audited courses will not count towards degree requirements.

**CC Grades**
A student who has been registered for a course challenge is subject to an assessment equivalent to the final examination for the course plus an interview which may include an oral and/or practical examination, all to be arranged and approved by the chair of the department concerned. Departments are free to hold course challenge examinations at any time during the semester after the formal period of registration for course challenge. A performance equivalent to a grade of C or higher in the course is required for a successful course challenge.

The department concerned must submit a report to the registrar on or before the last day for submission of regular grades in the course for that semester indicating the final disposition for the course challenge in the semester. There is no provision for extension or deferral. Results will be recorded by departments as successful, unsuccessful or unattempted. Successful results will appear on transcripts of academic record and statements of standing with the entry CC in the grade column and with credit shown. At the end of semester, unsuccessful or unattempted results will not appear on transcripts of academic record or statements of standing but will be held by the Office of the registrar in internal records.

The grade of CC has no numerical equivalent and is not included in the calculation of grade point average. The grade of CC may not be applied in any way toward application for scholarships, bursaries or loans.

**CR Grades**
The grade of CR has no numerical equivalent and is not included in the GPA calculation. The CR grade may be assigned in certain special cases.

**DE Grades**
The grade DE will be given when a physician’s certificate or other document substantiating a request for deferment on medical or compassionate grounds is received by the registrar or the chair of the department concerned within four days of the date from which the final examination was to have been written, or when the course instructor wishes to defer submitting a final mark pending completion of further work by the student. To be awarded, the DE grade must be submitted by the instructor and approved by the chair. All unchanged deferred grades will be converted automatically to F after the fifth day of classes of the semester immediately following the one in which the grade was awarded. In exceptional cases, an extension may be granted by the department chair upon petition by the student.

**GN Notation**
The notation GN (grade not reported) may be used if circumstances beyond the University’s control make it impossible for course grades to be assigned. The notation has no numerical equivalent and does not affect either the semester grade point average (GPA) or cumulative grade point averages (CGPA). The dean of the faculty responsible for the course shall advise the registrar, in writing, that the notation GN is approved for a course or for a particular group of students in a course.

**N Grades**
The letter grade N is given when a student has registered for a course, but did not write the final examination or otherwise failed to complete the course work, and did not withdraw before the deadline date. An N is considered an F for purposes of scholastic standing.

A student receiving grade N must re-register for the course and participate in the course again, as required by the instructor, in order to achieve a different evaluation for the course.

**P and W Grades**
The grades of P and W have no numerical equivalent and do not affect either the SGPA or CGPA. The designation W will be given when a student withdraws (or is withdrawn) after the course drop period for a course graded on a pass (P) or withdrawn (W) basis.

**WD and WE Notations**
The notations WD and WE are not grades and do not affect either the GPA or CGPA. The notation WD identifies a course freely dropped by the student during weeks 4 and 5 of a semester. The notation WE identifies a course dropped by the student under extenuating circumstances normally during week 6 through to the end of week 12 of a semester. Extenuating circumstances are defined as unusual circumstances beyond the student’s control which make it impossible for the course to be completed. Different time periods are in effect for intersession and summer session. (For more complete details refer to the Registration section.) For semester specific dates, refer to the Course Timetable and Exam Schedule.

**Credit for the Semester**
All credit earned will be granted, regardless of the grade point average for the semester. Credit may be granted for a specific course once only. Where a student repeats a course, the course(s) with the lower grade will be recorded on official records as a duplicate course. In the event that the same grade is earned for a repeated course, the course completed most recently is recorded on the official records as the duplicate. Repeated courses for which no grades have yet been assigned (i.e., courses in progress) will be recorded as duplicates until a final grade is awarded which is higher than the grade previously earned. Duplicate courses remain on the official record, and are included in the calculation of the semester grade point average. The cumulative grade point average computed for semesters completed prior to the fall semester 1979 includes duplicate courses. Duplicate courses are not included in the grade point average when it is computed for graduation purposes.

**Reconsideration of Grades**
Students who intend to appeal a course grade are cautioned that failing grades have been checked very carefully and appeals seldom result in higher grades except where a clerical error has occurred.

Students who feel there has been an error in arriving at or recording a grade should apply in writing for reconsideration to the instructor, who will advise the chair of the department, who will then notify the registrar of the final decision. The registrar will communicate this decision to the student. All course grade changes require the approval and initial of the department chair before being submitted to the registrar.

Course grade changes will be permitted up to, but not beyond, the fifth day of classes of the semester immediately following the one in which the grade is awarded. In special cases, an exception may be granted on petition to the chair of the department of the course concerned.

**Statement of Grades**
At the end of each semester grades for that semester are made available to registered students in good financial standing on the telephone registration system and on the registrar’s information service telephone line. Official grades will not be released before they become available on the telephone systems. Notifications of grades and academic standing will be mailed to students not in good academic standing. Errors in grades will be corrected and notification provided to students as soon as possible. Information concerning final grades is not released to unauthorized persons without written consent of the student.

**Grade Point Averages**
The semester grade point average (GPA) is a method of expressing the student’s performance for the semester as a numerical average. Each letter grade (except grades/notations P, W, CC, AU, AE and CR) is assigned a numerical equivalent, which is then multiplied by the credit hour value assigned to the course to produce the grade point. Grades without a numerical equivalent are not included in the calculation of the grade point average.

Semester grade point average is computed by dividing the total number of grade points earned by the total number of credit hours taken in the semester (excluding those credit hours assigned to courses with a final grade/notation of P, W, CC, AU, AE, or CR).

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Numeric Value</th>
<th>Semester Hours</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course 1</td>
<td>A</td>
<td>4.00</td>
<td>3</td>
</tr>
<tr>
<td>Course 2</td>
<td>A+</td>
<td>4.33</td>
<td>3</td>
</tr>
<tr>
<td>Course 3</td>
<td>B-</td>
<td>2.67</td>
<td>3</td>
</tr>
<tr>
<td>Course 4</td>
<td>C</td>
<td>2.00</td>
<td>3</td>
</tr>
<tr>
<td>Course 5</td>
<td>F</td>
<td>0.00</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

Semester grade point average: 39/16 = 2.44

The cumulative grade point average (CGPA) expresses performance as a numerical average for all semesters completed and is closed in the semester in which a degree or diploma is awarded to a student by the senate. A new CGPA begins when a student returns for further studies following the awarding of a degree or diploma.

The CGPA is calculated by dividing the total number of grade points earned to date by the total number of credit hours undertaken to date, with the exception of those courses assigned a final grade/notation of P, W, CC, AU, AE or CR. The CGPA calculated for semesters completed prior to the fall semester 1979 includes duplicate courses. Duplicate courses repeated in the fall 1979 or thereafter and which have been assigned a final grade equal to or lower than the grade previously assigned are excluded from the CGPA calculation for the semester in which the course was repeated as well as any subsequent semester completed. If, however, a higher grade is achieved in the course when repeated, the duplicate course(s) with the lower grade(s) will be excluded from the CGPA for the most recent semester and any subsequent semesters completed. However, the lower grade is reflected in the CGPA calculated for each semester up to the semester in which the higher grade was achieved.

The upper division grade point average is calculated by dividing the total number of grade points earned in upper division courses by the total number of semester credit hours assigned for those courses, counting only the higher grade in courses that have been duplicated.
Standing Required for Continuance

Students are expected to maintain acceptable standards of scholarship. Specifically, they must maintain a minimum 2.00 CGPA. A student who does not do so will be considered to be performing unsatisfactorily in his/her studies. Regulations are applied to obtain reasonable equitability between transfer and non-transfer students. The following procedures apply for evaluating student performance in accordance with the policy governing continuance, withdrawal and readmission.

• academic performance will be evaluated on courses for which Simon Fraser University grades have been assigned. (‘assigned grade’ will include grades A+ through to D, F, DE, and N, but will exclude P, W, CR, AE, CC, GN and AU)
• following admission, no formal assessment will take place until the student has completed a minimum of nine credit hours of assigned grades
• transfer students who were admitted to the University under the ‘special entry’ category with an admission average below 2.00 and who have attempted nine or more credit hours of transfer credit will be admitted on academic probation

Repeated Withdrawals
Students who withdraw from all courses in three consecutive semesters of registration will be ineligible to re-register.

Ineligible to Re-register
A student with a CGPA average of less than 1.0 in two consecutive semesters of registration, or with only N or F grades in two consecutive semesters, will be ineligible to re-register.

Academic Probation
A student who has received assigned grades for at least nine Simon Fraser University credit hours will be placed on academic probation if the CGPA average earned is lower than 2.00.

During the probation period, the student must complete a minimum of nine Simon Fraser University credit hours of assigned grades before re-assessment will occur. A student on academic probation may not repeat a course for which a grade of C or higher has been assigned. A student on academic probation may not register in a course overload.

If at the end of the probation period,
• the grade point average on assigned grades during the probation period and the CGPA average (CGPA) are 2.00 or higher, the student will be considered to be in good academic standing
• the grade point average on assigned grades during the probation period is 2.00 or higher, the CGPA is less than 2.00, the student will continue on academic probation
• the grade point average on assigned grades during the probation period length is less than 2.00, but the CGPA is 2.00 or higher, the student will continue on academic probation

Required to Withdraw
After receiving Simon Fraser University assigned grades for at least 18 credit hours (nine if admitted on academic probation), a student may be required to withdraw (RTW) after being placed on academic probation.

Extended Withdrawal
A student must have received Simon Fraser University assigned grades for at least 27 credit hours (or 27 credit hours and transfer credits combined). A student may be placed on extended withdrawal (EW) after first having been required to withdraw (RTW) and then readmitted.

Readmission of Involuntarily Withdrawn Students
Former students who have been involuntarily withdrawn from the University (required to withdraw, ineligible to re-register, or placed on extended withdrawal) will be considered for readmission based on the amount (credit hours of credit) and quality of performance achieved (GPA) in academic course work completed after the student last registered at Simon Fraser University.

Required to Withdraw or Ineligible to Re-register Students
Former students who are required to withdraw (RTW) or ineligible to re-register (ING) (i.e. CGPA of less than 1.0 in two consecutive semesters) will be eligible for readmission if they complete further transferable academic work according to the following schedule (any of the following five options):
• 12-17 credit hours with a minimum 3.50 GPA
• 18-23 credit hours with a minimum 3.00 GPA
• 24-29 credit hours with a minimum 2.75 GPA or with the acceptance GPA* whichever is higher
• 30 or more credit hours with the acceptance GPA* which is 2.00 or higher
• a completed 2 year technical diploma with a 70% minimum average and at least 12 credit hours of transferable course work with a minimum 2.75 GPA. (The transferable work may be within the diploma program or supplementary to it.)

Extended Withdrawal Students
Former students who are on extended withdrawal (EW) will be eligible for readmission if they complete further transferable academic work according to the following schedule (any of the following five options):
• 24-35 credit hours with a minimum 3.50 GPA
• 36-47 credit hours with a minimum 3.00 GPA
• 49-59 credit hours with a minimum 2.75 GPA or with the acceptance GPA* whichever is higher
• 60 or more credit hours with the acceptance GPA* which is 2.00 or higher
• a completed 2 year technical diploma with a 70% minimum average and at least 24 credit hours of transferable course work with a minimum 2.75 GPA. (The transferable work may be within the diploma program or supplementary to it.)

*The acceptance GPA refers to the minimum GPA in effect for the semester which must be met by BC College transfer students, according to enrolment limitation measures. Due to enrolment limits, this acceptance GPA may vary.

Ineligible to Re-register Students
Former students who are ineligible to re-register (ING only N or F grades in two consecutive semesters) or withdraw voluntarily (INW in three consecutive semesters) whose Simon Fraser University CGPAs are below 2.00, will be eligible for readmission on the same basis as required to withdraw (RTW) and ineligible to re-register (ING) former students (see above). If their CGPAs are 2.00 or higher, they will be eligible for readmission if they complete at least 3 credit hours of further transferable work at a minimum 2.00 GPA.

Deadlines
Deadlines for consideration will be the same as for other students seeking readmission. Decisions will be mailed or applicants will be phoned, depending on the date of the decision.

Duplicate Courses
Duplicate courses (repeated attempts at courses which have been passed prior to leaving Simon Fraser University, with a grade of C or higher) will not count in the credit hour or GPA calculations in readmission cases.

Final Grades Evaluated
Assessment will be based only on final grades (i.e. courses in progress will not be evaluated).

Transfer Credit
Credit for transferable courses will be granted on readmission, subject to a C minimum grade in each course, and subject to normal transfer credit limits. Letters of permission will not be issued to students who are not in good academic standing.

Standing on Readmission
If readmitted, students will be placed on academic probation and will be subject to the conditions described above. If both the CGPA and the GPA on assigned grades are below 2.00 at the end of the probation period, the student will be placed on extended withdrawal (EW) or required to withdraw (RTW), as appropriate.

Academic Alert
Students whose semester GPAs fall below 2.00, but who are not on any of the above academic standings, will receive an 'academic alert' notification and will be advised to seek counselling at the Academic Resource Office.

Student Appeals
For graduate student appeals, see 1.16 of the Graduate General Regulations.

Students may appeal certain University decisions as follows.

Grades
May be appealed to the instructor, department chair and, in some cases, faculty dean in accordance with academic policy T20.01.

Course Drops
If a department or faculty denies permission to drop a course, students may appeal this decision to the senate appeals board. See Senate Appeals Board below.

Admission and Readmission
Appeals for admission and readmission may be considered by the committee to review university admissions. See Committee to Review University Admissions below.

Assignment of Transfer Credit
Decisions may be reviewed by the committee to review university admissions.

Appeals for revision to transfer credit may be considered by the committee to review university admissions. See Committee to Review University Admissions below.

Tuition Fee Refunds
Appeals may be considered by the registration appeals committee. You must appeal within a year from the time you dropped the course(s).

Academic Penalties (e.g., Suspension)
Dispute about the findings of fact may be brought to the university board on student discipline (policy T10.03). Appeals on three grounds may be brought to the senate committee on disciplinary appeals (Policy T10.04):
a) that there was unfairness in the process at the hearing
b) that the penalty imposed was inappropriate
c) that new evidence has emerged that was not available at the hearing and which casts doubt on the accuracy of the finding

Entry to Limited Enrolment Program or Faculty
Appeals may be considered by the appropriate chair, director or dean.

Committee to Review University Admissions
Secretary: Director, Student Academic Resources, Office of the Registrar

The committee to review university admissions considers cases in which an individual feels aggrieved by the decision of the registrar to apply a particular admission, readmission or transfer credit policy in his or her specific case when special circumstances are present. An applicant, student or former student who wishes to appeal a decision of the Registrar must submit the appeal in writing, specifying the special circumstances to be considered (see Grounds for Appeal listed under Senate Appeals Board). Appellants may also appear in person before the committee. The committee will consider all evidence presented, both written and oral.

Students who have questions regarding the processing of their application for admission or readmission or regarding the assessment of transfer credit should first contact the Office of Admissions.

Senate Appeals Board
Secretary: Director, Admissions, Office of the Registrar

Procedure
The senate appeals board considers cases, in which a student or former student feels aggrieved by the decision of a faculty, department or other administrative unit relating to a registration in courses, withdrawal from the University, eligibility for graduation, approval to a program or matter relating to academic standing, when special circumstances are present. Appeals must be submitted in writing, giving the grounds for the appeal.

Grounds for Appeal
Special circumstances are limited to documented significant physical or psychological distress, or serious mis-advice or improper administration by authorized University personnel with evidence the appellant's studies were adversely affected. The board will assess cases based on the evidence submitted, both written and oral, the academic record of the appellant and probable actions of a hypothetical 'reasonable person' who might encounter circumstances similar to those encountered by the appellant. Appeals based on dissatisfaction with University policy or mere failure to meet published deadlines will not constitute special circumstances.

Leave to Appeal
The senate appeals board will decide if an appeal has adequate grounds. If in the judgement of the board there are insufficient grounds, the appeal may be dismissed without a formal hearing. An appellant may re-submit an appeal for consideration only if new information is presented.

Stage 1 – Written Submissions Considered
All appeals which go forward to the board will be reviewed in two stages. In stage 1, the written documentation will be reviewed. The board will decide cases in which
• the appellant requests a written appeal only or
• the appellant requests an in-person hearing appeal but the senate appeals board considers that the written material presented is sufficient for a positive decision.

All other cases will be deferred until a later meeting for a stage 2 hearing.

Stage 2 – In-person Hearings
Appellants will be contacted by the secretary and asked to appear at a scheduled senate appeals board meeting. At the hearing, the appellant and/or her/his representative may provide information orally and answer questions posed by members of the senate appeals board. Decisions will normally be released shortly after the hearing.

Policy
The other committees mentioned above may be contacted through the following offices.

Registration Appeals committee
director, records and registration, Office of the Registrar

University Board on Student Discipline (T10.03)
secretary to the university board on student discipline, Office of the Registrar

Senate Committee on Disciplinary Appeals (T10.04)
secretary to the senate committee on disciplinary appeals, Office of the Registrar
Undergraduate Fees

The board of governors reserves the right to change the schedule of fees and refunds without notice. Full details will be published in the Course Timetable and Exam Schedule.

Tuition Fee Schedule

<table>
<thead>
<tr>
<th>Costs per credit hour</th>
<th>Tuition fee</th>
<th>Differential tuition for international students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal credit</td>
<td>$77.00</td>
<td>$231.00</td>
</tr>
<tr>
<td>Course challenge</td>
<td>$77.00</td>
<td>$231.00</td>
</tr>
<tr>
<td>Audit</td>
<td>$38.50</td>
<td>$115.50</td>
</tr>
<tr>
<td>Semester fee</td>
<td>$310.00</td>
<td>n/a</td>
</tr>
<tr>
<td>Co-op practicum</td>
<td>$310.00</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Subject to the notes below, and to the graduate fee schedule:

1. The basic tuition fee schedule applies to an undergraduate student who registers for an undergraduate or graduate course, or courses, who establishes or has established to the satisfaction of the University that at the time of commencement of the semester that he or she is either a citizen of Canada or has the status of a permanent resident of Canada.

2. The international students’ differential tuition fee schedule applies to each undergraduate student who registers to undertake an undergraduate or graduate course, or courses, who does not establish or has not established to the satisfaction of the University that at the time of commencement of the semester that he or she is either a citizen of Canada or has the status of a permanent resident of Canada.

3. The University reserves the right at any reasonable time to require any individual student to establish proof of status claimed.

4. For the purposes of assessing fees, an undergraduate student is any student registered as a student at the University except (a) a student who has been admitted by the senate graduate studies committee to undertake work towards a master’s degree, PhD degree or other graduate program at SFU and who registers for such work, or (b) a student who has been admitted by the senate graduate studies committee to undertake work as a qualifying, special or exchange student at SFU and who registers for such work. Those in (a) and (b) are assessed fees under the graduate tuition fee schedule but if they have approval to undertake some undergraduate course work supplementary to the program, they will be assessed tuition fees according to the basic tuition fee schedule for such work.

5. Persons aged sixty years or more at the commencement of the semester, and who are Canadian citizens or who hold permanent resident status in Canada, are exempt from undergraduate tuition fees.

Simon Fraser University assesses undergraduate tuition fees in accordance with a schedule of fees based primarily on the number of credit hours of credit in which the student enrolls. Various special fees may be assessed by the University in certain circumstances or for specific purposes. Fees are not transferable from one semester to another.

Any student who considers he/she has just cause to appeal the application of University policy as it pertains to the assessment and refund of undergraduate tuition fees may submit an appeal in writing to the Registration Appeals committee. Appeals must concern the current or the immediately preceding semester. Normally, appeals related to earlier semesters will not be accepted. Appeals should be submitted to the Office of the Registrar.

Intersession and Summer Session Tuition Fee Schedules

For students registered in any combination of 8-week or 16 week courses, tuition fees will be assessed per credit hour of credit as shown in the semester tuition fee schedule.

Student Activity Fee

A student activity fee authorized by the board of governors is collected from all students enrolled in courses for credit with the exception that persons aged sixty or more are exempt from this fee, as well as students taking courses for audit purposes only.

Student Activity Fee Schedule

The student activity fee will be $55.81 for students registered for credit courses except for students registered in:

- students aged sixty years or more who are Canadian citizens or have permanent resident status in Canada
- audit courses only
- nil designated off-campus courses only
- summer session courses only
- intersession courses only
- any combination of intersession/summer session/summer semester...

For a breakdown of the student activity fee, refer to the Simon Fraser Student Society in the Academic and Campus Services section of this Calendar.

Athletic-Recreation Fee

The Athletic-Recreation fee will be $30 for students registered in credit courses, except:

- students aged sixty years or more who are Canadian citizens or have permanent resident status in Canada
- audit courses only
- nil designated off-campus courses only
- three or fewer credit hours for credit...
- intersession courses only
- summer session courses only
- any combination of intersession/summer session/summer semester...

For a breakdown of the student activity fee, refer to the Simon Fraser Student Society in the Academic and Campus Services section of this Calendar.

Special Fees

Application fee..................$25.00
(each application for admission or readmission)

Award of certificate or diploma ........$20.00
(persons aged sixty or more years and who are Canadian citizens or have permanent resident status in Canada are exempt from this fee)

Documents evaluation fee............$40.00
This non-refundable fee is assessed for applicants whose academic records originate outside BC, and are required for admission, transfer credit or advance standing. The fee is waived if the documents originate from a secondary school located in Canada or if the applicant is participating in an exchange program between Simon Fraser University and another institution.

Mandatory Supplementary Course Fees

In addition to credit course fees, mandatory supplementary course fees may be assessed for individual courses in addition to basic tuition and are deemed necessary for successful completion of the course. Mandatory supplementary course fees cover additional costs associated with, for example, such items as field trip expenses or special costs/handling involved in distance education courses.

A schedule of these fees appears below, and is also published in the Course Timetable and Exam Schedule as well as in departmental course outlines. The fees are approved by the vice president finance and administration, following the recommendation of the advisory committee on mandatory supplementary course fees. Questions regarding these fees may be directed to the department initiating the fee, the Office of the Registrar, or the vice president finance and administration.

Mandatory supplementary course fees are not charged for regular credit instruction services which may include:

- evaluation of work or performance, such as marking of papers and exams
- laboratory use, including materials and supplies that are consumed during laboratory use. (Departments may charge a refundable deposit for materials used by the student and returned to the University in reasonable condition at the end of the course.)
- basic library facilities including one library card and access to collections
- basic microcomputer laboratory use
- materials or services required as a result of the method of instruction such as audio visual equipment, course outlines, study rooms and films and video tapes that are integral to the instruction and do not become property of the student.

Photocopied materials, prepared computer disks and audio visual tapes may replace or enhance the use of a required text as a means of instruction and are therefore not considered to be mandatory supplementary course fees. Many prepared packages will be distributed through the Bookstore. It may be
necessary at times to distribute some materials within departments. Disclosure of these fees will be made in each course outline.

**Archaeology**
ARCH 433, 434, 435, 436 ....................... $400

**Biological Sciences**
BISC 306, 310, 326, 404 ........................ $60
BISC 600 ............................................. $189

**Contemporary Arts**
FPA 130, 131, 290, 390 ........................ $75
FPA 170, 370 ......................................... $35
FPA 252, 363 ......................................... $20
FPA 261, 393 ......................................... $30
FPA 371 .............................................. $25
FPA 230, 231, 430, 432 ........................... $100

**Distance Education**
All courses offered through the Centre for Distance Education are assessed a $30 per semester fee to cover the cost of printing and binding materials, packaging and mailing of course materials and assignments, and broadcast and distribution rights for video support.

**Earth Sciences**
EASC 101 ............................................. $20
EASC 102 ............................................. $10
EASC 206 ............................................. $80
EASC 303, 404 ................................. $30
EASC 304 ............................................. $40
EASC 305 ............................................. $80
EASC 306 ........................................... $300
EASC 401 ............................................. $30
EASC 403 ............................................. $50
EASC 406 ............................................... $450
EASC 409, 410 ..................................... $30
EASC 411 ............................................. $100

**Education**
EDUC 330, 430 ..................................... $20
EDUC 452 ............................................. $35
EDUC 456, 477, 489, 495 ........................ $20
300 and 400 level EDPR courses .............. $20

**Geography**
GEOG 213, 253, 323, 423 ........................ up to $25
GEOG 284, 344, 441 .............................. up to $10
GEOG 313, 353, 416 .............................. $35
GEOG 324 ............................................. $20
GEOG 412 ............................................... $50
GEOG 425 ............................................. $60
GEOG 472 ............................................. $50

**Marine Science**
All MASC courses offered at the Western Canadian Universities Marine Biological Station (Bamfield) carry a supplementary course fee of up to $200 per credit hour.

**Sociology and Anthropology**
SA 371 ................................................ $100 per semester

**Payment of Fees**
Fees may be paid at any branch of the Bank of Montreal free of charge. The bank requires the completed payment form before accepting payment. If fees are mailed or paid directly to the University, cheques and money orders should be made payable to Simon Fraser University. The student number must be clearly written on the front of the cheque or money order. Payments can be forwarded to us by telephone if you have access to the direct payment service offered by some financial institutions. You must include your name and student number with the payment. Payment of fees in cash must be made at the Cashier’s Office, at Harbour Centre, or at any branch of the Bank of Montreal. When making payment by mail, do not mail cash because the University does not accept responsibility for payments lost in the mail.

**Payment of the Confirmation Deposit for New Students**
New students must pay a non-refundable confirmation deposit of $100 to confirm acceptance of the offer of admission to undergraduate studies given by the University. Students aged sixty years or more are not required to pay this deposit. The deposit will be applied to the cost of tuition; it is not an additional charge to the tuition fee assessment.

Students registering for their first semester at the University are not required to pay the registration tuition deposit.

**Payment of the Registration Tuition Deposit for Continuing Students**
Continuing students registering for their second or subsequent semester are required to pay a registration tuition deposit of $100. Payment must be received at the Cashier’s Office before a student will be given access to the telephone registration system to select courses. Students must pay the registration tuition deposit at least five working days prior to attempting to register for classes.

The deposit will be applied to the cost of tuition; it is not an additional fee. Payment of the deposit is considered by the University to be a commitment by a student to attend the semester. Payment of the deposit cannot be deferred. Students eligible for any awards or sponsorships will receive a refund from the Cashier’s Office when the appropriate credits are received and processed. Passport to education vouchers from the province of British Columbia may be submitted as payment of the registration tuition deposit.

Students eligible for tuition fee waivers or holders of Faculty of Education tuition fee certificates may submit the properly completed forms and the amount of the student activity fee and athletic fee as registration tuition deposit.

**Payment of Balance of Assessed Fees**
The deadline for payment of the balance of fees is published in the Course Timetable and Exam Schedule distributed each semester. Credit for scholarships and bursaries will be given only on the authority of the Financial Assistance office.

**Cancellation of Registration**
The tuition refund policy described below will be applied when registration is cancelled. Courses will not be cancelled for non-payment of outstanding fees and grades based on incomplete or no work completed will be assigned.

**Refunds**
When students who are registered in credit courses reduce the number of courses in which they registered, a refund may be granted provided the course change is made during the prescribed refund period. Special fees are not refundable, with the exception of the graduation fee and award of certificate or diploma fee.

**Tuition Refund Policy and Course Drop Penalties**

**Regular Semester and Intersession (May-June)**
Space in Simon Fraser courses is limited. Tuition refunds and penalties as outlined below are designed to discourage a student from holding space in course(s) which the student eventually decides not to take.

The telephone registration system monitors course drops by taking ‘snapshots’ of the number of courses (net course load) in which each student is registered. Penalties are assessed on decreases in net course load, not on credit hours of credit. The exact dates of ‘snapshots’ are published each semester in the Course Timetable and Exam Schedule under the heading Deadlines. However, the general dates of the three ‘snapshots’ taken are: first, approximately one week after all students have been given access to telephone registration; second, end of week one of classes; and third, end of week two of classes.

The first and last ‘snapshots’ are compared and, if a student’s course load has decreased, the student will be assessed a penalty for each course drop that resulted in a decreased course load. The penalty is $50 if the course was dropped before the end of week one, and $100 if the course was dropped before the end of week two. After week two there is no refund of tuition fees for courses dropped.

**Summer Session (July-August)**
Tuition penalties are not applied for dropping summer session courses.

**Overdue Accounts**
Students in bad financial standing because of overdue University accounts will be precluded from registering in subsequent semesters. In addition, the University will withhold certain services. For example, the Office of the Registrar will not release various letters and documents including: statement of grades, official transcripts of academic record, and parchments for degrees, diplomas and certificates. Delinquent accounts will be forwarded to a collection agency for appropriate action.

Students with overdue accounts will be assessed a penalty of 2% after the first day of the fifth week of classes; and an additional 2% in each four week period thereafter. A minimum charge of $10 will apply to each penalty assessment. Total penalties will be adjusted to conform to Canadian laws and regulations when the final payment is made.

**Graduation Fee and Award of Certificate or Diploma Fee**
If the candidate’s application for a degree, certificate and/or diploma is not approved, a full refund is issued. Applications may not be transferred from one semester to another and the required fee must accompany each application.

**Tuition Fee Certificates (T2202A)**
The official tuition fee certificate for income tax purposes will be produced by the Cashiers’ Office in January of the following year. During the month of February, the certificate will be available for personal pick-up at the Cashiers’ Office.
Financial Assistance and Awards

Financial Assistance
3200 Maggie Benston Student Services Centre
(604) 294-8600 Registrar Information Service (Touch Tone service only), (604) 291-4356 general enquiries,
(604) 291-4722 Fax,
http://www.reg.sfu.ca/StudentServices/
CommunityMember/Calendar/UndergraduateStudies/
UFinAssmain.html

Introduction
Students are eligible for a variety of financial assistance programs including entrance or continuing
scholarships, bursaries, awards, and loans.
Scholarships recognize outstanding academic
achievements. Bursaries are awarded on the basis of
financial need; awards generally acknowledge outstanding achievements or contributions to the
community. Government student loans are awarded
on the basis of financial need by the student’s
province of residence. Emergency loans are available
from Simon Fraser University to students in short
term financial crisis.
These programs are administered by one of three
agencies: Simon Fraser University (University
administered), an external organization (Externally
administered), or a government (Government
administered).

Eligibility
Students entering Simon Fraser University from
secondary or high school, or transferring from a
regional college or university, may be eligible for:
• Simon Fraser University Entrance Scholarships
• Bursaries
• Awards for the University community
• Canada Student Loan/BC Student Assistance
Program
Students re-entering Simon Fraser University may
apply for:
• Scholarships for continuing students
• Bursaries
• Awards for the University community
• Canada Student Loans/BC Student Loan and
Assistance Program

Deadlines
Unless an award specifies a particular date, the
deadlines are as follows.
University administered programs
Entrance Scholarships
• February 28
Scholarships for continuing students
• end of week 2 of classes
Bursaries
• end of week 2 of classes
Externally administered programs
• see the specific award for deadlines.
Government administered programs
Government student loans
• at least 8 weeks before semester

Special Information for
Intercollegiate Athletes
Since Simon Fraser University competes in both
the NAIA and the CIAU, eligibility requirements for
scholarships, awards and bursaries may differ for
individual sports.

General Information and
Regulations
The following regulations apply generally to all
financial assistance administered by the University.
• All scholarships, awards and bursaries are given on
the recommendation of the senate undergraduate
awards adjudication committee. Committee
decisions, when announced, are final.
• The University does not guarantee the payment of
any scholarships, awards or bursaries listed in the
Calendar other than those provided directly from
funds of the University. If invested funds do not
provide the necessary income for an endowed
scholarship, award or bursary payment of the award
may be reduced or the award withheld. The
University reserves the right to withhold awards
donated by individuals or organizations where the
funds required have not actually been received.
• The University reserves the right to refrain from
making an award if, in its opinion, none of the
applicants meets the terms specified.
• The individual student is responsible for knowing the
deadlines, proper completion of the application
forms and supplying all appropriate documentation
for the various scholarships, awards and bursaries.
Incomplete applications may be rejected.
• The senate policy committee on scholarships,
awards and bursaries ensures that all scholarships,
awards and bursaries administered by the University
or listed in its Calendar, are in the best interests of
the University as an academic institution. The terms
of reference for scholarships, awards and bursaries
should not include restrictive criteria unrelated to
academic merit or financial need such as race,
creed, colour, sex, or national origin, when the
committee determines these criteria are improper or
irrelevant.
• The senate undergraduate awards adjudication
committee has the right to give special
consideration to course load requirements on
scholarships, awards or bursaries for persons with
disabilities who are unable to meet the course load
requirements due to their disability. Supporting
documentation may be required.
• Students who misrepresent themselves on
application forms for scholarships, awards or
bursaries will be subject to disciplinary action.
• Any regulations which apply to a specific category of
financial assistance are given within that particular
subsection.

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University administered entrance scholarships

Student Recruitment, Office of the Registrar, Maggie Benston Student Services Centre, Tel (604) 291-3224 general enquiries, Fax (604) 291-4722, http://www.reg.sfu.ca

The University awards entrance scholarships to outstanding students from across Canada. Our entrance scholarship program recognizes the exceptional academic and community achievements of students attending British Columbia secondary schools, Canadian high schools, and British Columbia colleges.

The scholarships described below reflect our program as it currently exists. For complete descriptions and information applicable to students entering the University in the fall of 2001, please refer to the entrance scholarship brochure and application material, available in January 2001.

All scholarship applicants should have high academic standing. Please read carefully the application requirements sections in the scholarship brochure, as not all scholarships require application.

Applicants must be Canadian citizens or Permanent Residents to qualify for all entrance scholarships, except for the Stanley Morisse Memorial Scholarship. All scholars must meet certain academic and registration requirements for complete disbursement of funds. Full details and application forms are available from Student Recruitment, and from www.reg.sfu.ca

For BC secondary school students; application required
$30,000 Simon Fraser Scholarship
Recognizes excellent academic performance and potential. Distributed over eight semesters.

$25,000 Simon Fraser Alumni Leadership Scholarship
Recognize extraordinary leadership, community service, citizenship, and achievement of high academic standing. Distributed over eight semesters.

$20,000 Gordon M. Shrum National Scholarships
Recognizes high academic standing and a commitment to school and community service, leadership, volunteer activity, the arts, or athletics. Distributed over eight semesters.

$7,000 Dean's Scholarships
Dean’s Scholarships are awarded within each of the faculties of Applied Sciences, Arts, Business Administration, Education, and Science, to recognize academic promise in a particular area of study. Distributed over four semesters. Winners may receive one-time $500 travel allowance. Students may qualify for the Open Scholarship, following the end of the scholarship disbursements.

For BC secondary school students; no application required
$10,000 Honourable William M. Hamilton Scholarship
Recognizes high academic achievement and leadership potential. Distributed over four semesters. Winners may also receive one-time $500 travel allowance. Students may qualify for the Open Scholarship, following the end of the scholarship disbursements.

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The Rotary Club of Vancouver Sunrise Entrance Scholarship
The Rotary Club of Vancouver Sunrise provides an annual entrance scholarship from the interest earned on the endowment. The scholarship will be based on academic merit with preference for an entering student from King George Secondary School. The recipient of the scholarship will be invited to make a
To qualify, a student must have 132 credit hours. The student must be registered in a minimum of nine semester hours of normally graded courses at the University to be considered for most private and endowed scholarships.

• A student holding an ongoing Simon Fraser University entrance scholarship is not eligible for private scholarships until the entrance scholarship is fully paid out.
• Funds will be credited to the successful student's account with the University. Outstanding debts to the University will be deducted from the scholarship funds before a cheque for the credit balance is issued.
• The University to be considered for most private and endowed scholarships.

The University and supports undergraduate students who are highly qualified academically and awards scholarships to students on a semester by semester basis.

Eligibility
Eligibility is limited to students pursuing a first degree at Simon Fraser University. Eligibility will expire when a student's total accumulated credit hours (including transfer credits) exceed by 10% the minimum number of credit hours required to complete the degree program in which the student is registered. (e.g., a student whose major program requires 120 credit hours to graduate becomes ineligible when her/his total accumulated credit and transfer credit exceeds 132 credit hours.) To qualify, a student must have
• earned at least 24 credits at Simon Fraser University.
• a minimum Simon Fraser University cumulative grade point average of at least 3.60, with the eligible CGPA set according to the availability of funds. The threshold CGPA will be set as low as permitted by the availability of funds. (For example, the minimum CGPA requirement for eligibility was set at 3.70 in 1998-2, 1998-3, and 1999-1.)
• a minimum semester GPA of 3.5 in the last semester of registration.
• been registered in one of the last three semesters.
• completed at least 24 credit hours of normally graded courses over their last three semesters of registration in such courses. For students who fail short of the 24 credit hour requirement because one semester's registration was in a single course of five credits or less, the last four semesters will be considered, and that semester of one course will be set aside in determining credit hour and semester GPA eligibility.

All eligibility requirements must be met.

Monetary Value
The value of the scholarship is set each year by the University as a portion of the actual tuition costs accrued by those eligible. In fiscal 1998/99, the scholarship was paid at rate of $77 per credit for normally graded courses in the semester.

PDP students in EDUC 401/402 or 405 will be notified if they are eligible.

Co-operative Education students will be eligible subject to normal program guidelines. Job practicum courses, however, are excluded from the calculations (i.e., the scholarship does not cover the co-op fee). Registration in normally graded courses during a co-op semester may affect eligibility. Co-op students should seek advice about this scholarship before registering in normally-graded courses while also registering in a co-op semester.

Visa students are eligible on the same basis as other students. Graduate students, including qualifying, special and exchange students, are not eligible for this scholarship.

No application is required. All students are considered for eligibility each semester; eligible students will be notified no later than the end of the fourth week of classes.

Scholarships for all students

Hy Aisenstat Scholarship
Program code: USOE-517
Value: $2500
Awarded: Fall Spring Summer
Terms of reference: Undergraduate students with experience in the hospitality industry who are returning to University. Please document eligibility.

Alumni Association of SFU Annual Scholarship
Program code: UPSO-288
Value: $500
Awarded: Spring
Terms of reference: The Alumni Association of SFU Scholarship provides an annual scholarship of $500 in the Spring semester to five students, one in each of the five faculties (applied sciences, arts, business admin, education and science) and a $500 scholarship to a student athlete. The scholarship is based on academic merit.

Alumni Scholarship and Bursary Endowment Fund
Program code: USOE-253
Value: $500
Awarded: Fall Spring Summer
Terms of reference: Undergraduate students who meet the minimum scholarship regulations.

Japanese-Canadian Centennial Scholarship
Program code: UPSO-255
Value: $750
Awarded: Fall

Terms of reference: A Japanese-Canadian student residing in British Columbia and enrolled in the first year of study at Simon Fraser. Eligibility for this scholarship will be based on scholastic ability, character, promise of achievement and participation in extracurricular activities. Applications will be considered from first year students.

Howie Larke Scholarship in Sport Information
Program code: UEAA-052
Value: $60
Awarded: Fall
Terms of reference: A full time undergraduate student involved in sport information. The scholarship will be based on academic merit.

Raytheon Systems Canada Ltd. Scholarship for Native Students
Program code: UPSO-278
Value: $750
Awarded: Fall
Terms of reference: A native undergraduate student with high academic standing at Simon Fraser University. Preference will be given to students majoring in Engineering Science, Computing Science, Mathematics, Physics or Business Administration.

Joseph and Rosalie Segal Scholarship
Program code: USOE-254
Value: $800
Awarded: Fall
Terms of reference: Students with good academic records, and demonstrated service to the University or the community. The awards will be open to students in any faculty who have completed at least 60 credit hours of study.

Sulzer Bingham Pumps Inc. Undergraduate Scholarship
Program code: UPSO-286
Value: $1000
Awarded: Fall
Terms of reference: Granted to an undergraduate student in any faculty based on academic merit. Preference will be given to applicants who are Sulzer Bingham employees; sons, daughters or legal dependents of Sulzer Bingham Pumps Inc. employees; or residents of Burnaby.

TELUS Communications Inc. Scholarships
Program code: UPSO-209
Value: $1250
Awarded: Spring
Terms of reference: Undergraduate students from any discipline, who are in their second, third or fourth year of study. The scholarships will be awarded on the basis of scholastic ability and community involvement either at Simon Fraser University or elsewhere. Both criteria must be clearly indicated by documentation. Preference will be given to Canadian citizens or permanent residents.

Trans Mountain Pipeline Company Ltd
Program code: UPSO-248
Value: $1000
Awarded: Fall
Terms of reference: Undergraduate students in any Faculty based on academic merit. The application should include a résumé and letter from the student outlining their interest in, and career plans concerning, environmental science and technology or environmental protection.

University Women's Club of Vancouver Scholarship
Program code: USOE-526
Value: $750
Awarded: Spring
Terms of reference: Awarded to an undergraduate student in any faculty based on scholastic merit.
Scholarships for Applied Sciences students

Association of Professional Engineers and Geoscientists
Program code: UPSO-275
Value: $1500
Awarded: Fall
Terms of reference: A student with a high academic standing who is entering the second year of Engineering Science at Simon Fraser University. The assessment of academic standing will be based upon previous performance during the first year of engineering at another BC post-secondary institution. The award will be made by the senate undergraduate awards adjudication committee on the nomination of the School of Engineering Science Scholarship Committee.

Paul Coté Endowment Scholarship in Engineering
Program code: UESO-213
Value: $500
Awarded: Spring
Terms of reference: To an Engineering Science student registered in the Faculty of Applied Sciences. The scholarship will be awarded on the basis of high academic performance to a student who has completed at least 60 credit hours at Simon Fraser University. This scholarship has been established by The Board of Governors.

CREO Electronics Corporation Scholarship
Program code: UPSO-214
Value: $1000
Awarded: Spring
Terms of reference: To Engineering Science students in the Faculty of Applied Science, who have successfully completed at least one year. Students will require a nomination from the Faculty, who will give consideration to academic standing as well as talent and interest expressed by the student in electro-optics, precision mechanics or instrumentation.

Harold Hancheroff Memorial Scholarship in Sports Education
Program code: UESO-523
Value: $500
Awarded: Spring
Terms of reference: To a full time student in the School of Kinesiology, who is pursuing an honors degree in sports education. The scholarship is also based upon academic merit.

Ken and Su Jang Scholarship for Women in Science
Program code: UESO-276
Value: $1600
Awarded: Fall
Terms of reference: An undergraduate female student in the Faculty of Applied Sciences or the Faculty of Science. The award will be based on academic merit.

Kaiser Foundation for Higher Education Scholarships in Engineering
Program code: UPSO-287
Value: $2000
Awarded: Fall Spring Summer
Terms of reference: Granted to students in the third and fourth year of studies in the School of Engineering Science based on academic merit. A number of Kaiser Scholarships valued at up to $2000 will be granted to Engineering Science students in each of the following options: Electronics Engineering Option, Computer Engineering Option, Engineering Physics (Electronics) Option, Systems Option, and Biomedical Engineering Stream. The Scholarships will be granted in the Spring, Summer and Fall semesters of 2000.

MDSI Mobile Data Solutions Inc. / Peter Kam Scholarship
Program code: UPSO-289
Value: $1500
Awarded: Spring
Terms of reference: Granted based on academic merit to an undergraduate student in a major or honors program in the School of Engineering Science, Computer Engineering option or in the School of Computing Science. The successful candidate should have a CGPA of 3.8 and will have distinguished him/her self in an innovative manner in a project or assignment in the spirit of creativity and exploration exemplified by Mr. Peter Kam. Applications should include recommendations from his/her faculty supervisor.

Fred and Elaine Moonen Scholarship in Communication
Program code: UESO-266
Value: $1000
Awarded: Fall Spring
Terms of reference: Students majoring in Communication entering their fourth year of the Communication program. Preference will be given to students in the Honors program. A recommendation from the Chair of the Department of Communication is required.

Motorola Wireless Data Communications Scholarship
Program code: UPSO-237
Value: $1500
Awarded: Fall
Terms of reference: An undergraduate student. Preference will be given to students in Computing Science who have a data communications orientation. While scholarship will be the primary factor for the adjudication of the award consideration may be given to the student’s financial need.

PMC-Sierra Incorporated Scholarship in Engineering
Program code: UPSO-290
Value: $1500
Awarded: Summer
Terms of reference: Based on academic merit, will be granted annually in any semester. The scholarship will be awarded to an undergraduate engineering student who has completed his/her third year and who is currently registered in either the electronics engineering option or the computer engineering option.

Raytheon Systems Canada Ltd. Scholarship
Program code: UPSO-279
Value: $750
Awarded: Fall
Terms of reference: An undergraduate student with high academic standing who is entering or in their third year of Engineering Science, Computing Science or Management and Systems Science at Simon Fraser University.

J. Newton Robinson Memorial Scholarship Endowment Fund
Program code: UPSO-242
Value: $200
Awarded: Fall
Terms of reference: A Computing Science major, who has completed 60 credit hours at Simon Fraser University. The scholarship will be based upon academic performance.

This endowment has been established in memory of J. Newton Robinson, former member of the Simon Fraser University Board of Governors.

Scientific Atlanta Canada Inc., Nexus Division Scholarship
Program code: UESO-239
Value: $500
Awarded: Spring
Terms of reference: Fourth year engineering students whose studies include high frequency electronics and related disciplines. High academic achievement and a nomination from the applicable department is required.

Paul and Helen Trussell Science Scholarship Fund
Program code: UESO-265
Value: $20000
Awarded: Fall
Terms of reference: A student entering their last two years of undergraduate study at a BC university or college. The applicant must be a Canadian citizen or Permanent Resident, and have completed secondary schooling in the Kootenay-Boundary area (School Districts No. 1-13 inclusive). To qualify, a candidate must be pursuing an undergraduate program leading to at least a Masters or PhD degree in Natural or Applied Sciences, such as Agriculture, Engineering, Forestry and Fisheries. The award will cover the last two undergraduate years and the first two graduate years. Normally, a student must complete a minimum of 12 credit hours of graded course work each semester during tenure of the scholarship and maintain a 75% average.

University Women's Club of Vancouver
Program code: UESO-260
Value: $1000
Awarded: Fall
Terms of reference: A female student enrolled in the Faculty of Science. The award is open to third or fourth year students majoring in Science or Applied Science programs. A recommendation from the Dean of Science and/or the Dean of Applied Science is required.

Vancouver Stock Exchange Scholarship
Program code: UPSO-250
Value: $1000
Awarded: Fall
Terms of reference: Two Co-op students entering their graduating year with a major in Computing Science or the Management and Systems Science Program with a demonstrated interest in business. If the students are in Computing Science, the students should have a minor in Business Administration or a double major in Computing Science and Business Administration, or a joint major in Business and Computing Science. A statement confirming an interest in business should accompany the applications/nominations.

The awards will be made by the senate undergraduate awards adjudication committee on the nomination of the Co-op Coordinator of Computing Science/MSSC.

Scholarships for Arts students

Father Michael Bach Memorial Endowment Fund
Program code: UESO-256
Value: $1000
Awarded: Fall
Terms of reference: An undergraduate student enrolled in either the third or fourth year of the Humanities program. Friends, relatives and colleagues of the late Father Michael Bach have established an endowment fund to support one or more scholarships in the Humanities Program. The award will be made by the senate undergraduate awards adjudication committee on the nomination of the department in recognition of outstanding scholastic ability.

Mary Batchelor Memorial Scholarship
Program code: UESO-257
Value: $700
Awarded: Spring
Terms of reference: A student in the Psychology major or honors program. Selection by the Psychology Department will be based upon academic
achievement and extracurricular involvement. Applicants must have completed at least 60 credit hours, of which 30 hours are of Simon Fraser University course work, and must also include a resume with their applications.

Arthur and Eva Bell Award in Business Administration or Economics
Program code: UPSO-203
Value: $500
Awarded: Fall
Terms of reference: Students in second, third or fourth year of Business Administration or Economics. Eligibility is based on need for financial assistance and high academic standing. Students must provide a copy of their current transcript with the application.

BOMA Undergraduate Scholarship in Urban Studies
Program code: UESO-306
Value: $1300
Awarded: Spring
Terms of reference: Awarded to an undergraduate student in the Certificate in Urban Studies program based on scholastic merit.

Linda Brideau Memorial Scholarship
Program code: UESO-206
Value: $1000
Awarded: Fall
Terms of reference: An undergraduate student, who is majoring in Criminal Justice. The award will be based on academic excellence and preference will be given to a student in the honors program or who has completed at least two years of study at Simon Fraser University.

Chien’s Cultural Foundation Scholarship
Program code: UESO-521
Value: $600
Awarded: Fall
Terms of reference: An undergraduate student in the Faculty of Business Administration, or in the Faculty of Arts, preferably in Political Science. The Scholarship will be granted on the basis of outstanding academic performance. The award will be made by the senate undergraduate awards adjudication committee on the recommendation of the Dean of Arts or the Dean of Business Administration.

School for the Contemporary Arts Scholarship
Program code: UUAO-004
Value: $2000
Awarded: Fall
Terms of reference: The purpose of this award is to recognize achievement of excellence in the Arts for outstanding artistic contribution, as evidenced in performance, exhibitions or research; as well as recognize leadership ability by providing an inspiring example to peers through the quality of artistic work, and by demonstrating ability to be self-motivated and self-directed in extra curricular activities at Simon Fraser University or in the community at large. A 3.5 cumulative grade point average is required to receive and maintain the Scholarship and full time registration must be maintained during the tenure of the Scholarship. Further eligibility requires at least 48 graded credit hours at Simon Fraser University, a declared major and acceptance by the School for the Contemporary Arts.

Mahatma Gandhi Humanitarian Scholarship
Program code: UPSO-220
Value: $350
Awarded: Fall
Terms of reference: Offered by Dr. and Mrs. Devendra P. Goel to a student who has demonstrated overall excellence in the Humanities Program. Nomination required from the Director of the Humanities Program.

Dr. Alfredo E. Hurtado Memorial Scholarship
Program code: UESO-274
Value: $800
Awarded: Spring
Terms of reference: An undergraduate student majoring in Spanish and/or Latin American Studies.

Pauline Jewett Scholarship
Program code: UESO-524
Value: $100
Awarded: Summer
Terms of reference: The student who has the highest CGPA among Political Science Majors who have surpassed 90 credit hours during that term. To be eligible, the student must have taken at least two 200 level and at least 3 senior (300 or 400 level) courses in Simon Fraser Political Science Department. The award will be made by the senate undergraduate awards adjudication committee on the nomination of the Chair of the Political Science Department.

Lorne M. Kendall Memorial Scholarship in Psychology
Program code: UESO-228
Value: $300
Awarded: Summer
Terms of reference: The undergraduate or graduate Psychology student who, in the previous year, has best exemplified Dr. Kendall’s approach to Psychology. Nominations for the award will be made by faculty members of the Psychology Department. The recipient will be selected by the Chair of the Department, after consultation with the Chair of the Undergraduate and Graduate Studies Committees.

Evelyn Lett Scholarship
Program code: UPSO-230
Value: $500
Awarded: Spring
Terms of reference: A full time female student enrolled in the Women’s Studies program minor, certificate, post baccalaureate diploma and/or joint major programs. Preference will be given to those students who have contributed to the department and/or to women’s issues on campus or in the community. Please submit a letter outlining your contribution along with the application.

Jerry and Belle Lundie Memorial Scholarship
Program code: UPSO-231
Value: $500
Awarded: Spring
Terms of reference: Students in their second, third or fourth year of undergraduate study. One scholarship is available to a student majoring in Business Management and the other scholarship is available to an Economics major. Applicants must be Canadian citizens and residents of BC. Preference will be given to physically challenged students who demonstrate financial need. The scholarships are made available by the Credit Union Foundation of BC, in honor of Mr. and Mrs. J. Lundie, who were Credit Union pioneers.

Margaret J. Menzel Memorial Scholarship
Program code: UPSO-235
Value: $800
Awarded: Spring
Terms of reference: A single parent enrolled in the Women Studies program, on the basis of academic achievement. The Women’s Studies Co-ordinator will forward nomination(s) to Financial Assistance.

Robbie Robertson Scholarship
Program code: UPSO-273
Value: $1000
Awarded: Fall
Terms of reference: The Prince George branch of the Royal Canadian Legion will provide a scholarship to be awarded to a student registered in the Gerontology diploma program who has an academic record of merit. Preference will be given, when possible, to a student from Prince George or surrounding areas. Students should apply on a Simon Fraser University Private Scholarship application form to be sent to the Gerontology Diploma Program, Simon Fraser University at Harbour Centre, 555 West Hastings Street, Vancouver, BC, V5B 5K3.

Mr. and Mrs. Erwin Sommer Scholarship in Geography
Program code: UESO-308
Value: $500
Awarded: Summer
Terms of reference: Granted in any semester based on academic merit to a student majoring in geography who has completed at least 90 undergraduate credits including 12 upper division credits in geography.

John Stell Sykes Scholarship Endowment
Program code: UESO-245
Value: $150
Awarded: Spring
Terms of reference: A third or fourth year student who is a French major in a degree program. The scholarship will be adjudicated on the basis of proficiency in French and academic standing.

Vancouver Port Authority Undergraduate Scholarship in Geography
Program code: UPSO-284
Value: $2500
Awarded: Fall
Terms of reference: Based on academic merit, will be given to a Geography student entering the fourth year of studies. In order to receive the second disbursement, the student must maintain academic standards.

Scholarships for Business Administration students
Bank of Montreal Undergraduate Scholarship in Business Administration
Program code: UPSO-283
Value: $1000
Awarded: Fall Spring
Terms of reference: Business Administration students who intend to pursue a career in the financial industry upon graduation. Preference will be given to students in the Finance area of concentration. At least one of the two awards will be given to a Business Administration co-op student.

Keith and Betty Beedie Scholarship
Program code: UESO-520
Value: $1000
Awarded: Fall
Terms of reference: An undergraduate third or fourth year student in the Faculty of Business Administration with a concentration in either Finance or Accounting. Preference will be given to a graduate of either a Burnaby secondary school or Magee Secondary School. The scholarship will be granted on the basis of outstanding academic performance.

Arthur and Eva Bell Award in Business Administration or Economics
Program code: UPSO-203
Value: $500
Awarded: Fall
Terms of reference: Students in second, third or fourth year of Business Administration or Economics. Eligibility is based on need for financial assistance and high academic standing. Students must provide a copy of their current transcript with the application.

Certified Management Accountants Society of BC - William C.C. Easton Scholarship
Program code: UPSO-244
Value: $1500
Awarded: Spring
Terms of reference: Student with the highest academic standing in Business Administration courses 254 and 424. This scholarship has been established in appreciation of Mr. Easton’s contribution to the society, to the profession, and to the community.
Chevron Canada Ltd Scholarship
Program code: UESO-282
Value: $1500
Awarded: Fall
Terms of reference: A student in their final year of an undergraduate program who intends to pursue a career in business. Preference will be given to a student who has graduated from a BC secondary school. At least one letter of recommendation from a Dean or Department Chair must be submitted with the application.

Chien's Cultural Foundation Scholarship
Program code: UESO-521
Value: $600
Awarded: Fall
Terms of reference: An undergraduate student in the Faculty of Business Administration, or in the Faculty of Arts, preferably in Political Science. The Scholarship will be granted on the basis of outstanding academic performance. The award will be made by the senate undergraduate awards adjudication committee on the recommendation of the Dean of Arts or the Dean of Business Administration.

Cloverdale Paint Incorporated Scholarship
Program code: UESO-272
Value: $600
Awarded: Spring
Terms of reference: Undergraduate, upper-level students in the Faculty of Business Administration, whose area of study is marketing. The award will be based on academic merit. Preference will be given to Cloverdale Paint employees or their children.

Deloitte & Touche Scholarship in Accounting
Program code: UPSO-247
Value: $1000
Awarded: Fall
Terms of reference: Granted to a third year Faculty of Business Administration student in the Accounting concentration who has the highest cumulative grade point average (CGPA).

Financial Executives Institute Scholarship
Program code: UPSO-219
Value: $1500
Awarded: Fall
Terms of reference: An undergraduate third or fourth year student in the Faculty of Business Administration concentrating in the area of finance. The scholarship is based on academic merit.

Honourable William M. Hamilton Memorial Scholarship
Program code: UESO-305
Value: $2500
Awarded: Fall
Terms of reference: An undergraduate student who is entering the Faculty of Business Administration upon completion of 30 credit hours. The scholarship is based on academic merit.

Bruce Howe Memorial Scholarship in International Business
Program code: UESO-310
Value: $600
Awarded: Spring
Terms of reference: Valued at a portion of the income, based on academic merit, will be given to the top student in the Faculty in Business Administration in the international business concentration. The applicant should be a Canadian citizen or a permanent resident of Canada and have completed at least 90 credit hours.

Human Resources Management Association of BC Scholarship
Program code: UPSO-226
Value: $1000
Awarded: Fall
Terms of reference: The Scholarship will be granted to a Faculty of Business Administration student with an approved concentration in Human Resources Management who has completed at least two Human Resources Management courses at the three hundred level.

ICABC Desmond O’Brien Memorial Scholarship
Program code: UPSO-227
Value: $2000
Awarded: Spring
Terms of reference: A full-time undergraduate student in the Faculty of Business Administration. The student must have completed 75 to 105 semester credit hours inclusive, including the semester of application, and must have at least 9 semester hours of accounting courses. The award will be based upon the academic performance of a student who is also financially deserving.

Maria Kuchar Accounting Scholarship
Program code: UESO-263
Value: $1200
Awarded: Fall Spring
Terms of reference: Two Maria Kuchar Accounting Scholarships of $1200 each are awarded annually to 3rd or 4th year undergraduate students in the Faculty of Business Administration with a concentration in Accounting. The Scholarship is based on academic merit. A student may be granted this Scholarship more than once. When possible, preference will be given to a female student.

Robert H. Lee Scholarship in Business Administration
Program code: UPSO-271
Value: $1400
Awarded: Fall
Terms of reference: A third or fourth year student who is majoring in Business Administration. The award is also based upon academic achievement.

Jerry and Belle Lundie Memorial Scholarship
Program code: UPSO-231
Value: $500
Awarded: Spring
Terms of reference: Students in their second, third or fourth year of undergraduate study. One scholarship is available to a student majoring in Business Management and the other scholarship is available to an Economics major. Applicants must be Canadian citizens and residents of BC. Preference will be given to physically challenged students or students who demonstrate financial need. The scholarships are made available by the Credit Union Foundation of BC, in honor of Mr. and Mrs. J. Lundie, who were Credit Union pioneers.

Gil Moser Scholarship
Program code: UPSO-238
Value: $1400
Awarded: Spring
Terms of reference: A full-time student in the Faculty of Business Administration on the basis of high academic standing. This endowment fund has been established in memory of the late Gil Moser who served Simon Fraser University on its Board of Governors.

Phillips, Hager & North Ltd Scholarship
Program code: UPSO-282
Value: $2000
Awarded: Fall
Terms of reference: An undergraduate third or fourth year student within the Faculty of Business Administration with a Finance concentration. This scholarship is based on academic merit.

Robert Rogow Scholarship
Program code: UESO-527
Value: $1000
Awarded: Spring
Terms of reference: Granted, based on academic merit, to undergraduate students in the Faculty of Business Administration with a concentration in Human Resources Management. The recipient will have completed at least one SFU credit course offered by the Faculty of Business Administration in industrial relations or collective bargaining.

Shell Canada Limited Scholarship in Business Administration
Program code: UESO-264
Value: $1000
Awarded: Fall
Terms of reference: A full-time undergraduate student enrolled in the co-op program of the Faculty of Business Administration.

Sunbrite Business Association Scholarship in Business Administration
Program code: UESO-525
Value: $250
Awarded: Spring
Terms of reference: Award is based on scholastic merit and will be awarded to a full-time undergraduate student in the Faculty of Business Administration.

Vancouver Stock Exchange Scholarship
Program code: UPSO-250
Value: $1000
Awarded: Fall
Terms of reference: Two Co-op students entering their graduating year with a major in Computing Science or the Management and Systems Science Program with a demonstrated interest in business. If the students are in Computing Science, the students should have a minor in Business Administration or a double major in Computing Science and Business Administration, or a joint major in Business and Computing Science. A statement confirming an interest in business should accompany the applications/nominations.

The awards will be made by the senate undergraduate awards adjudication committee on the nomination of the Co-op Coordinator of Computing Science/MSSC.

Lis Welch Scholarship in Marketing
Program code: UESO-522
Value: $600
Awarded: Fall
Terms of reference: Granted to an undergraduate student in the Faculty of Business Administration with a concentration in marketing, who is in third or fourth year. The award will be based on academic merit. Preference will be given to a female student who is a Canadian citizen or landed immigrant.

Grant Wilson Memorial Scholarship
Program code: UPSO-268
Value: $3000
Awarded: Fall
Terms of reference: A BC student in the Faculty of Business Administration who is entering the final two semesters of study at Simon Fraser. The applicant must be planning to enter Law school. This endowment fund has been established in memory of Grant Wilson by Stanley Pharmaceuticals Limited of North Vancouver, BC.

Lorraine Wintrup Memorial Endowment Scholarship
Program code: UPSO-251
Value: $200
Awarded: Spring
Terms of reference: An endowment fund has been established in memory of Mrs Lorraine Wintrup, available to a Business Administration student majoring in Business Management with preference being given to banking related courses. Please supply a copy of your transcript and indicate any Business Management and Banking related courses.

Mildred Wirtanen Scholarship in Business
Program code: UESO-277
Value: $2500
Awarded: Spring
Terms of reference: An undergraduate student in Business Administration who shows a significant improvement in academic studies.

**Wolfe Chevrolet Oldsmobile Scholarship in Marketing**  
*Program code: UPSO-258*  
*Value: $750*  
*Awarded: Fall*  
*Terms of reference: A fourth year student with a high academic standing concentrating on Marketing in the Faculty of Business administration. The scholarship will be granted by the Senate Undergraduate Adjudication Awards Committee on the recommendation of the Dean of Business Administration.*

**Scholarships for Education students**

**Carol Chapman Memorial Education Scholarship**  
*Program code: UESO-518*  
*Value: $2000*  
*Awarded: Fall*  
*Terms of reference: To an outstanding full-time student in the Faculty of Education's Professional Development Program based on academic merit and overall performance during the completion of the PDP practica. The award will be made by the senate undergraduate awards adjudication committee on Scholarships, Awards and Bursaries on the nomination of the Dean, Faculty of Education.*

**Madge Hogarth Scholarships in Education**  
*Program code: UESO-224*  
*Value: $300*  
*Awarded: Summer*  
*Terms of reference: Mrs Madge Hogarth has established two scholarships to be awarded at the beginning of the summer semester. One scholarship will be awarded to a student who has completed EDUC 401/402 and is proceeding to EDUC 404. The second scholarship will be awarded to a student who has completed EDUC 405. Academic standing prior to entry into the Professional Development Program will be the primary consideration, although teaching performance may be considered.*

**Phi Delta Kappa Scholarship in Education**  
*Program code: UPSO-276*  
*Value: $1000*  
*Awarded: Fall*  
*Terms of reference: Five awards of $1,000 each will be given in the Fall semester to undergraduate students pursuing a degree program in education or the Professional Development Program. The scholarship will be granted to an outstanding student as judged by his/her academic accomplishments and contributions to the department, to the university and to the community. The award will be made by the senate undergraduate awards adjudication committee on the recommendation of the Dean of the Faculty of Education.*

**Scholarships for Science students**

**R. Bruce Coles Memorial Scholarship**  
*Program code: UESO-283*  
*Value: $550*  
*Awarded: Fall Spring*  
*Terms of reference: To support scholarship awards in memory of its founding Partner, the Coles Group has established, along with the family of the late R. Bruce Coles, an endowment. Two awards will be given each year. The award is based on scholastic merit and will be awarded to a full-time third or fourth year undergraduate student in the Actuarial Science Program in the Department of Mathematics and Statistics.*

**Goel Memorial Scholarship**  
*Program code: UPSO-223*  
*Value: $350*  
*Awarded: Fall*  
*Terms of reference: The scholarships are granted in any semester based on academic merit to undergraduate students in a major or honors program in the physical sciences. Applicants should have completed at least 60 SFU semester hours toward the requirements for a degree and have completed at least 30 hours in two of the last three semesters in which they were enrolled.*

**Mr. and Mrs. Erwin Sommer Scholarship in Geography**  
*Program code: UESO-308*  
*Value: $500*  
*Awarded: Summer*  
*Terms of reference: Granted in any semester based on academic merit to a student majoring in geography who has completed at least 90 undergraduate credits including 12 upper division credits in geography.*

**Trans-Canada Pipelines Research Scholarship**  
*Program code: UESO-261*  
*Value: $650*  
*Awarded: Spring*  
*Terms of reference: A student presently enrolled in a four year program leading to a BSc in Chemistry. The Department of Chemistry Scholarship Committee will nominate a candidate for the scholarship on the basis of the applicant's potential for future work in research in chemistry related to the petrochemical industry and on the applicant's interest in such work.*

**Paul and Helen Trussell Science Scholarship Fund**  
*Program code: UESO-265*  
*Value: $20000*  
*Awarded: Fall*  
*Terms of reference: A student entering their last two years of undergraduate study at a BC university or college. The applicant must be a Canadian citizen or Permanent Resident, and have completed secondary schooling in the Kootenay-Boundary area (School Districts No. 1-13 inclusive). To qualify, a candidate must be pursuing an undergraduate program leading to at least a Masters or PhD degree in Natural or Applied Sciences, such as Agriculture, Engineering, Forestry and Fisheries. The award will cover the last two undergraduate years and the first two graduate years. Normally, a student must complete a minimum of 12 credit hours of graded course work each semester during tenure of the scholarship and maintain a 75% average.*

**University Women's Club of Vancouver**  
*Program code: UESO-260*  
*Value: $1000*  
*Awarded: Fall*  
*Terms of reference: A female student enrolled in the Faculty of Science. The award is open to third or fourth year students majoring in Science or Applied Science programs. A recommendation from the Dean of Science and/or the Dean of Applied Science is required.*

**Vancouver Port Authority Undergraduate Scholarship in Geography**  
*Program code: UPSO-284*  
*Value: $2500*  
*Awarded: Fall*  
*Terms of reference: Based on academic merit, will be given to a Geography student entering the fourth year of studies. In order to receive the second disbursement, the student must maintain academic standards.*

**Watson Wyatt & Company Scholarship in Actuarial Mathematics**  
*Program code: UESO-516*  
*Value: $2000*  
*Awarded: Fall*  
*Terms of reference: An undergraduate student in the Certificate Program in Actuarial Mathematics who has successfully completed ACMA 310. The scholarship will also be based on high academic merit. A departmental nomination is required from the Chair of the Department or designate.*
Scholarships for student athletes

Absolute Travel Management Services Inc.
Award for Excellence in Athletic Performance and Academic Achievement
Program code: UPAA-007
Value: $1000
Awarded: Fall
Terms of reference: A student who is a member of the varsity Simon Fraser University Swim team. The award is based upon academic merit and exceptional ability in swimming.

Murray Pezim Football Scholarship
Program code: UEAA-050
Value: $600
Awarded: Fall
Terms of reference: A student involved in the football program. The award is also based on academic merit.

Bob Ackles Sports Administration Scholarship
Program code: UEAA-001
Value: $500
Awarded: Fall
Terms of reference: To students who demonstrate a keen interest in sports administration. Nominations will be received from the Director of Athletics and Recreation.

BC Lions Athletic Award
Program code: UEAA-004
Value: $150
Awarded: Fall
Terms of reference: A maximum of four students, subject to the discretion of the Director of Athletics. To male students in any faculty on the basis of academic achievement in addition to outstanding ability in football. Interest from this endowment has been made available by the BC Lions Football Club in memory of the late Mr. Grant McConachie, one of the original members of the Board of Governors of the club.

John Buchanan Men's Soccer Scholarship
Program code: UESO-512
Value: $800
Awarded: Fall
Terms of reference: Based on academic merit, awarded to an undergraduate student in any faculty who is a member of the Men's Soccer team. A letter of recommendation from the Head Soccer Coach should accompany the application.

Moira Colbourne Alumni Scholarship
Program code: UEAA-018
Value: $800
Awarded: Fall
Terms of reference: Two scholarships, valued up to $800 each, are available in the fall and Spring semester, to any active member of the Simon Fraser University Women's Field Hockey team based on scholastic achievement.

Bill De Vries Athletic Award
Program code: UEAA-061
Value: $250
Awarded: Fall
Terms of reference: A student who exhibits outstanding academic achievement and athletic performance. The recipient should also possess the personal qualities of integrity and generosity.

Dr. Peter Hamon Wrestling Scholarship
Program code: UEAA-048
Value: $500
Awarded: Fall
Terms of reference: Based on academic merit and will be awarded to a full- or part-time student who is a wrestler attending Simon Fraser University.

Paul Nemeth Wrestling Scholarship
Program code: UEAA-030
Value: $1000
Awarded: Fall
Terms of reference: Based on academic merit and will be awarded to a student who is a member of the Simon Fraser University wrestling team.

D.B. Perks & Associates Ltd. Endowment Fund
Program code: UEAA-041
Value: $500
Awarded: Fall
Terms of reference: An undergraduate student in any faculty. The bursary will be granted to a student who has maintained a satisfactory academic record and has financial need in the continuing pursuit of their studies. Preference will be given to students who are.

Bursaries

Regulations
The following regulations govern all university, private, and endowed bursaries over which the University has jurisdiction. Many of the following bursaries have been made possible by generous donations.
former employees of Bel-Par Industries or who are children or legal dependants of employees.

**Birks Family Foundation Bursaries**  
*Program code: UPBO-551*  
*Value: $500*  
*Awarded: Fall Spring Summer*  
*Terms of reference:* The Birks Family Foundation has established a plan of annual contributions to the Student Aid Fund of recognized Canadian universities and colleges for the creation of these bursaries. The bursaries are awarded by the Foundation on the recommendation of the University Scholarship Committee, and are not restricted by faculty or year, and may be renewed. The number and amount of such awards may vary annually depending upon the funds available from the Foundation.

**BOMA Undergraduate Bursary in Urban Studies**  
*Program code: UEBO-715*  
*Value: $1000*  
*Awarded: Spring*  
*Terms of reference:* Granted on the basis of demonstrated financial need and satisfactory academic performance. Preference will be given to a student in the Certificate in Urban Studies program, or failing that, to a student in any faculty whose course work involves some aspect of real estate studies as their primary focus.

**L. Pierre Bonneau Memorial Bursary**  
*Program code: UEBO-662*  
*Value: $500*  
*Awarded: Spring*  
*Terms of reference:* Undergraduate students in any Faculty who have a satisfactory academic standing and financial need.

**The Honourable Angelo E. Branca and Mrs. Branca Bursary Endowment Fund**  
*Program code: UEBO-586*  
*Value: $800*  
*Awarded: Fall*  
*Terms of reference:* Students entering from secondary school. Applicants must demonstrate financial need and have satisfactory academic standing. Other bursaries valued approximately at one semester’s tuition are available to students from any faculty, who have a minimum of 60 credit hours at Simon Fraser University, have maintained satisfactory standing, and are in financial need. In honor of the 50th wedding anniversary of the Honourable Angelo E. Branca and Mrs Branca, and on the occasion of his retirement from the bench, this bursary endowment fund has been established by the following donors, Confratellanza Italo-Canadese and friends. Mr. J. Diamond, Mr. J. Segal, Mr. Ben Wosk.

**Burnaby-New Westminster Women’s Club**  
*Program code: UPBO-672*  
*Value: $750*  
*Awarded: Fall*  
*Terms of reference:* A mature female student who has continued her education after several years’ absence, and who has completed sixty credits with satisfactory academic performance as well as being a BC resident. This bursary is in memory of Caroline Velichko, a former member of the Burnaby-New Westminster Business and Professional Women’s Club.

**Burrard Charitable Foundation Bursary**  
*Program code: UPBO-554*  
*Value: $750*  
*Awarded: Fall*  
*Terms of reference:* A student with any physical disability. Adjudication will occur in consultation with the Physically Challenged Students’ Co-ordinator.

**Harvey and Dorothy Burt Bursary Endowment Fund**  
*Program code: UEBO-587*  
*Value: $400*  
*Awarded: Fall*  
*Terms of reference:* One or more bursaries will be awarded each year on the basis of financial need and demonstrated active involvement in the areas of conservation or environmental protection. Preference will be given to Canadian undergraduate students in their third or fourth year of studies.

**Emily Campbell Bursary Endowment Fund**  
*Program code: UEBO-589*  
*Value: $125*  
*Awarded: Fall Spring Summer*  
*Terms of reference:* Students, staff and faculty parents who require some assistance with their daycare fees. Further information may be obtained from the Simon Fraser University Childcare Office. The Simon Fraser University Childcare Society and Simon Fraser University, through this fund, are committed to providing access to daycare services for children in the University community.

**Campus Community Bursary**  
*Program code: UEBO-718*  
*Value: $500*  
*Awarded: Fall Spring Summer*  
*Terms of reference:* Granted to undergraduate students in any faculty in any semester based on demonstrated financial need and satisfactory academic performance.

**Canadian Federation of University Women - Coquitlam Bursary**  
*Program code: UEBO-713*  
*Value: $1000*  
*Awarded: Spring*  
*Terms of reference:* A full-time mature undergraduate female student in any Faculty who has returned to SFU after a break in studies. Preference, where possible, will be given to a resident of School District #43 or a graduate of a School District #43 secondary school.

**Jim and Penny Cavers Bursary**  
*Program code: UEBO-732*  
*Value: $2000*  
*Awarded: Summer*  
*Terms of reference:* Granted on the basis of demonstrated financial need and satisfactory academic performance to students in any faculty and who have completed at least 60 credit hours.

**Chancellor's Undergraduate Bursary**  
*Program code: UEBO-709*  
*Value: $1000*  
*Awarded: Spring*  
*Terms of reference:* Undergraduate students in any faculty on the basis of demonstrated financial need and satisfactory academic performance.

**Mr. and Mrs. Leslie Chu Bursary**  
*Program code: UEBO-697*  
*Value: $1500*  
*Awarded: Fall*  
*Terms of reference:* An undergraduate student in any faculty. Bursaries will be granted on the basis of demonstrated financial need, demonstrated service to the community, and a satisfactory academic performance.

**Confratellanza Italo Canadese Bursary Endowment**  
*Program code: UEBO-591*  
*Value: $425*  
*Awarded: Fall*  
*Terms of reference:* Undergraduate students with financial need and satisfactory academic standing. Preference will be given to Italo-Canadian students if they meet the criteria.

**Connell Lightbody Endowment Fund**  
*Program code: UEBO-649*  
*Value: $1000*  
*Awarded: Fall*  
*Terms of reference:* Full-time third year student planning to study law. Please provide a brief concerning your eligibility for this bursary. This bursary, established by the Connell Lightbody law firm is in recognition of the outstanding contributions made by Dr. Arthur Fouks to both the legal community of Vancouver and the development of Simon Fraser University.

**Colin A. Conrad Bursary**  
*Program code: UEBO-728*  
*Value: $500*  
*Awarded: Summer*  
*Terms of reference:* An undergraduate student in any faculty based on demonstrated financial need and satisfactory academic performance.

**CUPE Local 15 Vancouver Municipal, Education and community Workers’ Bursary**  
*Program code: UPBO-580*  
*Value: $1000*  
*Awarded: Fall*  
*Terms of reference:* An applicant must be the sons, daughters, or legal dependents of Union members. The member upon whom the applicant is a dependent must be a current member in good standing or retired member of CUPE Local 15 (excluding associate members). The member must have demonstrated a primary attachment to CUPE Local 15 by holding Union membership through a minimum of six months employment for each of the two years prior to the date of enrolment and must be pursuing a field of study not in contradiction to the aims of the labour movement. The award selection will be made by Simon Fraser University in consultation with the Executive. Award will be based primarily upon financial need and provided that academic performance is satisfactory. The applicant must be beginning or continuing full-time enrolment and must be capable of pursuing the course of study. An applicant for a bursary may only receive a bursary once every four years. Bursaries are to a maximum of $1,000 of tuition only. One half of the tuition will be paid at the beginning of the school year and the second half will be paid at the second half of the school year. Bursary recipients are requested to submit proof of completion of program/year for which the bursary was provided.

**Alfred William Davidson Bursary**  
*Program code: UEBO-726*  
*Value: $500*  
*Awarded: Spring*  
*Terms of reference:* Granted to undergraduate students in any faculty based on demonstrated financial need and satisfactory academic performance. Preference will be given to students who contribute to the university or to the community through volunteer activities.

**Daycare Bursaries**  
*Program code: UUBO-700*  
*Value: $100*  
*Awarded: Fall Spring Summer*  
*Terms of reference:* Applications for daycare bursaries are available at the Daycare Centre. Eligible students may qualify for a bursary provided that financial need can be demonstrated by a completed Canada Student Loan assessment or an Open Bursary assessment. Daycare bursaries are available to both graduate and undergraduate students.

**De Jong/MacDonald Bursary**  
*Program code: UEBO-678*  
*Value: $1000*  
*Awarded: Fall*  
*Terms of reference:* One or more bursaries will be awarded to undergraduate students in any faculty who have a satisfactory academic record and demonstrates financial need. A short letter outlining dedication to and involvement in the community should accompany the application.
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Father Della-Torre Bursary Endowment Fund  
**Program code:** UEBO-592  
**Value:** $600  
**Awarded:** Fall  
**Terms of reference:** Entering students: Bursaries valued approximately at one semester’s tuition are available to students entering from Secondary School. Applicants must demonstrate financial need and have satisfactory academic standing. Other bursaries valued approximately at one semester’s tuition are available to students in any faculty, who have a minimum of 60 credit hours at Simon Fraser University, have maintained satisfactory academic standing and are in financial need. A Bursary Endowment Fund has been established in honor of Father Della-Torre for his 27 years of pastorate at the Sacred Heart Church, Vancouver. This fund will provide annual bursaries in perpetuity from the earned income.

Dr. Jack Diamond Bursary  
**Program code:** UEBO-615  
**Value:** $1100  
**Awarded:** Summer  
**Terms of reference:** To provide a bursary to a student in any faculty with satisfactory academic performance and demonstrated financial need.

Erm Fiorillo - Hal Davis CKNW Orphan’s Fund Bursary  
**Program code:** UEBO-651  
**Value:** $3000  
**Awarded:** Fall  
**Terms of reference:** An entering student from a secondary school in the Vancouver School District. In future the bursary may be offered to students graduating from secondary schools within the lower mainland. This award will be renewable for 4 academic years provided the recipient maintains a 2.00 grade point average and registers in 9 credit hours during the tenure of the award. This bursary is for a capable student whose family cannot provide financial assistance with the costs of post-secondary education because they are on welfare assistance. Students must be nominated by their secondary school Principals and all applications will be evaluated by a school district selection committee and the successful candidate will be recommended to the Simon Fraser University senate undergraduate awards adjudication committee.

Alex W. Fisher Bursary  
**Program code:** UEBO-596  
**Value:** $400  
**Awarded:** Spring  
**Terms of reference:** A hard-working and deserving male student in need of financial assistance. Donated by Alex W. Fisher.

Lois M. Fisher Bursary  
**Program code:** UEBO-597  
**Value:** $400  
**Awarded:** Spring  
**Terms of reference:** A hard-working and deserving female student in need of financial assistance. Donated by Mr Alex W. Fisher.

William Gordon Memorial Bursary  
**Program code:** UEBO-640  
**Value:** $700  
**Awarded:** Fall  
**Terms of reference:** An undergraduate student in any Faculty. The student must have a satisfactory academic standing and demonstrate financial need.

Government of BC Women’s Equality Bursaries  
**Program code:** UPBO-677  
**Value:** $500  
**Awarded:** Fall  
**Terms of reference:** To support women enrolled in full or part-time programs in Women’s Studies or related coursework or fields in which women have not traditionally sought post-secondary training, which will lead to a degree, diploma or certificate. Satisfactory academic standing and financial need are also required. Apply on the Simon Fraser University Bursary application available at Financial Assistance. The application deadline is the end of the second week of classes.

Dr. Ben Gullison Bursary  
**Program code:** UPBO-640  
**Value:** $500  
**Awarded:** Fall  
**Terms of reference:** Second, third or fourth year students in any undergraduate program. In recognition of Dr. Gullison’s work, evidence of community service will be considered in making the award.

Hamber Foundation  
**Program code:** UPBO-559  
**Value:** $1000  
**Awarded:** Fall  
**Terms of reference:** Women students with satisfactory academic standing and need for financial assistance.

Madge Hogarth Bursaries  
**Program code:** UEBO-674  
**Value:** $350  
**Awarded:** Fall  
**Terms of reference:** Undergraduate students in any faculty who are entering or in their fourth year of study and who have maintained satisfactory academic standing and demonstrated financial need.

Horne Family Alumni Bursary  
**Program code:** UEBO-657  
**Value:** $1500  
**Awarded:** Fall  
**Terms of reference:** A third or fourth year student who is a single parent, pursuing a degree at Simon Fraser University. The bursary is also based on satisfactory academic performance and demonstrated financial need.

Carma Israel Bursary Endowment Fund  
**Program code:** UEBO-598  
**Value:** $100  
**Awarded:** Fall  
**Terms of reference:** Based on financial need. An endowment fund in memory of Carma Israel has been established by Mrs. Katherine Leahgold.

Ken and Su Jang Entrance Bursary  
**Program code:** UEBO-672  
**Value:** $1600  
**Awarded:** Fall  
**Terms of reference:** An entering student who demonstrates financial need and who has a satisfactory academic record prior to entrance to Simon Fraser University.

Blayne and Sharon Johnson Bursary  
**Program code:** UEBO-523  
**Value:** $1200  
**Awarded:** Summer  
**Terms of reference:** Granted on the basis of demonstrated financial need and satisfactory academic performance.

Charles Chan Kent Golden Wedding Bursaries  
**Program code:** UPBO-563  
**Value:** $500  
**Awarded:** Spring  
**Terms of reference:** A student who is proceeding to a degree in any field, has successfully completed at least one year at Simon Fraser University, and needs financial assistance. Preferably the bursary will be made to a student of Chinese descent.

Harold Lauer B’nai B’rith (Lions Gate Lodge 1716)  
**Program code:** UPBO-564  
**Value:** $750  
**Awarded:** Fall  
**Terms of reference:** Undergraduate students, in any faculty, who have determined financial need and satisfactory academic standing.

Sue MacDonald Memorial Bursary Endowment Fund  
**Program code:** UEBO-654  
**Value:** $700  
**Awarded:** Fall Spring Summer  
**Terms of reference:** Two or more bursaries will be awarded to undergraduate students in any faculty who have proven financial need and a satisfactory academic record.

Dorothy May Martin Endowment Bursary Fund  
**Program code:** UEBO-648  
**Value:** $1000  
**Awarded:** Fall Spring Summer  
**Terms of reference:** Students who are returning to full-time studies subsequent to a substantial interruption of their academic career after secondary school. Students must have a satisfactory academic standing and demonstrate financial need.

Dr Carol Matusicky Family Studies Bursary  
**Program code:** UEBO-708  
**Value:** $500  
**Awarded:** Spring  
**Terms of reference:** On the basis of demonstrated financial need and satisfactory academic performance. Preference will be given to a student in the Certificate in Family Studies program or, failing that, to a student in any faculty whose course work will prepare them to work with children, youth and families after university.

John Michael McLarty Bursary  
**Program code:** UEBO-666  
**Value:** $2000  
**Awarded:** Fall  
**Terms of reference:** An undergraduate student in any Faculty. The award will be granted to a student who has a satisfactory academic record and who is experiencing financial need in the continuing pursuit of studies. Preference will be given to Canadian students.

Jo-Ann Mychaluk Bursary Endowment Fund  
**Program code:** UEBO-602  
**Value:** $850  
**Awarded:** Fall  
**Terms of reference:** Students with satisfactory academic standing. These bursaries are available to students who are or have been residents of the Chilcotin or Cariboo regions of BC. This fund, has been established in memory of Jo-Ann Mychaluk who worked in the centre for Distance Education.

Madeleine Nelson/Megan Thomas Bursary  
**Program code:** UEBO-735  
**Value:** $450  
**Awarded:** Summer  
**Terms of reference:** Granted to graduate or undergraduate students in any faculty in any semester based on demonstrated financial need and satisfactory academic performance. Preference will be given to mature female students beginning or returning to University.

Nitikman/Chan Bursary  
**Program code:** UEBO-737  
**Value:** $1000  
**Awarded:** Fall Spring Summer  
**Terms of reference:** Valued at a portion of the interest income, will be awarded annually in any semester. When fully funded, the bursary will substantially pay tuition and fees for two semesters and will be disbursed over two semesters. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to students in any faculty. The recipient will be an entering student who is a single parent.
Evelyn J. Oliver Bursary  
Program code: UEBO-682  
Value: $1000  
Awarded: Fall Spring Summer  
Terms of reference: Undergraduate students who are single parents. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance.

Opimism Club Bursary Endowment  
Program code: UEBO-603  
Value: $1000  
Awarded: Fall  
Terms of reference: For mature, continuing students at Simon Fraser University, who have financial need and good academic standing. The Opimism Club is an organization of senior (60 years) students.

Vancouver Foundation-George Pensom Fund  
Program code: UPBO-579  
Value: $1000  
Awarded: Fall Spring  
Terms of reference: Bursaries are available to full-time undergraduate students who demonstrate financial need and have satisfactory academic standing. Preference will be given to students from school district #47 (Powell River).

Permanent Bursary Endowment Plan  
Program code: N/A  
Value: $200  
Awarded: Fall Spring Summer  
Terms of reference: Applications must be submitted on the Simon Fraser University Bursary Application form under the heading “Permanent Bursary Endowment Plan”, these bursaries should not be listed individually. Permanent Bursary Endowments, to provide annual bursaries in perpetuity from the earned income, have been established by the following.
Belkin Packaging Limited Permanent Endowment Fund  
Downs/Archambault  
Ellen Mary Greenaway  
Gretta Bowmer Memorial  
Estate of Hans Christiansen  
Ted Cohen  
Mark and Phae Collins Fund (Vancouver Foundation)  
Dr. Jack Diamond  
Drop-in Centre Permanent Endowment Bursary  
David A. Freeman  
John R. Hecht  
Stephen Hinckliff Memorial  
A. Koch (Bella Koch Memorial)  
Dr. W. Koeppen  
I.L. Kostman  
Mrs. Katherine Lesghold  
Samuel D. Lesghold  
Dr. R.A. Palmer  
Mr and Mrs. N.L. Rothstein  
M.M. Waterman  
In Memory of Mrs. M.M. Waterman  
Ben Woak  
Mr. and Mrs. Ben Woak 40th Wedding Anniversary  

Sceptre Investment Counsel Ltd Bursary  
Program code: UEBO-641  
Value: $700  
Awarded: Fall  
Terms of reference: Undergraduate students who are in the final year of a degree program. Applicants must be Canadian citizens, be maintaining a satisfactory academic standing and be in financial need.

Office of the Registrar Bursary for Physically Challenged Students  
Program code: UEBO-665  
Value: $500  
Awarded: Fall  
Terms of reference: Physically challenged undergraduate or graduate students in any Faculty.

Terms of reference: The bursaries will be granted to physically challenged students holding satisfactory academic records and who are experiencing financial need in the pursuit of studies.

Rotary Club of Vancouver Community Service Bursary  
Program code: UPBO-568  
Value: $500  
Awarded: Fall  
Terms of reference: Students in financial need with satisfactory academic standing.

Rotary Club of Vancouver Sunrise Entrance Bursary  
Program code: UEBO-706  
Value: $1000  
Awarded: Fall  
Terms of reference: Based on financial need, to a student entering Simon Fraser University. Preference will be given to a student who resides in the City of Vancouver. The recipient of the award may be invited to make a presentation at a meeting of the Rotary Club of Vancouver Sunrise.

Saskexpo ’86 Bursary  
Program code: UPBO-636  
Value: $2500  
Awarded: Fall  
Terms of reference: Saskatchewan secondary school student entering either Simon Fraser University in British Columbia or The University of Saskatchewan at Saskatoon in Saskatchewan. The award will alternate between Simon Fraser University and the University of Saskatchewan. For 1988-1989 (the first year of the award), the bursary was for a student attending Simon Fraser University. Selection will be made on the basis of financial need, the student’s demonstrated contribution to his/her school and community, and leadership potential. Consideration may also be given to the student’s academic record. Applications will be submitted to the Simon Fraser University Senate Scholarships, Awards and Bursaries Committee, in care of the Director of Financial Aid and awards at Simon Fraser University for students who plan to attend Simon Fraser University; and to the University of Saskatchewan Scholarships, Awards and Bursaries Committee, in care of the Registrar, for students planning to attend The University of Saskatchewan.

William and Jane Saywell Bursary  
Program code: UPBO-682  
Value: $1500  
Awarded: Fall  
Terms of reference: A student who is a single parent and who has demonstrated a deep commitment to any field of study at Simon Fraser University and has financial need. A letter is required that outlines and discusses their extracurricular activities and interests that would demonstrate commitment to the chosen field of study.

Sceptre Investment Counsel Administrative Union Pension Plan Bursary  
Program code: UEBO-701  
Value: $2000  
Awarded: Fall  
Terms of reference: An entering undergraduate student in the Faculty of Science beginning in the 1995 Fall semester on a rotational basis in subsequent years to the faculties of Applied Sciences (1996), Arts (1997), Business Administration (1998), and Education (1999). The bursary will be awarded on the basis of demonstrated financial need and satisfactory academic performance.

Sceptre Investment Counsel Ltd Bursary  
Program code: UPBO-637  
Value: $800  
Awarded: Fall Spring Summer  
Terms of reference: This fund has been established to provide bursaries to physically challenged students. Up to 3 bursaries will be awarded on the basis of financial need. Adjudication will occur in consultation with the Physically Challenged Students’ Coordinator.

Stanley Sievenpiper Bursary Endowment Fund  
Program code: UEBO-605  
Value: $400  
Awarded: Fall Spring  
Terms of reference: One award in the Fall and one in the Spring on the basis of financial need. Preference will be given to third and fourth year students. This fund has been established in memory of Stanley Sievenpiper.

Simon Fraser Student Society UCB Pub Bursaries  
Program code: UPBO-571  
Value: $300  
Awarded: Fall Spring  
Terms of reference: Students with special or emergency financial need with preference to those students who may not otherwise be able to attend Simon Fraser University. Applications are open to part or full time, beginning or continuing students as well as international students.

Simon Fraser University 10th Anniversary Endowment Bursary Fund  
Program code: UPBO-504  
Value: $500  
Awarded: Fall Spring Summer  
Terms of reference: This fund has been established to provide bursaries for students in financial need who maintain a GPA of 2.00.

Simon Fraser University Bursary Endowment Fund  
Program code: UPBO-502  
Value: $500  
Awarded: Fall Spring Summer  
Terms of reference: All undergraduates in financial need are eligible to apply for these bursaries. A minimum CGPA of 2.00 is required.

SFU International Students’ Bursary Fund  
Program code: UUBO-600  
Value: $500  
Awarded: Fall Spring Summer  
Terms of reference: This fund has been established to assist undergraduate visa students who have critical financial need. Students applying for this bursary must be registered in a minimum of 9 credit hours and have satisfactory academic standing.

Simon Fraser University International Students’ Emergency Assistance Fund  
Program code: UPBO-637  
Value: $800  
Awarded: Fall Spring Summer  
Terms of reference: This fund has been established primarily to assist undergraduate visa students who have critical financial need. Students applying for this bursary must be registered in a minimum of 9 credit hours and have satisfactory academic standing.

Simon Fraser University Memorial Annual Fund  
Program code: UPBO-689  
Value: $250  
Awarded: Fall Spring Summer  
Terms of reference: Awards will be based on satisfactory academic performance and
demonstrated financial need. This fund was established at Simon Fraser University to receive donations from members of the community in memory of loved ones. Bursary awards will be granted from this fund in the name of the individual whose memory has been recognized by donors to Simon Fraser University.

**Simon Fraser University Open Bursaries**

Program code: UBO-500  
Value: $500  
Awarded: Fall  
Spring  

Terms of reference: Must be registered in a minimum of 9 credit hours and have satisfactory academic standing.

**SFU Punjabi Students Association Bursary**

Program code: UBO-521  
Value: $500  
Awarded: Summer  

Terms of reference: The SFU Punjabi Students Association Bursary valued at a portion of the income earned on the endowment, will be awarded annually in any semester. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students in any faculty.

**Jennifer Allen Simons Bursary**

Program code: UBO-669  
Value: $1000  
Awarded: Fall  
Spring  
Summer  

Terms of reference: An undergraduate or graduate female student in any faculty. The bursary will be granted to a student who is a single parent supporting a child, and who is in financial need and who has satisfactory academic performance. Applicants must have completed one semester at Simon Fraser University as a full-time student.

**B and B Sivertz Bursary Endowment**

Program code: UBO-686  
Value: $1000  
Awarded: Fall  

Terms of reference: Undergraduate students who demonstrate financial need and satisfactory academic performance, and who have completed 30 credit hours at Simon Fraser University.

**Harry and Dora Annie Sme Bursary**

Program code: UBO-606  
Value: $900  
Awarded: Fall  

Terms of reference: Up to 3 bursaries will be awarded to students in any faculty who have completed at least 30 credit hours at Simon Fraser University. The awards will be based on financial need and satisfactory academic standing. Preference will be given to female students.

**Merle L. Smith Bursary**

Program code: UBO-572  
Value: $525  
Awarded: Fall  

Terms of reference: A physically challenged student in any faculty who is beyond first year studies. Initial preference will be given to wheelchair users.

**Squamish Nation Bursary**

Program code: UBO-738  
Value: $250  
Awarded: Summer  

Terms of reference: Valued at a portion of the earned interest, is granted in any semester based on financial need and community service to a student who is a member of the Squamish Nation. The bursary may be granted to graduate or undergraduate students in all disciplines. The successful student will have completed a minimum of 24 credits and will have achieved a minimum CGPA of 2.00. The application should include a discussion of the student’s involvement in SFU or Squamish Nation community activities and confirmation of the student’s status with the Squamish Nation.

**Dorothy Sullivan Bursary**

Program code: UBO-690  
Value: $850  
Awarded: Fall  
Spring  
Summer  

Terms of reference: An undergraduate student in any faculty who has been a Federal or Provincial prisoner. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance.

**Victor J. Sundberg Memorial Bursary in Engineering Science**

Program code: UBO-681  
Value: $1000  
Awarded: Fall  

Terms of reference: An undergraduate student in any faculty. Whenever possible, preference will be given to a student majoring in Engineering Science in the Faculty of Applied Science. Applicants must have a satisfactory academic record and be in financial need in the pursuit of their academic studies. As well, special consideration will be given to community involvement and citizenship, evidence thereof to be provided in an accompanying letter or supporting documentation.

**TCG International Inc. Bursary**

Program code: UBO-644  
Value: $1500  
Awarded: Fall  

Terms of reference: Undergraduate students in any faculty. The bursary will be granted to students with satisfactory academic standing and experiencing financial need in the continuing pursuit of their studies. Preference for one of the bursaries will be given to applicants who are sons, daughters, or legal dependants of employees of TCG International Inc. However, where no such candidate is identified, disbursement of the awards will be at the discretion of Simon Fraser University.

**Trident Enrichment Society Bursary**

Program code: UBO-696  
Value: $600  
Awarded: Fall  

Terms of reference: An entering or first year undergraduate student in any faculty. The bursary will be awarded to a student with a satisfactory academic record and demonstrated financial need in the continuing pursuit of their studies. The application must be accompanied by a letter outlining the applicant’s participation in community service.

**TSSU Member Child Care Bursary**

Program code: UBO-550  
Value: $250  
Awarded: Fall  
Spring  

Terms of reference: TSSU employees are eligible to apply to the TSSU Member Child Care Bursary for each semester in which they hold an appointment and are registered as students at SFU and in which they receive child care services from a paid child care provider. All applications are subject to verification. The applicant must identify him/herself as an employee in the bargaining unit on the bursary application.

**University Women’s Club of Coquitlam Bursary**

Program code: UBO-573  
Value: $1000  
Awarded: Spring  

Terms of reference: A mature female student who is continuing her education after several years absence, and is in her first year of study.

**Western Businesswomen’s Association Bursary**

Program code: UBO-705  
Value: $800  

Awarded: Fall  

Terms of reference: A full or part-time student who is either entering the University for the first time or returning after an absence. Preference will be given to this fund to female student. The bursary will be based on satisfactory academic performance and demonstrated financial need. The award will include a one-year’s membership in the Western Businesswomen’s Association as well as the opportunity to engage in the Association’s mentorship program.

**Morris J. and Dena Wosk Bursary**

Program code: UBO-712  
Value: $700  
Awarded: Spring  

Terms of reference: Undergraduate students in any faculty, on the basis of demonstrated financial need and satisfactory academic performance.

**Fred & Maureen Wright Bursary**

Program code: UBO-710  
Value: $750  
Awarded: Spring  

Terms of reference: Undergraduate students in any faculty on the basis of demonstrated financial need and satisfactory academic performance.

**John and Isabel Young Bursary**

Program code: UBO-516  
Value: $1000  
Awarded: Summer  

Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance.

**Bursaries for Applied Sciences students**

**IODE Burnaby Municipal Chapter Bursary**

Program code: UBO-658  
Value: $1000  
Awarded: Fall  

Terms of reference: Third or fourth year students majoring in Science or Applied Science. Students must be Canadian citizens and graduates of Burnaby Senior Secondary School. Financial need and satisfactory academic standing is required.

**Canadian Federation of University Women - North Vancouver Bursary**

Program code: UBO-574  
Value: $1000  
Awarded: Spring  

Terms of reference: A female undergraduate student enrolled in the 2nd, 3rd, or 4th year in any math or science Faculty or Professional School. The recipient should be in financial need and in satisfactory academic standing. The recipient must be a resident of North Vancouver or a graduate of a North Vancouver Secondary School (School District #44).

**Hugh Clark Memorial Bursary**

Program code: UBO-694  
Value: $800  
Awarded: Fall  

Terms of reference: To an undergraduate student in the School of Engineering Science. The award will be granted to a student holding a satisfactory academic record and experiencing financial need in the continuing pursuit of his/her studies.

**Delcan Corporation Bursaries**

Program code: UBO-667  
Value: $1000  
Awarded: Spring  

Terms of reference: Undergraduate students registered full time at Simon Fraser University, in the faculties of Science or Applied Sciences. It is the intention of the Delcan Corporation to promote socio-environmental research and studies relative to major civil engineering projects; to support opportunities for women to enter careers at the management level in civil engineering; to increase high technological input into civil engineering, and to promote superior written and
oral communication skills. Students will apply for these bursaries through Financial Assistance, and must include a letter of recommendation from the Office of the Dean of the major program.

**Engineers’ Wives’ Association Bursary**  
Program code: UEOB-525  
Value: $500  
Awarded: Summer  
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students in the School of Engineering Science. The applicant should be a Canadian citizen or a permanent resident of Canada.

**Ralph Kerr Memorial Bursary Endowment Fund**  
Program code: UEOB-599  
Value: $1200  
Awarded: Fall  
Terms of reference: Undergraduate students. Preference will be given to students who are in their third or fourth year of studies in the Physics or Engineering Programs. This bursary fund has been established in memory of Ralph Kerr, a charter member of Simon Fraser University and a former employee of the Physics Department.

**Tom Mallinson Bursary in Communication**  
Program code: UEOB-518  
Value: $1000  
Awarded: Summer  
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students in the School of Communication with a shown interest in the field of interpersonal communication.

**Olga and Richard Murray Bursary in Applied Sciences**  
Program code: UEOB-725  
Value: $1000  
Awarded: Fall Spring Summer  
Terms of reference: Granted to graduate or undergraduate students in the Applied Sciences Faculty on the basis of demonstrated financial need and satisfactory academic performance. To the extent feasible, preference will be given to a student, or the spouse or child of a person, who is a member of the Telecommunication Workers Union or of Van-Tel Credit Union.

**Pacific National Foundation Endowment Bursary**  
Program code: UEOB-655  
Value: $2000  
Awarded: Fall  
Terms of reference: A single parent, undergraduate student in the Faculty of Business Administration, Faculty of Education, Faculty of Applied Sciences or the Faculty of Science. The bursary will be granted to a student wishing to upgrade their professional skills. The student should have satisfactory academic standing and a demonstrated financial need. A letter expressing job goals and direction should accompany the application form.

**Professional Engineers of BC Hydro**  
Program code: UPBO-685  
Value: $750  
Awarded: Fall  
Terms of reference: Third and fourth year Engineering Science students who are in full-time studies with satisfactory academic standing and demonstrated financial need.

**Kazuya Shinyaishi Memorial Bursary in Computing Science**  
Program code: UEOB-515  
Value: $650  
Awarded: Summer  
Terms of reference: An undergraduate student in computing science with financial need.

**Sierra Systems Bursary in Computing Science**  
Program code: UEOB-663  
Value: $2500  
Awarded: Fall  
Terms of reference: Third or fourth year students in the School of Computing Science. Applicants must have a satisfactory academic standing and financial need. One award will be given to a student from the Greater Vancouver Regional District and the other to a student from outside the Greater Vancouver Regional District.

**Victor J. Sundberg Memorial Bursary in Engineering Science**  
Program code: UEOB-681  
Value: $1000  
Awarded: Fall  
Terms of reference: An undergraduate student in any faculty. Whenever possible, preference will be given to a student majoring in Engineering Science in the Faculty of Applied Science. Applicants must have a satisfactory academic record and be in financial need in the pursuit of their academic studies. As well, special consideration will be given to community involvement and citizenship, evidence thereof to be provided in an accompanying letter or supporting documentation.

**Irene May Surbey Bursary**  
Program code: UEOB-723  
Value: $900  
Awarded: Spring  
Terms of reference: Granted to undergraduate students in the Faculty of Science or in the Faculty of Applied Sciences. The bursary is granted on the basis of demonstrated financial need and satisfactory academic performance.

**Vancouver Foundation Health Science Bursaries**  
Program code: UPBO-578  
Value: $500  
Awarded: Fall Spring  
Terms of reference: Full-time undergraduate and graduate students who have completed two years of post-secondary education. Areas of study include any of the following: Pre-Med program, Clinical Psychology, Kinesiology, Bio-medical Engineering, and Gerontology. Awards are based upon financial need and good academic standing.

**Bursaries for Arts students**  
Program code: UEOB-715  
Value: $1000  
Awarded: Spring  
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance. Preference will be given to a student in the Certificate in Urban Studies program, or failing that, to a student in any faculty whose course work involves some aspect of real estate studies as their primary focus.

**IODE Burquitlam Chapter Bursary**  
Program code: UPBO-561  
Value: $300  
Awarded: Spring  
Terms of reference: An undergraduate student in second or third year within the Faculty of Arts. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance. The recipient may be a Canadian citizen or permanent resident of Canada with preference given to individuals who have prior schooling (or partially educated) in Canada.

**Gloria Garrett Carlton Bursary in Dance**  
Program code: UEOB-522  
Value: $1000  
Awarded: Summer  
Terms of reference: The Gloria Garrett Carlton Bursary in Dance valued at a portion of the income earned on the endowment, will be awarded annually in any semester. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students majoring in Dance in the School of Contemporary Arts.

**Chien’s Cultural Foundation Bursary**  
Program code: UEOB-707  
Value: $600  
Awarded: Fall  
Terms of reference: An undergraduate student in the Faculty of Business Administration, or in the Faculty of Arts, preferably in Political Science. The Bursary will be given to a student in good academic standing who is experiencing financial need.

**Adaline May Clark Bursary Permanent Endowment**  
Program code: UEOB-590  
Value: $400  
Awarded: Fall  
Terms of reference: The late Mrs. Clark has provided for the endowment of funds, for bursaries to enable students to attend, or continue to attend university. Students must be registered in the School for the Contemporary Arts, and must demonstrate financial need and a high level of achievement in the Arts.

**Dr. Ed Colhoun Memorial Bursary**  
Program code: UEOB-673  
Value: $225  
Awarded: Fall  
Terms of reference: An undergraduate student in Spanish who is holding a satisfactory academic record and who demonstrates financial need.

**Kenneth Conibear Bursary in English**  
Program code: UEOB-724  
Value: $500  
Awarded: Spring  
Terms of reference: Granted to qualifying students in English taking at least 10 hours of undergraduate courses. The bursary will be granted on the basis of demonstrated financial need and satisfactory academic performance.

**English Faculty Honours Bursary**  
Program code: UEOB-730  
Value: $200  
Awarded: Summer  
Terms of reference: On the basis of demonstrated financial need and satisfactory academic performance, to an undergraduate student in the honours English program. If there is no suitable candidate from the honours English program in a given year, the bursary may be awarded to an undergraduate student majoring in English.

**Murray Farr Bursary in Performing Arts**  
Program code: UEOB-679  
Value: $1000  
Awarded: Spring  
Terms of reference: An undergraduate student in the School for the Contemporary Arts with a performing arts concentration.

**Aird Dundas Flavelle Memorial Bursary**  
Program code: UEOB-659  
Value: $2500  
Awarded: Fall  
Terms of reference: A student who has completed at least 15 hours at Simon Fraser with a satisfactory academic standing and whose course of study is in the following areas: political science, economics and/or business administration.

**Florence Godwin IODE Bursary in Criminology**  
Program code: UEOB-650
A departmental nomination is to be submitted with their application, a letter outlining intermediate care facilities for seniors. Applicants student specializing in quality of life issues in academic standing. Preference will be given to a undergraduate student enrolled in the Gerontology Masters of Gerontology program, or to an undergraduate student majoring in Economics, or the area of Chinese studies.

**Keith G Loughlin Gerontology Bursary**
Program code: UEOB-702
Value: $700
Awarded: Fall
Terms of reference: A graduate student enrolled in the Masters of Gerontology program, or to an undergraduate student enrolled in the Gerontology program, a Post Baccalaureate Diploma Program. The bursary will be granted to a student demonstrating financial need and in satisfactory academic standing. Preference will be given to a student specializing in quality of life issues in intermediate care facilities for seniors. Applicants should submit with their application, a letter outlining specialization or area of interest in the Gerontology field. A departmental nomination is to be submitted along with the application form.

**Grace Woodsworth MacInnis Bursary**
Program code: UEOB-704
Value: $700
Awarded: Spring
Terms of reference: An undergraduate student who either has an approved minor in Humanities or has an approved major in Women's Studies or Political Science. The recipient should have demonstrated financial need and a satisfactory academic standing; preference given to a woman student.

**McCavour Family Bursary in Criminology**
Program code: UEOB-691
Value: $600
Awarded: Fall
Terms of reference: Undergraduate students in Criminology who are single parents. Preference will be given to applicants who are sons, daughters or legal dependants of members of the Firemen's Benefit Association of Vancouver, BC, however, where no such candidate is identified, the award may be disbursed to other eligible students. The bursary will be granted on the basis of demonstrated financial need and satisfactory academic performance.

**Lydia McCombie Memorial Bursary**
Program code: UEOB-693
Value: $1200
Awarded: Fall
Terms of reference: An undergraduate student in the Faculty of Arts majoring in English. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance.

**Bruce McKelvie Endowment Bursary Fund**
Program code: UEOB-601
Value: $375
Awarded: Fall Spring
Terms of reference: A student on the basis of financial need and satisfactory academic standing. To qualify students must have completed at least two years of study at Simon Fraser University and be focusing their studies on early BC History, namely 18th century forward. The bursary has been established by the Native Sons of British Columbia, Post #2.

**Robin Mercer Memorial Bursary in Archaeology**
Program code: UEOB-675
Value: $700
Awarded: Fall
Terms of reference: An undergraduate student who is majoring in Archaeology and who has a satisfactory academic record and in financial need. This bursary was established in memory of Robin Mercer, a former alumnus of Simon Fraser University in the Faculty of Arts.

**Dr. Grazia Merler Bursary in French**
Program code: UEOB-714
Value: $1000
Awarded: Spring
Terms of reference: A student in French on the basis of demonstrated financial need and satisfactory academic performance.

**Margaret A. Mitchell Bursary in Political Science**
Program code: UEOB-687
Value: $2500
Awarded: Fall
Terms of reference: An undergraduate female student in second, third or fourth year of studies who is majoring in Political Science. The award will be granted to a student holding a satisfactory academic record and demonstrated financial need. When possible, preference will be given to a candidate living in the east end of Vancouver or in Burnaby.

**Helen Pitt Fund for Fine Arts (Vancouver Foundation)**
Program code: UEOB-567
Value: $500
Awarded: Fall
Terms of reference: Bursaries are available to 3rd or 4th year students in Fine Arts who demonstrate merit and financial need. Fine Arts will include painting, sculpture, printmaking, drawing and photography. Preference will be given to Fine Art students from Vernon, BC and the surrounding District. The School for the Contemporary Arts forwards nominations to Financial Assistance.

**Rogers Sugar Ltd. Bursaries**
Program code: UEOB-553
Value: $1000
Awarded: Fall
Terms of reference: Undergraduate students, who are in their third or fourth year of study at Simon Fraser University. Two bursaries are available to students majoring in Business Administration, and three bursaries to students majoring in Economics, or the Sciences, including Mathematics and Statistics.

**Donald H.M. Ross Faculty of Arts Bursary**
Program code: UEOB-692
Value: $1000
Awarded: Fall
Terms of reference: A third or fourth year undergraduate student in the Faculty of Arts. The bursary will be granted on the basis of demonstrated financial need and satisfactory academic performance.

**Paul and Ethel Seifner Linguistics Bursaries**
Program code: UEOB-661
Value: $1000
Awarded: Fall Spring
Terms of reference: Undergraduate students pursuing a linguistics program who have satisfactory academic standing, demonstrated financial need, and have completed 15 credit hours at Simon Fraser.

**Vancouver Canada China Friendship Association Bursary**
Program code: UEOB-692
Value: $1000
Awarded: Fall Spring
Terms of reference: To a student in the Asia Canada Program, based on demonstrated financial need and satisfactory academic performance. The application should include a letter from the applicant expressing his/her interest in the area of Asia Canada studies. When possible, preference will be given to students in the area of Chinese studies.

**Bursaries for Business Administration students**

**3M Canada Company Bursary in Business Administration**
Program code: UPBO-769
Value: $1000
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students in the Faculty of Business Administration.

**BC Bond Dealers Association Bursary**
Program code: UEBO-689
Value: $600
Awarded: Fall
Terms of reference: An undergraduate student in the Faculty of Business Administration with a concentration in Finance or Accounting. Preference will be given to a student majoring in Business Administration who is experiencing financial need.

**Keith and Betty Beedie Foundation**
Program code: UEBO-698
Value: $1000
Awarded: Fall
Terms of reference: An undergraduate student in the Faculty of Business Administration with a concentration in either Finance or Accounting. Preference will be given to a student majoring in Business Administration with accounting concentration.

**Aird Dundas Flavelle Memorial Bursary**
Program code: UEBO-659
Value: $2500
Awarded: Fall
Terms of reference: A student who has completed at least 15 hours at Simon Fraser with a satisfactory academic record and whose course of study is in the following areas: political science, economics and/or business administration.

**Henderson Development Ltd. Bursary**
Program code: UPBO-688
Value: $1000
Awarded: Fall
Terms of reference: An undergraduate student in third or fourth year in Business Administration. The bursary will be awarded to a student in satisfactory academic standing and demonstrated financial need.

**Dr. Cal Hoyt Bursary in Business Administration**
Program code: UEBO-722
Value: $600
Awarded: Spring
Terms of reference: Granted to undergraduate students in the Faculty of Business Administration based on demonstrated financial need and satisfactory academic performance.

**Laing Property Endowment Fund Bursary**
Program code: UEBO-653
Value: $900
Awarded: Fall
Terms of reference: Full-time undergraduate students in the Faculty of Business Administration. The awards are based on financial need and satisfactory academic standing.

**R.J. McMaster Memorial Bursary (Credit Union Foundation of B.C.)**
Program code: UPBO-634
Value: $500
Awarded: Spring
Terms of reference: A student majoring in Business Administration who is entering or in the final year of studies and, who has taken or will be enrolled in BUS 393, BUEC 391 or BUEC 495. The basis of the bursary will be financial need and good academic standing.

**Pacific National Foundation Endowment Bursary**
Program code: UEBO-655
Value: $2000
Awarded: Fall
Terms of reference: A single parent, undergraduate student in the Faculty of Business Administration, Faculty of Education, Faculty of Applied Sciences or the Faculty of Science. The bursary will be granted to a student wishing to upgrade their professional skills. The student should have satisfactory academic standing and a demonstrated financial need. A letter expressing job goals and direction should accompany the application form.

**Rogers Sugar Ltd. Bursaries**
Program code: UPBO-553
Value: $1000
Awarded: Fall
Terms of reference: Undergraduate students, who are in their third or fourth year of study at Simon Fraser University. Two bursaries are available to students majoring in Business Administration, and three bursaries to students majoring in Economics, or the Sciences, including Mathematics and Statistics.

**Robert Rogow Bursary in Business Administration**
Program code: UEBO-727
Value: $750
Awarded: Spring
Terms of reference: An undergraduate student in the Faculty of Business Administration based on demonstrated financial need and satisfactory academic performance.

**J. Rose Memorial Bursary Fund**
Program code: UPBO-683
Value: $1400
Awarded: Spring
Terms of reference: An undergraduate or graduate Business Administration student who is in full time studies. The bursary will be granted on the basis of financial need and satisfactory academic performance. This bursary is provided by the Vancouver Foundation. A departmental recommendation is required.

**Seaspan International Bursary**
Program code: UPBO-686
Value: $750
Awarded: Fall
Terms of reference: A student, approved as a major, in Business Administration, who has satisfactory academic standing and financial need.

**Vancouver Executives Association Bursary in Business Administration**
Program code: UEBO-588
Value: $2000
Awarded: Fall
Terms of reference: A full-time undergraduate student in Business Administration. The bursary will be granted on the basis of demonstrated financial need and satisfactory academic standing.

**Charles S. Walker Bursary**
Program code: UEBO-731
Value: $250
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Faculty of Business Administration with a concentration in marketing.

**Bruce and Lis Welch Bursary in Business Administration**
Program code: UEBO-717
Value: $1000
Awarded: Summer
Terms of reference: Granted to undergraduate students in the Faculty of Business Administration based on demonstrated financial need and satisfactory performance.

**Bing Sum Yip Bursary in Business Administration**
Program code: UEBO-686
Value: $1000
Awarded: Fall
Terms of reference: An undergraduate student in the Faculty of Business Administration. The award will be granted to a student with a satisfactory academic record and demonstrated financial need.

**Elizabeth Young Memorial Bursary**
Program code: UEBO-695
Value: $500
Awarded: Fall
Terms of reference: One or more bursaries will be awarded to undergraduate female students in Business Administration who demonstrate satisfactory academic achievement and financial need.

**Bursaries for Education students**

**BC Exchange Teachers’ Association Bursary**
Program code: UPBO-594
Value: $300
Awarded: Summer
Terms of reference: Granted to undergraduate or graduate students in the Faculty of Education, in any semester based on demonstrated financial need and satisfactory academic performance.

**University Women’s Club of Vancouver/Jean Beatty Memorial Bursary in Education**
Program code: UEBO-519
Value: $600
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to a mature student in the Faculty of Education.
May Bennett Bursary Endowment Fund  
Program code: UEBO-585  
Value: $125  
Awarded: Fall  
Terms of reference: Undergraduate students in the Faculty of Education. Applicants should be prepared to teach in British Columbia and demonstrate dedication to the teaching profession.

Canadian Yugoslav Community Bursary in Education  
Program code: UEBO-703  
Value: $1000  
Awarded: Fall  
Terms of reference: An undergraduate third or fourth year student in the Faculty of Education. The bursary will be granted on the basis of demonstrated financial need and satisfactory academic performance.

Faculty of Education Special Bursary Fund Permanent Endowment  
Program code: UEBO-595  
Value: $1000  
Awarded: Fall Spring  
Terms of reference: A student enrolled in the Professional Development Program who is also enrolled in a minor in Learning Disabilities, and who is entering EDUC 405 in either Spring or Fall semester. The bursary is awarded for the semester in which EDUC 405 is undertaken.

Learning Disabilities Association of BC Bursary  
Program code: UPBO-593  
Value: $200  
Awarded: Fall  
Terms of reference: A student in the Faculty of Education working toward a minor in Learning Disabilities. Preference will be given to a graduate from the Delta School District.

Pacific National Foundation Endowment Bursary  
Program code: UEBO-655  
Value: $2000  
Awarded: Fall  
Terms of reference: A single parent, undergraduate student in the Faculty of Business Administration, Faculty of Education, Faculty of Applied Sciences or the Faculty of Science. The bursary will be granted to a student wishing to upgrade their professional skills. The student should have satisfactory academic standing and a demonstrated financial need. A letter expressing job goals and direction should accompany the application form.

Maureen Pollard Memorial Bursary  
Program code: UEBO-734  
Value: $300  
Awarded: Summer  
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Professional Development Program in the Faculty of Education. Preference, when possible, will be given to students in the Elementary stream.

Sylvia R.H. Rice Memorial Bursary  
Program code: UEBO-660  
Value: $1000  
Awarded: Fall  
Terms of reference: A first year student in PDP in the Faculty of Education. Satisfactory academic standing and demonstrated financial need is required.

Teacher Savings Credit Union Bursary  
Program code: UPBO-638  
Value: $500  
Awarded: Fall Spring  
Terms of reference: A student who is in a Bachelor of Education degree program, or who is enrolled in the Professional Development Program. Applicants must be members or sons and daughters of members of the BC Teachers Credit Union which should be clearly documented. A photograph will be required from the recipient.

Vancouver Elementary School Teachers Association Bursary  
Program code: UPBO-577  
Value: $600  
Awarded: Fall  
Terms of reference: Students who are residents of Vancouver or students who have attended a Vancouver elementary school and are proceeding to a degree or certificate in teaching. Recipients are selected also on the basis of need. The awards offered are as follows:  
• the Elizabeth Dobkins Memorial Bursary open to students entering third year in the Faculty of Education at Simon Fraser University  
• the Owen J. Thomas Memorial Bursary open to students entering the fourth year in the Faculty of Education at Simon Fraser University.

Bursaries for Science students

Undergraduate Biology Student Union Bursary  
Program code: UPBO-695  
Value: $250  
Awarded: Summer  
Terms of reference: One bursary valued at $100 will be available annually in any semester. The bursary, based on financial need, will be granted to an undergraduate student who is an approved biology major and is in good academic standing.

IODE Burnaby Municipal Chapter Bursary  
Program code: UEBO-659  
Value: $1000  
Awarded: Fall Spring  
Terms of reference: Third or fourth year students majoring in Science or Applied Science. Students must be Canadian citizens and graduates of Burnaby Senior Secondary School. Financial need and satisfactory academic standing is required.

Canadian Federation of University Women - North Vancouver Bursary  
Program code: UPBO-574  
Value: $1000  
Awarded: Spring  
Terms of reference: A female undergraduate student enrolled in the 2nd, 3rd, or 4th year in any math or science Faculty or Professional School. The recipient should be in financial need and in satisfactory academic standing. The recipient must be a resident of North Vancouver or a graduate of a North Vancouver Secondary School (School District #44).

Curzon-Digman Bursary  
Program code: UEBO-594  
Value: $1000  
Awarded: Fall Spring  
Terms of reference: Available to graduate students in physics or for majors or honours students in physics, mathematical physics, chemical physics, biophysics or other joint programmes with physics. These bursaries are subject to financial need and academic ability. Nominations will be made by the Chair of the Physics Department in consultation with Financial Assistance.

Delcan Corporation Bursaries  
Program code: UPBO-667  
Value: $1000  
Awarded: Spring  
Terms of reference: Undergraduate students registered full time at Simon Fraser University, in the faculties of Science or Applied Sciences. It is the intention of the Delcan Corporation to promote socio-environmental research and studies relative to major civil engineering projects; to support opportunities for women to enter careers at the management level in engineering; to increase high technological input into civil engineering, and to promote superior written and oral communication skills. Students will apply for these bursaries through Financial Assistance, and must include a letter of recommendation from the Office of the Dean of the major program.

Ralph Kerr Memorial Bursary Endowment Fund  
Program code: UEBO-599  
Value: $1200  
Awarded: Fall  
Terms of reference: Undergraduate students. Preference will be given to students who are in their third or fourth year of studies in the Physics or Engineering Programs. This bursary fund has been established in memory of Ralph Kerr, a charter member of Simon Fraser University and a former employee of the Physics Department.

Margaret Lawson McTaggart-Cowan Alumni Bursary  
Program code: UEBO-600  
Value: $700  
Awarded: Summer  
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Faculty of Science.

Pacific National Foundation Endowment Bursary  
Program code: UEBO-655  
Value: $2000  
Awarded: Fall  
Terms of reference: A single parent, undergraduate student in the Faculty of Business Administration, Faculty of Education, Faculty of Applied Sciences or the Faculty of Science. The bursary will be granted to a student wishing to upgrade their professional skills. The student should have satisfactory academic standing and a demonstrated financial need. A letter expressing job goals and direction should accompany the application form.

Rogers Sugar Ltd. Bursaries  
Program code: UPBO-553  
Value: $1000  
Awarded: Fall  
Terms of reference: Undergraduate students, who are in their third or fourth year of study at Simon Fraser University. Two bursaries are available to students majoring in Business Administration, and three bursaries to students majoring in Economics, or the Sciences, including Mathematics and Statistics.

Irene May Surbezy Bursary  
Program code: UEBO-723  
Value: $900  
Awarded: Spring  
Terms of reference: Granted to undergraduate students in the Faculty of Science or in the Faculty of Applied Sciences. The bursary is granted on the basis of demonstrated financial need and satisfactory academic performance.

Ken Turner Memorial Endowment Fund Bursary  
Program code: UEBO-639  
Value: $1000  
Awarded: Fall Spring  
Terms of reference: Third or fourth year undergraduate students with a specialization in Marine Biology. All students are welcome to apply, however, preference will be given to a student from the Kimberly area if all other qualifications have been met. This bursary is in memory of Ken Turner, a
Undergraduates must be registered in a minimum of nine semester hours of normal graded courses for the semester of eligibility. Challenge, audit, and credit free courses are not considered. Students who register in fewer than nine semester hours or subsequently drop below nine hours may have their awards cancelled.

- Graduate students must be registered for residence credit in an approved full time program in the semester of eligibility. Students who do not register or subsequently change to an on-line status may have their awards cancelled.

- Candidates must submit an application form to Financial Assistance or be nominated by a member (or members) of the Simon Fraser University faculty, staff, student body or alumni. Individuals submitting a nomination for an award must file the nomination form with Financial Assistance.

- Normally, only one intervening semester will be allowed between the semester in which the registered student made their contributions and the semester in which the award is adjudicated.

- Where contributions are over and above usual expectations, remunerated or assigned activities, such as course assignments or teaching duties, may be considered for recognition.

- Unless otherwise stated, awards are tenable only at Simon Fraser University for the semester indicated on the notice and may not be deferred.

### B.C. Sugar Achievement Award

*Program code: UEAO-526*

*Value: $5000*

*Awarded: Summer*

*Terms of reference: Granted to an SFU faculty, staff member, student or multiple of the same who meet the following criteria: winner of national or international competition, or recipient of national or international prize or award; history of leadership in the recipient's field; accomplishments relate directly to responsibilities of an individual or group should be forwarded to the Director, Student Academic Resources by April 15th of each year. Nominations should include a description of the nominee's achievements, a curriculum vitae (if appropriate), and three letters of recommendation.*

### Deans' Convocation Medals

*Program code: UUAO-002*

*Value: $1000*

*Awarded: Summer*

*Terms of reference: A graduating student from each faculty. The dean of the respective faculty will recommend a student who is from the top 5% of graduating students within that faculty. The top 5% is defined by cumulative GPA. All nominations are to be forwarded to the assistant to the registrar.*

### Terry Fox Gold Medal

*Program code: UUAO-001*

*Value: $500*

*Awarded: Spring*

*Terms of reference: These awards are made following a competition among the pipers and drummers on campus. A cash award will be made to the student judged best in each of the two categories. In addition, a cash award may also be made to the student who has contributed most significantly to the development of Highland tradition at Simon Fraser University.*

### Gandhi Essay Award

*Program code: UPAO-034*

*Value: $350*

*Awarded: Fall*

*Terms of reference: Any person who has demonstrated those personal qualities of courage in adversity and dedication to society which have been exemplified by Terry Fox and his Marathon of Hope. All nominations should be made directly to Financial Assistance.*

### Governor General's Silver Medal

*Program code: UUAO-001*

*Value: $5000*

*Awarded: Summer*

*Terms of reference: The silver medal will be awarded to the student whose record, in the opinion of the faculties, is the most outstanding in the graduating classes in any faculty. Eligible candidates should have completed a minimum of 60 semester hours at Simon Fraser University. The award shall be made to the student who has maintained a high scholastic standing during not fewer than six semesters or the equivalent of 60 semester hours or more at Simon Fraser University.*

### Stephen Harold Edward Herring Prize

*Program code: UEAO-048*
Awarded: Summer
Terms of reference: The Herring Prize will honour the development of a device or innovative way to restore lost functions and provide increased independence for people who have been paralyzed. Submissions will be evaluated by the Herring Committee based on the originality of the research, keeping in mind the contribution of direct and effective research in alleviation and curing injuries made by impact that cause any paralysis. Eligible candidates will be graduate or undergraduate students at SFU in any faculty. The submission should include a description of the research, device or innovation to alleviate or cure injuries causing paralysis and two letters of support from faculty who know the student well and can attest to the originality of the research and role played by the student. Submissions should be sent to the Director, Student Academic Resources by April 15th. The Herring Prize will be awarded at the February Awards Ceremony in the following year. The award will be made by the senate undergraduate awards adjudication committee on the nomination of the Stephen Herring Prize Committee.

Hong Kong University BC Alumni Award
Program code: UEAO-538
Value: $1500
Awarded: Spring
Terms of reference: A Co-op student in any faculty who is doing his/her work placement in Hong Kong. The award is intended to offset travel and/or living expenses for the period of time (not exceeding one year) spent in Hong Kong. The award will be made by the senate undergraduate awards adjudication committee on the recommendation of the co-operative education program director.

Honor Roll
Program code: N/A
Awarded: Fall Spring Summer
Terms of reference: A limited number of students will be admitted each semester to the University honor roll, on the basis of excellent work completed in the previous semester. This award will be shown on the student’s permanent record. Admission to the honor roll requires that the student:
- must have completed a minimum of 30 semester hours at Simon Fraser University by the end of the semester being evaluated
- must have completed at least 12 semester hours of credit in the semester being evaluated
- must achieve a minimum semester GPA of 4.00 calculated on all normally graded courses completed in the semester being evaluated.

Judy Kelly Humanitarian Award
Program code: UEAO-522
Value: $200
Awarded: Summer
Terms of reference: An undergraduate student in any Faculty who has provided volunteer services to the university community. Particular preference will be given to students who have provided aid to students with physical disabilities. Applicants may apply for the award themselves, or may be recommended by a member of the university community.

Barry and E. Anne Macdonald Asia-Canada Awards
Program code: UEAO-525
Value: $1200
Awarded: Summer
Terms of reference: Awarded on a competitive basis to undergraduate students in the Asia-Canada Program, and may be used to support travel and/or living expenses for a student attending an Asian Field School (e.g. but not limited to, the Chinese Field School). From time to time, funds may be used to support the community outreach activities of the Asia-Canada Program. The award will be made by the senate undergraduate awards adjudication committee on the nomination of the Dean of Arts or his/her designate.

Iain Ormsaig MacKinnon Memorial Fund
Program code: UEAO-045
Value: $1500
Awarded: Fall
Terms of reference: An undergraduate student in any faculty. The award is for a student who plays the bagpipe, either as a solo musician or as part of the SFU Pipe Band or another pipe band and has a CGPA of 3.25+. Applications for this award should include a letter of reference from an appropriate individual discussing the applicant’s activities as a piper or participation in a pipe band.

Muslim Students’ Association Award
Program code: UPAO-183
Value: $300
Awarded: Fall
Terms of reference: One award valued at $300 will be available annually in the Fall semester. The award is granted to an undergraduate student in good academic standing from any faculty. The successful applicant will be involved in the Muslim Students’ Association for two semesters promoting better understanding and open dialogue between Muslims and the campus community at large. The applicant should submit a letter detailing his/her volunteer activities and a brief synopsis of how this activity helped to promote Islamic awareness.

C.D. Nelson Memorial Prize
Program code: UEAO-019
Value: $500
Awarded: Summer
Terms of reference: The C.D. Nelson Memorial Prize was established at Simon Fraser University in 1975 in memory of Professor C.D. Nelson, first head of Biological Sciences, who gave so fully of himself to the whole University community. One C.D. Nelson Memorial Prize, valued at approximately $500 for the purchase of a Work of Art, will be awarded annually. The prize will be granted to a current or retired faculty or staff member, or to a current student who has made an outstanding contribution to Simon Fraser University other than normal or academic work. Nominations are to be made through Student Academic Resources, Office of the Registrar. The Prize will be made by the senate undergraduate awards adjudication committee.

Eileen Purkiss Memorial Endowment Award
Program code: UEAO-023
Value: $100
Awarded: Summer
Terms of reference: To graduate and undergraduate international students. In adjudicating the award, consideration will be given to the special contributions made by the student to the social and cultural exchange and development of international students at Simon Fraser University with specific reference to volunteer service, promotion of goodwill, and the organization of social, cultural and related events. Applications or nominations may be made through Financial Assistance with appropriate letters of reference. The endowment fund is established in memory of Eileen Purkiss.

Gordon M. Shrum Gold Medal
Program code: UPAO-002
Value: $500
Awarded: Summer
Terms of reference: An award of a gold medal and $500 is to be awarded in May of each year to an outstanding student in any faculty who has completed the requirements for the Bachelor’s degree during the preceding Summer, Fall or Spring semester. The award shall be made to the student who has maintained a high scholastic standing during not fewer than six semesters or the equivalent of 60 hours or more at Simon Fraser University and who, by participating in extracurricular activities, has shown outstanding qualities of character and unselfish devotion to Simon Fraser University. The award shall be made upon the recommendation of the Awards Committee after consultation with members of the faculty and representatives of the student body.

Simon Fraser University Pipe Band Memorial Award
Program code: UEAO-043
Value: $1000
Awarded: Fall
Terms of reference: A Simon Fraser University student playing with the University Pipe Band who has particular promise in piping or drumming and who has maintained a satisfactory academic record. Recommendation is required from the SFU Pipe Band Major.

Simon Fraser University Piping Award
Program code: UUAO-006
Value: $600
Awarded: Fall Spring Summer
Terms of reference: Students who are members of the Simon Fraser University Pipe Band in recognition of their significant contribution to the University. The Ceremonies Office will forward nominations to Financial Assistance.

Ted Sinnott Memorial Fund
Program code: UEAO-027
Value: $500
Awarded: Summer
Terms of reference: A student who has made a contribution of a voluntary nature, to the University community, thereby reflecting positively the cheer and goodwill which the late Ted Sinnott generated at Simon Fraser University for so many years. Nominations or applications will be received by Financial Assistance.

William A. (Bill) Stewart Volunteer Leadership Award
Program code: UEAO-049
Value: $100
Awarded: Summer
Terms of reference: To graduate or undergraduate students in any faculty whose volunteer activities have made a significant contribution to the development and/or improvement of campus community life. The application should include a letter from the student outlining his/her volunteer activities and the impact those activities have had on campus life.

Dr. Abe Unrau Memorial Co-op Prize
Program code: UEAO-039
Value: $400
Awarded: Summer
Terms of reference: An outstanding co-op student in any faculty who, at the time of graduation, has the highest cumulative grade point average and who has successfully completed a minimum of four work semesters. A student from the School of Engineering Science co-op program may also be considered if he/she has successfully completed three work terms and a research semester (the undergraduate thesis project) producing an undergraduate thesis. The award will be made by the senate undergraduate awards adjudication committee on the nomination of the director, co-operative education program.

Joan H. Walter Memorial Fund
Program code: UEAO-030
Value: $100
Awarded: Fall
Terms of reference: This award will be awarded biennially to a student who has been employed in the Tour Guide Service. Special consideration will be given to the student’s willingness to serve and personal commitment to the University community and to the degree to which Simon Fraser University
has been promoted with enthusiasm and accurate information. This fund has been established in memory of Joan H. Walter, formerly a Simon Fraser University student who demonstrated leadership and dedication in service to the university community. Participation on the wider community will also be considered. The granting of the prize will be based on evidence submitted by the applicant or by another person, group or association.

**Awards for Applied Sciences students**

**Communication Alumni Endowment Award**
Program code: UEAO-155
Value: $800
Awarded: Summer
Terms of reference: A third or fourth year undergraduate student in Communication who submits the best essay in the field of Communication.

**Computing Science Graduation Award**
Program code: UEAO-529
Value: $500
Awarded: Summer
Terms of reference: Top graduating student in Computing Science. If there are two students who qualify, the award will be given to the student who has demonstrated service to the computing science undergraduate student body or to the university. The award will be made by the senate undergraduate awards adjudication committee on the nomination of the Director or the School of Computing Science.

**Computing Science Student Society Award**
Program code: UEAO-042
Value: $500
Awarded: Fall Spring Summer
Terms of reference: Undergraduate students in Computing Science, who if declared majors, meet the GPA requirements to stay in the School, or if not a declared major, meet the School’s GPA requirements to declare. Candidates need not have completed all the courses required to declare a major in Computing Science. Applicants must demonstrate service to the University community in particular to the undergraduate Computing Science Student Society and/or the Computing Science undergraduate student body. Financial need may be taken into account if more than one student qualifies for the award.

Applications for the award should be submitted to the Director of the School of Computing Science and will include a letter discussing university community involvement or involvement with the Society. Recommendations from any member may be submitted to the Director. The awards will be made by the senate undergraduate awards adjudication committee on the nomination of the Director of the School of Computing Science in consultation with the undergraduate Computing Science Student Society.

**DMR Award in Information Technology**
Program code: UPAC-182
Value: $2000
Awarded: Spring
Terms of reference: Granted annually in any semester to a third or fourth year student pursuing either a joint major in information systems in business administration and computing science or a degree in the management and systems science program.

Applications should include an indication of the students’ interest in and work with information technology. The recipients of the DMR Awards may be eligible to be considered for a summer work term with DMR Consulting Group Inc.

**Electronic Arts Inc. Award of Excellence in Computing Science**
Program code: UPAC-186
Value: $500
Awarded: Summer
Terms of reference: Valued at $500, will be given to the top student in Computing Science. The award recipient will be invited to visit the Electronic Arts (Canada) Inc. Studio.

**Engineering Science Undergraduate Student Project Award**
Program code: UEAO-535
Value: $100
Awarded: Fall Spring Summer
Terms of reference: Given annually for projects proposed by SFU Engineering Science undergraduate students. The project proposals submitted for consideration should contain a description of the project, Category as noted below, the benefits to Engineering Science students, the university or industry, an implementation schedule including a timeline and a contact student who is registered, and a complete cost breakdown. The project can fall into one of four (4) categories that will be ranked according to the Rating Criteria (first Criteria being the highest).

Category A - Competition
- projects that will be entered to compete in competition
- rating criteria: within the scope of SFU Engineering Science, ambitious, team oriented, scientific merit
- awards will include travel costs associated with competition participation

Category B - Entrepreneurial
- projects that expect to produce a workable prototype. A brief Business Plan should be included in the project proposal
- rating criteria: pragmatic, cost effective, visionary

Category C - Class
- projects that originated from an Engineering Science class or a special projects laboratory
- rating criteria: originality, usability, team oriented

Category D - Miscellaneous
- travel and projects not covered under Category A through C and/or purchase of Lab Equipment and/or teaching aids

The Award(s) will be granted by the senate undergraduate awards adjudication committee on the nominations of the Funding Council and the Director of the School of Engineering Science.

**First Marathon Inc. Award in Kinesiology**
Program code: UEAO-533
Value: $2000
Awarded: Fall
Terms of reference: Available to Kinesiology Major and Honours students interested in developing a career in Sport Science or the Fitness Industry. Tenure and remuneration from the award shall extend over three semesters. Candidates must have completed at least 80 hours of course work towards a B.Sc. degree in Kinesiology usually with a 3.0 GPA. Candidates must already be in possession of CPR, RFA and preferably, an Industrial First Aid certification. The successful candidate will work under the supervision in the Tong Louie Human Performance Centre a minimum 5 hours per week in each of 2 semesters. Suitable candidates on completion of 2 semesters of supervised study will be offered an opportunity to work independently as a consultant in the Centre for the remaining semester of the award. Applications for the award will be received by the Director, School of Kinesiology in August each year. Selection will be made by the Director of the Tong Louie Human Performance Centre and the Director of the School of Kinesiology and announced on the 1st of September.

**Glenayre Award in Engineering Science/Computing Science**
Program code: UPAC-173
Value: $1500
Awarded: Fall
Terms of reference: Undergraduate students in the School of Engineering Science or the School of Computing Science. The Glenayre Awards will be granted to the best senior projects that show the students’ interest and aptitude in one or more areas pertaining to Glenayre’s business, including wireless data communications, embedded systems programming, communications protocol design, digital signal processing, applications of operating systems to real-time problems, communication network management, and communication systems hardware design. A letter of recommendation from the faculty member supervising the student’s senior project should be submitted with the application. The award will be made by the senate undergraduate awards adjudication committee.

**Management and Systems Science Prize**
Program code: UEAO-040
Value: $250
Awarded: Summer
Terms of reference: The Management and Systems Science Graduation Prize is an annual award valued at approximately 20% of the awardable income from the Management and Systems Science Endowment. The award will be given to an outstanding graduating student who has exhibited leadership through entrepreneurial skills, contribution to the program or contribution to the university in general. To be eligible, a student must be completing his/her degree in the preceding Fall semester, the Spring semester of the award or the Summer semester following the award. Students may be nominated for the award by faculty members in any of the constituent departments of the MSSC program, the executive of MSSC Student Society or Co-op coordinators placing MSSC students. The Management and Systems Science Prize provides an annual award valued at approximately 80% of the awardable income from the Management and Systems Science Endowment. Two prizes are available to students with an approved MSSC major or honors program and a minimum GPA of 3.00. One prize will be given to a student in their third year of the program and one prize to a student in the fourth year or higher. Preference should be given...
to a student who has not previously received the award.

**Radio Station CHMB AM1320 Award in Communication**  
Program code: UEAO-523  
Value: $2000  
Awarded: Spring

Terms of reference: Available to a student enrolled in the Communications Honors program to assist with the cost of completing the Honors project. Preference will be given to a multi-lingual student whose Honors project addresses issues regarding the diversity of languages and cultures in the Greater Vancouver area with a focus on the role of the mass media, preferably radio. The award will be made by the senate undergraduate awards adjudication committee on the nomination of the Director, School of Communication.

**Rogers Communications Inc. Award in Communication**  
Program code: UEAO-120  
Value: $2000  
Awarded: Spring

Terms of reference: Student enrolled in the Communications Honors program to assist with the cost of completing the Honors project. Preference will be given to a student whose Honors project addresses recent issues in Communication (e.g., relating to television or to the production of a video). The award will be made by the senate undergraduate awards adjudication committee on the nomination of the Director, School of Communication.

**University Publishers Award in Engineering**  
Program code: UEAO-536  
Value: $400  
Awarded: Fall

Terms of reference: To a student in the School of Engineering Science based on academic merit and his/her participation in student government as an officer. The successful applicant may be involved as an Officer in the Engineering Undergraduate Student Society (EUS) or in the campus-wide SFU Student Society. Departmental nomination is required.

**Award for Arts students**

**Archaeometry Prize Endowment Fund**  
Program code: UEAO-003  
Value: $200  
Awarded: Summer

Terms of reference: Either an undergraduate or graduate student who has shown exceptional scholarship and an interest in the application of Physical Science to Archaeology. This prize will be awarded by the senate undergraduate awards adjudication committee on the nomination of the faculty members involved in Archaeometry.

**Noel Archambault Memorial Award in Film**  
Program code: UEAO-050  
Value: $900  
Awarded: Summer

Terms of reference: Granted to an undergraduate student in the School for Contemporary Arts, film major program whose fourth year film/video project best invokes Noel Archambault’s spirit of independence, innovation and technical ingenuity. The award will be adjudicated on the basis of the proposal for their upcoming fourth year film or video project the film major students present at the conclusion of their third year in the film program. The award will be made by the senate undergraduate awards adjudication committee on the nomination of the director, School for Contemporary Arts.

**Jane Austen Society Prize**  
Program code: UPAO-132  
Value: $100  
Awarded: Summer

Terms of reference: A student for the best essay by an upper-level undergraduate student on the subject of Jane Austen, her life, works, or closely related social history. The award will be made by the senate undergraduate awards adjudication committee on the recommendation of the English Department. Applications and/or nominations to be forwarded to the Dean of Graduate Studies office for adjudication.

**G.A.B.C. Chuck Bayley Memorial Award**  
Program code: UPAO-519  
Value: $1500  
Awarded: Fall

Terms of reference: Graduate or undergraduate students, full or part-time, who have through volunteer or paid work experience demonstrated an aptitude for and interest in the field of Gerontology. The award will be made by the senate undergraduate awards adjudication committee on the nomination of the Gerontology Alumni Chapter.

**British Canadian Chamber of Trade and Commerce Essay Prize in British History**  
Program code: UPAO-184  
Value: $200  
Awarded: Summer

Terms of reference: The British Canadian Chamber of Trade and Commerce provides a $200 essay prize in the Spring Semester to the undergraduate student producing a superior term essay or report on the subject of British history. Special consideration will be given for originality in analysis and treatment of the area. Essays should be submitted to the Undergraduate Studies Committee in History by April 15th, and must have been written in one of the three previous semesters.

**British Columbia Psychological Association Award**  
Program code: UPAO-005  
Awarded: Summer

Terms of reference: A certificate of excellence will be awarded for outstanding achievement in the study of Psychology to a graduating student who has completed the requirements for a Bachelors degree over the previous Summer, Fall, or Spring semester.

**Richard P. Brolly Prize**  
Program code: UPAO-185  
Value: $350  
Awarded: Summer

Terms of reference: One award of $350 will be made available at the end of Spring semester to a student producing an outstanding paper/essay on any topic in archaeology. The paper/essay will have been written in the previous Spring, Fall or Summer semester. Papers should be submitted to the Department of Archaeology Undergraduate Curriculum Committee. Papers may be submitted for consideration by the author(s) or by the instructor.

**Robert C. Brown Award**  
Program code: UEAO-195  
Value: $2000  
Awarded: Summer

Terms of reference: A student in the Faculty of Arts who has completed a minimum of 60 credit hours at the University. The recipient will have demonstrated a combination of outstanding academic achievement and outstanding performance or leadership in another endeavour at Simon Fraser. This may be in athletics, in service to the University, or in representing the University to the community at large. The Robert C. Brown Endowment Fund was established to recognize the outstanding contributions of Dr. Robert C. Brown to Simon Fraser University, and particularly to the Faculty of Arts where, for fifteen years he was Dean. Nominations, including the nominee’s résumé, should be forwarded to Financial Assistance.

**Bureau du Quebec Book Prizes in Quebec Studies**  
Program code: UEAO-531  
Awarded: Summer

Terms of reference: To one top ranking undergraduate student and one top ranking graduate student in the Department of French having a concentration in Quebec studies within the Department’s French-Canadian course offerings, including Quebec literature and/or linguistics. The awards will be made by the senate undergraduate awards adjudication committee and the Senate Graduate Awards Adjudication Committee on the recommendation of the Chair, Department of French. The Department of French reserves the right to withhold one or both prizes in any given year.

**Bice Caple Awards**  
Program code: UUAO-005  
Value: $1000  
Awarded: Fall

Terms of reference: Outstanding contribution to the Fine Arts at Simon Fraser University during the previous year.

During the tenure of the award each recipient must:  
• be a registered student at Simon Fraser University  
• pursue a course of studies and demonstrate academic competence  
• continue to be active in Arts at Simon Fraser University

Normally, the award may be held only once, but in no case may an individual receive the award more than twice. Each recipient will be nominated by the Director of the School of the Contemporary Arts, the award of $1,000 will be disbursed in two equal installments, one in the Fall semester and one in the Spring semester.

**Simon Fraser University Service Awards (Contemporary Arts)**  
Program code: UUAO-000  
Value: $100  
Awarded: Fall

Terms of reference: Students in the School for Contemporary Arts who have made a significant contribution in their field of study. Candidates must have been registered in a minimum of 6 credit hours (hours with a calculated GPA) with satisfactory academic standing in the qualifying semester of contribution. Graduate students may also be recognized for these awards.

**Laurence Mervyn Cox Internships in the Centre for Research in Academic Writing**  
Program code: UEAO-528  
Value: $4000  
Awarded: Fall

Terms of reference: An internship may be granted to a third or fourth year undergraduate student in the Department of English who has demonstrated an excellent command of written and spoken English. The applicant should be a Canadian citizen or a permanent resident of Canada. The application will include samples of at least two pieces of the applicant’s written work. When possible, preference will be given to students in financial need. The successful applicant(s) will intern in the Writing Centre for one semester. The award will be made by the senate undergraduate awards adjudication committee on the recommendation of the Chair, Department of English.

**Downtown Vancouver Association Award in Urban Studies**  
Program code: UEAO-047  
Value: $800  
Awarded: Summer

Terms of reference: Granted to a student in the Post Baccalaureate Program in Urban Studies who submits the best essay or project in a given year. The
Awarded: Fall
Value: $500
Terms of reference: An undergraduate mature student whose area of study is Gerontology. A departmental nomination is required from the Chair of Gerontology.

**Al Eisenring Gerontology Award**
Program code: UEAO-041
Value: $900
Awarded: Fall
Terms of reference: An undergraduate mature student whose area of study is Gerontology. A departmental nomination is required from the Chair of Gerontology.

**European History Book Prize**
Program code: UEAO-174
Value: $200
Awarded: Summer
Terms of reference: The author of a superior undergraduate term report or essay on any topic concerning European history. Special consideration will be given for originality in analysis and treatment of the area. Essays are to be submitted to the History department by April 15th and must have been written in one of the three previous semesters. The department of History awards committee will make a nomination to the senate undergraduate awards adjudication committee. The History department will undertake to publicize and adjudicate the essay competition.

**Ingrid Nystrom Archaeology Award**
Program code: UEAO-180
Value: $1000
Awarded: Summer
Terms of reference: An undergraduate student majoring in Archaeology to further studies in archaeology or physical anthropology. Please consult the Archaeology Department for further details and application procedures by November 1st.

**Dr. M. Sheila O'Connell Prize for Children's Literature**
Program code: UEAO-534
Value: $1500
Awarded: Summer
Terms of reference: For the best essay written by an undergraduate upper-level student enrolled in a Canadian history course at Simon Fraser University. Preference, when possible, will be given to students who have returned to full-time studies subsequent to a substantial interruption of their academic career after secondary school.

**Ingrid Nystrom Archaeology Award**
Program code: UEAO-180
Value: $1000
Awarded: Summer
Terms of reference: An undergraduate student majoring in Archaeology to further studies in archaeology or physical anthropology. Please consult the Archaeology Department for further details and application procedures by November 1st.

**Betty Lambert Memorial Prize**
Program code: UEAO-014
Value: $200
Awarded: Spring
Terms of reference: A female student in honors or majoring in English with a gpa of 4.0. The award will be based on the best unpublished essay. The prize will be based on the best unpublished essay. The recipient will be expected to give a talk on their work. The recipient will be expected to give a talk on their work. The recipient will be expected to give a talk on their work. The recipient will be expected to give a talk on their work.

**F.W. Sullivan Visual Arts Award**
Program code: UPPO-028
Value: $50
Awarded: Summer
Terms of reference: A student enrolled in Psychology 490/499. The award will be based on the quality of research conducted for the Honours Project. The recipient will be expected to give a talk on their work. The recipient will be expected to give a talk on their work. The recipient will be expected to give a talk on their work. The recipient will be expected to give a talk on their work.

**Robert L Stanfield Book Prize**
Program code: UEAO-028
Value: $50
Awarded: Summer
Terms of reference: Outstanding graduating students in Political Science. The award will be made by the senate undergraduate awards adjudication committee on the nomination of the Chair of Political Science Department.

**Simon Fraser University Gold Medal and Prize In History**
Program code: UPPO-026
Value: $0
Awarded: Summer
Terms of reference: The Department of History wishes to recognize and encourage academic excellence with the award of a medal to the best history student in each graduating year. The award will be based on the best grade point average for upper level work.

**Winnie Topping Memorial Prize**
Program code: UEAO-032
Value: $50
Awarded: Summer
Terms of reference: A female student in honors Anthropology or Sociology who shows the greatest promise of becoming both a scholar and a humanitarian. Applicants must submit a letter of
nomination from a faculty member of the Department of Sociology and Anthropology.

Volunteers of the Burnaby Art Gallery Award in Visual Arts
Program code: UEAO-046
Value: $700
Awarded: Summer
Terms of reference: The most promising student in third year in the Visual Arts major program. The award will be made by the senate undergraduate awards adjudication committee on the nomination of the School for the Contemporary Arts Department Awards Committee.

Brian Williamson Memorial Award in Archaeology
Program code: UEAO-515
Value: $700
Awarded: Spring
Terms of reference: A student who has declared a major in Archaeology, is registered in a minimum of 9 credit hours (not necessarily in Archaeology) when application is made and intends to use the Award to help defray travel costs to participate in field research in Archaeology or Physical Anthropology. The Award will be based on use of the Award, academic achievements, and relevance of travel to the applicant's academic career. Applications should be sent in writing to the Chair, Department of Archaeology. The application should include: evidence that the student is an Archaeology major in good academic standing, copy of most recent transcript, a statement describing how the Award will be used and any other relevant information that will aid the Committees in their decision. The award will be made by the senate undergraduate awards adjudication committee on the nomination of the Department of Archaeology undergraduate Awards committee.

Awards for Business Administration students
Peter R.B. Armstrong/Rocky Mountaineer Award for Entrepreneurship
Program code: UEAO-051
Value: $2500
Awarded: Fall
Terms of reference: Granted to 3rd or 4th year students in the Faculty of Business Administration who have evidenced or achieved some level of entrepreneurial activities. Applications should include a letter discussing the student's interest and involvement in entrepreneurial activities.

Samuel Belzberg Award of Excellence in Finance
Program code: UEAO-035
Value: $200
Awarded: Summer
Terms of reference: An outstanding graduating student in Finance who has also made an important voluntary contribution to the University community or who has otherwise demonstrated leadership and management capability. The award is supported by The Diamond Fund in Business. A departmental nomination is required.

Business Administration Students Endowment Fund Prizes
Program code: UEAO-006
Value: $100
Awarded: Summer
Terms of reference: The two finalists in the Dean's Medal competition. Students will be chosen by the Dean of Business Administration.

Cohen Fund in Business - J. Segal Prize
Program code: UEAO-036
Value: $400
Awarded: Summer
Terms of reference: The top undergraduate graduating Business Administration student in Marketing. This prize is supported by the Cohen Fund in Business. Departmental nomination is required.

DMR Award in Information Technology
Program code: UPAO-182
Value: $2000
Awarded: Spring
Terms of reference: Granted annually in any semester to a third or fourth year student pursuing either a joint major in information systems in business administration and computing science or a degree in the management and systems science program. Applications should include an indication of the students' interest in and work with information technology. The recipients of the DMR Awards may be eligible to be considered for a summer work term with DMR Consulting Group Inc.

Institute of Chartered Accountants of British Columbia/Simon Fraser University Co-operative Education Program Award
Program code: UPBO-562
Value: $2000
Awarded: Spring
Terms of reference: A full-time undergraduate student enrolled in the Faculty of Business Administration Co-operative Education Program (CA stream), on the basis of the nominations received from the Faculty of Business Administration's Co-operative Accounting program. The award will be based upon academic performance (consideration given to improved academic performance), reports of practicum work performance and the need for financial support. Candidates should have completed at least one practicum work semester after being accepted into the Co-operative Education Program, before eligibility is determined.

SFU Accounting Club Award
Program code: UPAO-161
Value: $200
Awarded: Spring
Terms of reference: A student in the Faculty of Business Administration with a concentration in accounting. The award is based on academic merit and extra-curricular involvement. The successful applicant should have a minimum CGPA of 3.5. Extra-curricular interests can include active memberships in clubs, volunteer experiences, sports activities and community involvement. Along with the application, applicants should submit a personal letter outlining their extra-curricular interests and a supporting letter of reference.

University Publishers Award in Business Administration
Program code: UPAO-179
Value: $200
Awarded: Spring
Terms of reference: Grant to a student in the Faculty of Business Administration based on academic merit and his/her participation in student government as an officer. The successful applicant may be involved as an officer in the Business Administration Student Society (BASS) or in the campus-wide SFU Student Society. Applicants must submit a resume and a letter documenting their involvement in BASS or the Student Society.

Awards for Education students
Jean G.K. Bailey Memorial Fund
Program code: UEAO-004
Value: $0
Awarded: Summer
Terms of reference: A student who entered the Professional Development Program in September, and a student who entered in January. The awards will be a three year membership in the National Society for the study of Education.

Dr. Maxwell A. Cameron Memorial Medals and Prize
Program code: UPAO-007
Value: $100
Awarded: Summer
Terms of reference: Granted to students in the Faculty of Education, one to a student in the elementary or middle school stream, and another to a student in the secondary stream. The prizes will be given in the summer semester to the outstanding student in each stream based on his/her academic accomplishments and overall performance during the completion of the Professional Development Program practica. The prizes commemorate the distinguished life and work of Dr. Maxwell A. Cameron (1907-1951), first director of the School of Education at the University of British Columbia and author of the Cameron Report on Education.

Claude E. Lewis Award
Program code: UEAO-015
Value: $50
Awarded: Summer
Terms of reference: Students who have demonstrated excellence in overall performance during completion of the Professional Development Program in the Faculty of Education.

Dr. M. Sheila O’Connell Prize for Children’s Literature
Program code: UEAO-034
Value: $1500
Awarded: Summer
Terms of reference: An undergraduate student who has completed work in the general subject area of children’s literature, fiction or criticism or is working towards publication of a piece of children’s literature. A proposal outlining the story should be forwarded by candidates to the cross-disciplinary committee from the Faculty of Education, the Department of English and the School of Communication. The award will be made by the senate undergraduate awards adjudication committee on the recommendation of the joint committee.

Professional Development Program Awards of Excellence
Program code: UUAO-003
Value: $500
Awarded: Summer
Terms of reference: In recognition of excellence in overall performance during the 401/402 and 405 practica as well as demonstrated potential for future professional growth. Nominations may come from self, faculty, school associates or other student teachers. Contact the Faculty of Education for further information.

Awards for Science students
Archaeometry Prize Endowment Fund
Program code: UEAO-003
Value: $200
Awarded: Summer
Terms of reference: Either an undergraduate or graduate student who has shown exceptional scholarship and an interest in the application of Physical Science to Archaeology. This prize will be awarded by the senate undergraduate awards adjudication committee on the nomination of the faculty members involved in Archaeometry.

Biological Sciences Merit Award
Program code: UESO-205
Value: $1000
Awarded: Fall
Terms of reference: A Biology major who has the highest academic record at the conclusion of the sixth semester of study or the equivalent thereof. A student may receive this award only once during their undergraduate career. Awarded upon nomination of the Department of Biological Sciences.
Chemistry Book Award - Dr. E.J. Wells  
Program code: UEAO-008  
Value: $50  
Awarded: Summer  
Terms of reference: Outstanding graduation grade point averages to graduating students in Chemistry, Chemical Physics or Biochemistry.

Chemistry/Biochemistry Award  
Program code: UEAO-173  
Value: $800  
Awarded: Fall  
Terms of reference: An undergraduate student in the final year pursuing a major or honors degree in Chemistry or Biochemistry. The award will be granted to an outstanding student as judged by academic accomplishments and contributions to the department and to the University. Departmental nomination is required.

Dean of Science Award  
Program code: UEAO-009  
Value: $225  
Awarded: Fall  
Terms of reference: On the basis of academic merit to a student in the Faculty of Science, who has completed a minimum of 90 semester hours in a major or honors degree program. The prize will be based upon the student’s cumulative GPA in the previous two semesters of full-time study at Simon Fraser University (at least 12 semester hours credit in previous two semesters of full-time study at Simon Fraser University based upon the student’s cumulative GPA in the completed a minimum of 90 semester hours in a major program). The value of the award is $100.

DMR Award in Information Technology  
Program code: UPAO-182  
Value: $2000  
Awarded: Spring  
Terms of reference: Granted annually in any semester to a third or fourth year student pursuing either a joint major in information systems in business administration and computing science or a degree in the management and systems science program. Applications should include an indication of the students’ interest in and work with information technology. The recipients of the DMR Awards may be eligible to be considered for a summer work term with DMR Consulting Group Inc.

Rudi Haering Award in Physics  
Program code: UEAO-013  
Value: $300  
Awarded: Summer  
Terms of reference: On the nomination of the Physics Department to an outstanding Physics or Chemical Physics undergraduate who has completed six semesters of study. A book prize may be included as part of the award. Established by members of the Simon Fraser University Physics Department in honor and recognition of Dr. R.R. Haering, founding Department Head and Professor, 1964-72.

Management and Systems Science Prize  
Program code: UEAO-040  
Value: $250  
Awarded: Summer  
Terms of reference: The Management and Systems Science Graduation Prize is an annual award valued at approximately 20% of the awardable income from the Management and Systems Science Endowment. The award will be given to an outstanding graduating student who has exhibited leadership throughout his/her degree in the preceding Fall semester, the Spring semester of the award or the Summer semester following the award. Students may be nominated for the award by faculty members in any of the constituent departments of the MSSC program, the executive of MSSC Student Society or Co-op coordinators placing MSSC

Mathematics and Statistics Endowment Fund  
Program code: UPAO-024  
Value: $100  
Awarded: Fall  
Terms of reference: Awarded by the Department of Mathematics and Statistics to Simon Fraser University students listed as top participants in the William Lowell Putnam Mathematical Competition. The winners will be determined according to the official list provided by the organizers of this competition. The ranking and the financial value of the award are as follows.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Award</th>
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<tbody>
<tr>
<td>P (Putnam fellow)</td>
<td>$350</td>
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<td>N</td>
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<td>H</td>
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<td>I</td>
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<tr>
<td>II</td>
<td>$150</td>
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<tr>
<td>III</td>
<td>$100</td>
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</tbody>
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Webber Chemistry Co-op Book Prize  
Program code: UPAO-031  
Value: $50  
Awarded: Summer  
Terms of reference: Co-operative education chemistry (biochemistry) students who submit outstanding co-op work reports during the year. The awards will be made on the basis of nominations submitted to the senate committee on scholarships, awards and bursaries by the chemistry co-op co-ordinator.

Awards for student athletes  
Regulations for Athletic Awards  
The following regulations apply to athletic and recreation awards (see also page 44):  
- Students must have achieved a minimum cumulative grade point average of 2.0 in the previous semester and must not be on academic probation, or, in the case of a first semester or transfer student, must possess an equivalent high school or college standing.  
- Undergraduate students must be eligible to compete and be registered in a minimum of nine semester hours of normal graded courses in the semester of eligibility. Challenge, audit, and credit-free courses are not considered. Students who register in fewer than nine semester hours or subsequently drop below nine hours may have their awards cancelled.

- Graduate students must be eligible to compete and be registered for residence credit in an approved full-time program. Students who do not register or subsequently change to off-leave status may have their awards cancelled.
- Unless otherwise noted, candidates must be nominated by the director, campus community services.
- Only one intervening semester will be allowed between the semester in which the registered student made their contribution and the semester in which the award is adjudicated.
- Athletic awards are tenable only at the University for the semester indicated on the notice and may not be deferred.
- Funds will be credited to the successful student’s account with the University. Outstanding debts to the University will be deducted from the award funds before a cheque for the credit balance is issued.

Yolande D. Anderson Women’s Basketball Award  
Program code: UEAA-067  
Value: $800  
Awarded: Fall  
Terms of reference: The award is based on athletic merit in the women’s basketball program and will be awarded to a full- or part-time student in good standing who is on the Simon Fraser women’s basketball team and who demonstrates athletic ability in basketball.

G.F. Kym Anthony Endowment Fund  
Program code: UPAO-019  
Value: $1000  
Awarded: Fall  
Terms of reference: The award is based on athletic merit in the wrestling program and will be awarded to a full- or part-time student in good standing who is a wrestler attending Simon Fraser University.

Aon Reed Stenhouse Inc. Athletic Award  
Program code: UEAO-034  
Value: $500  
Awarded: Fall  
Terms of reference: Athletes who meet the academic requirements and demonstrate outstanding athletic ability.

Aqua-demic Award  
Program code: UPAO-019  
Value: $1000  
Awarded: Fall  
Terms of reference: The Aqua-demic Award, sponsored by Lis Welch, will be granted to an SFU student, in good academic standing, who exhibits outstanding athletic ability on the SFU Women’s Swimming and Diving team. The disbursement of award may be split between the Fall and Spring semesters.

C.G. “Chuck” Arnold Golf Award  
Program code: UEAO-002  
Value: $500  
Awarded: Fall  
Terms of reference: Two students who demonstrate outstanding ability in golf and meet the academic requirements. Preference will be given to residents of the Lower Mainland of BC.

Athlete Assistance Awards  
Program code: UUAO-105  
Value: $250  
Awarded: Fall  
Terms of reference: A number of awards are available each semester from funds raised by SFU athletic teams to assist student athletes in meeting educational costs. Candidates must be members of an SFU athletic team and have demonstrated dedication to their sport. Recipients must be registered in 9 credit hours and maintain a cpga of 2.0. Awards will be made by the Senate undergraduate awards adjudication committee on nominations from the Director of Recreational Services and Athletics.
Athletic Entrance Awards  
**Program code:** UUAO-104  
**Value:** $2000  
**Awarded:** Fall  
**Terms of reference:** A student athlete in any sport who has completed at least 90 semester hours of which at least 48 semester hours are at Simon Fraser University. The recipient will have completed their senior year of athletic eligibility as identified by the NAIA. The award will be announced at the March Awards banquet and will be given to a registered student in the summer, fall or spring semester to offset the tuition costs of the graduation year. The award must be granted within one year of notification. The terms of reference may be in writing by the student and/or SFU Head Golf Coach.

Jason Auramenko Endowed Golf Award  
**Program code:** UEAA-089  
**Value:** $250  
**Awarded:** Fall  
**Terms of reference:** To a student or students on the SFU Golf team who are in good academic standing. The recipient(s) must be graduate(s) of Canadian junior golf. Confirmation of these conditions may be in writing by the student and/or SFU Head Golf Coach.

Jason Auramenko Memorial Golf Award  
**Program code:** UPAA-016  
**Value:** $2000  
**Awarded:** Spring  
**Terms of reference:** A full-time student in good academic standing. The award will be awarded to students who meet the academic requirements and exhibit outstanding ability. The award may be given in either category if there are two equal candidates. Recipients must be full-time students. The awards will be granted at the Simon Fraser University Athletics Banquet.

Bank of Nova Scotia Football Award  
**Program code:** UEAO-003  
**Value:** $300  
**Awarded:** Fall  
**Terms of reference:** A student athlete in any sport who has completed at least 90 semester hours of which at least 48 semester hours are at Simon Fraser University. The recipient will have completed their senior year of athletic eligibility as identified by the NAIA. The award will be announced at the March Awards banquet and will be given to a registered student in the summer, fall or spring semester to offset the tuition costs of the graduation year. The award must be granted within one year of notification. The terms of reference may be in writing by the student and/or SFU Head Golf Coach.

BC Athlete Assistance Program  
**Program code:** UXAA-001  
**Value:** $250  
**Awarded:** Fall  
**Terms of reference:** The BC Athlete Assistance Program is funded by the provincial government in support of BC athletes in reaching athletic goals and encouraging the pursuit of academic education.

B.C. Central Credit Union Athletic Award  
**Program code:** UPAA-016  
**Value:** $300  
**Awarded:** Fall  
**Terms of reference:** A student athlete in any sport who has completed at least 90 semester hours of which at least 48 semester hours are at Simon Fraser University. The recipient will have completed their senior year of athletic eligibility as identified by the NAIA. The award will be announced at the March Awards banquet and will be given to a registered student in the summer, fall or spring semester to offset the tuition costs of the graduation year. The award must be granted within one year of notification. The terms of reference may be in writing by the student and/or SFU Head Golf Coach.

Coca-Cola Student Athlete Awards  
**Program code:** UUAO-018  
**Value:** $500  
**Awarded:** Fall  
**Terms of reference:** A student athlete in any sport who has completed at least 90 semester hours of which at least 48 semester hours are at Simon Fraser University. The recipient will have completed their senior year of athletic eligibility as identified by the NAIA. The award will be announced at the March Awards banquet and will be given to a registered student in the summer, fall or spring semester to offset the tuition costs of the graduation year. The award must be granted within one year of notification. The terms of reference may be in writing by the student and/or SFU Head Golf Coach.

Les and Greg Edgelow Wrestling Award  
**Program code:** UEAO-058  
**Value:** $375  
**Awarded:** Fall  
**Terms of reference:** A first year student (preference given to a student from the BC interior) in good standing who is on the Wrestling team. Preference will be given to a Centennial Senior Secondary School graduate.

Carrera Alumni Award in Wrestling  
**Program code:** UEAO-019  
**Value:** $1000  
**Awarded:** Fall  
**Terms of reference:** A student active in wrestling at Simon Fraser who meets the academic requirements. Preference will be given to a Centennial Senior Secondary School graduate.

Jim Ciccone Men's Basketball Award  
**Program code:** UEAO-084  
**Value:** $500  
**Awarded:** Fall  
**Terms of reference:** A full or part-time student in good standing who is attending Simon Fraser University and is on the Basketball team. Preference, when possible, will be given to SFU students from Northern BC, or to students from BC. The award is based on athletic merit in the Men’s Basketball Program.

Clansmen Athletic Alumni Society Award  
**Program code:** UPAA-013  
**Value:** $500  
**Awarded:** Fall  
**Terms of reference:** A student athlete in any sport who has completed at least 90 semester hours of which at least 48 semester hours are at Simon Fraser University. The recipient will have completed their senior year of athletic eligibility as identified by the NAIA. The award will be announced at the March Awards banquet and will be given to a registered student in the summer, fall or spring semester to offset the tuition costs of the graduation year. The award must be granted within one year of notification. The terms of reference may be in writing by the student and/or SFU Head Golf Coach.
Kelly Franks Memorial Swimming Award  
Program code: UEAA-090  
Value: $250  
Awarded: Fall Spring  
Terms of reference: The award is given to Simon Fraser University alumni who have demonstrated outstanding athletic ability as a member of the SFU Swimming Team who are in good academic standing. Preference will be given to alumni from Vancouver Island.  

Rick Hansen Athletic Award  
Program code: UUAO-103  
Value: $1400  
Awarded: Fall  
Terms of reference: A physically challenged student athlete who meets the general award requirement.

Robert F Harrison & Partners Athletic Award  
Program code: UEAA-051  
Value: $500  
Awarded: Fall  
Terms of reference: The interest from the endowment will be given each year to an athlete upon the recommendation of the Director of Athletics.  

Wayne Holm Football Scholarship Endowment Fund  
Program code: UEAA-023  
Value: $700  
Awarded: Fall  
Terms of reference: Students exhibiting exceptional ability in football and meeting the academic requirements.  

Ino-Canadian Wrestling Award  
Program code: UEAA-062  
Value: $150  
Awarded: Fall  
Terms of reference: A full or part-time student in good standing. The award is based on athletic merit in wrestling.

Intramural Involvement Award  
Program code: UEAA-086  
Value: $50  
Awarded: Fall  
Terms of reference: Students exhibiting exceptional ability in football and meeting the academic requirements.

Mike Jones Wrestling Award  
Program code: UEAA-053  
Value: $1000  
Awarded: Fall  
Terms of reference: A full-time or full-time student in good academic standing, based on athletic merit in the wrestling program.

Rick Jones Memorial Award  
Program code: UEAA-007  
Value: $250  
Awarded: Fall  
Terms of reference: One or more awards, available to full-time students in good academic standing. These awards are based on outstanding athletic merit in football. Preference will be given to students from Vancouver Island.

Keg Restaurants Ltd Athletic Award  
Program code: UEAA-026  
Value: $200  
Awarded: Fall Spring  
Terms of reference: An athlete who meets the academic requirements and demonstrates outstanding ability.

Nick Kiniski Wrestling Award  
Program code: UEAA-059  
Value: $200  
Awarded: Fall Spring  
Terms of reference: A full or part-time student in good standing who is on the football team at Simon Fraser University. The award is based on athletic merit in football.
Terms of reference: An undergraduate student involved in the University soccer program.

**SFU Athletic Award**  
Program code: UEAA-044  
Value: $500  
Awarded: Fall  
Terms of reference: The award will be given to undergraduate student athletes on a varsity team who hold a satisfactory academic standing.

**Simon Fraser University Swimming Alumni Endowment Fund**  
Program code: UEAA-024  
Value: $1200  
Awarded: Fall  
Terms of reference: Students who are members of the Valley Royals Track and Field team who meet the academic requirements.

**Simon Fraser University “The Challenge” Golf Award**  
Program code: UPAA-010  
Value: $2000  
Awarded: Fall Spring Summer  
Terms of reference: Recipient must be a full-time student in good standing and a member of Simon Fraser University’s men’s varsity golf team. He must be a graduate of Canadian junior golf and maintain throughout his four years of eligibility a level of play comparable with that of the top six team members. If a recipient forfeits year 2-4 portion of the award, the remaining portion may be awarded to another member of the golf team on the nomination of the head golf coach. The award schedule will be as follows:  
Year 1 - $5,000, Year 2 - $4,000, Year 3 - $3,000, Year 4 - $2,000

**Simon Fraser University Women’s Soccer Endowment Fund**  
Program code: UEAA-064  
Value: $150  
Awarded: Fall  
Terms of reference: Based on outstanding athletic merit, to a student playing women’s soccer at the University. The award will be granted to a full-time student in satisfactory academic standing.

**Team Skyline Ltd Athletic Award**  
Program code: UEAA-031  
Value: $400  
Awarded: Fall  
Terms of reference: An award is available to an athlete who exhibits outstanding athletic ability as well as maintains satisfactory academic performance.

**Softball Associations Presidents’ Award in Women’s Softball**  
Program code: UEAA-081  
Value: $100  
Awarded: Fall  
Terms of reference: Full- or part-time student in good standing who is attending Simon Fraser University and who is a member of the SFU women’s intercollegiate softball team. The recipient must also have been a member of one of the sponsoring associations for at least two years and be in good standing with Softball BC and their sponsoring association. The Award may be renewed annually if the athlete remains a member of the SFU women’s intercollegiate softball team.

**Sandra Spence Memorial Wrestling Award**  
Program code: UEAA-033  
Value: $1500  
Awarded: Fall  
Terms of reference: Students who are members of the Simon Fraser wrestling team and who meet the academic requirements.

**Victor V. Spencer Athletic Award**  
Program code: UEAA-046  
Value: $500  
Awarded: Fall  
Terms of reference: An award is available to an athlete who exhibits outstanding athletic ability as well as maintains satisfactory academic performance.

**Bob Spray Rugby Endowment**  
Program code: UEAA-025  
Value: $500  
Awarded: Spring  
Terms of reference: Rugby players enrolled at Simon Fraser University. This award is offered in recognition of significant contributions to the Simon Fraser University rugby team, or in recognition of excellence in extramural amateur rugby activities. Students must have achieved a minimum grade point average of 2.00 in the previous semester during tenure of the award. Applications should be submitted to the Simon Fraser University rugby coach in the previous Fall semester.

**Student-Athlete Support Award**  
Program code: UEAA-065  
Value: $250  
Awarded: Fall Spring Summer  
Terms of reference: Awards for student athletes. Must have minimum CGPA of 2.00, must be full-time students, and must be eligible to compete in their sport.

**Lynn K. Sully Athletic Award**  
Program code: UEAA-010  
Value: $200  
Awarded: Fall  
Terms of reference: Athletes who demonstrate outstanding athletic ability in basketball and meet the University academic requirements. This endowment is to provide two awards, one for football and one for basketball.

**Florence and Lynn Sully Basketball Scholarship**  
Program code: UEAA-021  
Value: $500  
Awarded: Fall  
Terms of reference: Athletes who exhibit exceptional ability in basketball and meet the University academic requirements.

**Brut Townsend Women’s Track and Field Award**  
Program code: UEAA-083  
Value: $200  
Awarded: Fall  
Terms of reference: A full-time student in good academic standing who is on the women’s track and field team at Simon Fraser University. Based also on athletic merit in track and field (preferably distance running).

**Jay Triano Basketball Award**  
Program code: UEAA-057  
Value: $300  
Awarded: Fall  
Terms of reference: A full or part time student in good standing. The award is based on athletic merit in basketball to a student who is on the Simon Fraser University basketball team.

**University Publishers Award**  
Program code: UEAO-125  
Value: $300  
Awarded: Fall  
Terms of reference: An athlete involved in the golf program who meets the academic requirements.

**Valley Royals Award in Track and Field**  
Program code: UPAA-014  
Value: $2000  
Awarded: Fall  
Terms of reference: To an SFU student who exhibits outstanding athletic merit on the SFU Track and Field team and who maintains a satisfactory academic standing. $2,000 in total will be awarded annually in two installments. Preference will be given to students who are members of the Valley Royals Track and Field Club. If a suitable candidate from the Valley Royals Club is not found in a given year, the Award may be granted to a student on the SFU Track and Field team who is from the Fraser Valley region (Zone 3) that includes Maple Ridge, Langley, Abbotsford, Mission, Agassiz, Coquitlam, Port Coquitlam and Hope. If neither a Valley Royals Club member nor a student from Zone 3 is available, the Award may be granted to a Track and Field team member from British Columbia or from Canada. The recipient may be granted the Valley Royals Award more than one time provided all criteria noted above are met.

**Vancouver Golf Club/MCL Motors Golf Tournament Award in Golf**  
Program code: UEAA-066  
Value: $100  
Awarded: Fall  
Terms of reference: Granted to a full-time student in good standing who is on the Golf team at Simon Fraser University.

**Vancouver Ski Club**  
Program code: UEAA-011  
Value: $500  
Awarded: Fall  
Terms of reference: To a student who has a combination of real talent in skiing and satisfactory academic background. Student should seek a nomination through the director of athletics.

**Water Polo Award**  
Program code: UEAA-082  
Value: $250  
Awarded: Fall  
Terms of reference: A full-time male student in good academic standing and based on outstanding athletic merit in the Water Polo Club.

**West Coast Reduction Ltd Athletic Award**  
Program code: UEAA-038  
Value: $700  
Awarded: Fall Spring  
Terms of reference: To a student athlete who exhibits exceptional ability in any inter-collegiate sport and maintains a good academic standing.

**White Rock Renegades Women’s Softball Awards**  
Program code: UEAA-045  
Value: $500  
Awarded: Fall  
Terms of reference: A member of the Simon Fraser University women’s intercollegiate softball team and must be a student at Simon Fraser University. The recipient must have been a member of the Renegade softball organization (South Surrey White Rock) for at least two complete seasons. The award will be made by the senate undergraduate awards adjudication committee on scholarships, awards and bursaries on the recommendation of the women’s softball coach and the director of athletics.

**University administered loans**

**Student Emergency Loan Fund Regulations**

The following regulations govern all loans for continuing students over which the University has jurisdiction.

- Short term emergency funds are available to students who urgently need money while awaiting other sources of funding.
- Emergency loans are interest free for a period of 60 days.
- Students must have a demonstrated financial need and source of repayment.
- Undergraduate students must be registered in a minimum of nine semester hours of normal graded courses in the semester of application. Challenge, audit, and credit free courses will not be considered.
Financial Assistance and Awards

- Graduate students must be registered for residence credit in an approved full-time program.
- Students must apply on the Simon Fraser University Emergency Loan application form and be interviewed by a Financial Assistance Advisor. It is the student’s responsibility to supply all requested documentation. Incomplete applications may be rejected.
- SFU Emergency Loans are tenable only at Simon Fraser University and only for the semester indicated on the notice.

Externally administered programs

Externally administered entrance scholarships

The following entrance scholarships are not administered by Simon Fraser University. The information is intended for general reference only; it may be subject to change. The student is responsible for enquiring and applying through the appropriate agency as indicated in the description.

External entrance scholarships for all students

Assoc. of Professional Engineers and Geoscientists of BC Scholarships

Deadline: June 1

Terms of reference: The Association of Professional Engineers and Geoscientists of the Province of British Columbia administers a number of entrance awards. Students may apply for many of the awards by virtue of their parents’ employment with the relevant donor companies. All awards are tenable for any recognized full-time degree course at any AUCC university or college. Candidates must be prepared to enter university in the year of competition. The closing date for receipt of completed applications is June 1st. Candidates must have an average of at least 70% in each of the last two years of secondary school and must send these results to the AUCC as soon as they are available.

Contact: Supervisor, Candidate Assessment International Relations and Scholarship Administration, AUCC, 600-350 Albert Street, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca. Web: www.aucc.ca

Association of Universities and Colleges of Canada Awards

Deadline: June 1

Terms of reference: The Association of Universities and Colleges of Canada (AUCC) administers a number of entrance awards. Students may apply for many of the awards by virtue of their parents’ employment with the relevant donor companies. All awards are tenable for any recognized full-time degree course at any AUCC university or college. Candidates must be prepared to enter university in the year of competition. The closing date for receipt of completed applications is June 1st. Candidates must have an average of at least 70% in each of the last two years of secondary school and must send these results to the AUCC as soon as they are available. Candidates must have an average of at least 70% in each of the last two years of secondary school and must send these results to the AUCC as soon as they are available.

Contact: Supervisor, Candidate Assessment International Relations and Scholarship Administration, AUCC, 600-350 Albert Street, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca. Web: www.aucc.ca

Canada Trust Scholarships for Outstanding Community Leadership

Deadline: November 6

Terms of reference: The Canada Trust Scholarships for Outstanding Community Leadership, established by Canada Trust in 1995, honour young Canadians who have demonstrated outstanding and consistent caring for the improvement of the community around them. The student will have identified a significant need in the community (for instance, among fellow young people, the elderly, the sick, the disadvantaged, or regarding the environment, the arts, or any other relevant area) and shown outstanding initiative in taking effective steps toward addressing it. Each Canada Trust Scholarship consists of:
- full tuition for up to four years of undergraduate study at any accredited college or university in Canada;
- $3,500 a year toward living expenses for up to four years while attending college or university; and
- guaranteed offer of summer employment at Canada Trust during the years of the scholarship.

The scholarships are open to:
- students across Canada who are in their final year of high school (outside of Quebec) or final year of CEGEP (in Quebec);
- students who have demonstrated outstanding community leadership (either in their school community, the community at large, or both); and
- students who have the academic skills to successfully enter and complete college or university.

The personal circumstances of applicants will also be considered, as it is recognized that doing good for others when one’s own particular circumstances are challenging is evidence of particularly outstanding commitment.

Contact: Application forms are available at Canada Trust branches and at high schools and CEGEPs across Canada. Contact: Canada Trust Scholarship Program, 161 Bay Street, 33rd Floor, Toronto, ON, M5J 2T2, Tel: 1-800-308-8306, Fax: (416) 361-4641.

Canadian Merit Scholarship Foundation

Deadline: unknown

Terms of reference: The Canadian Merit Scholarship Foundation (CMSF) annually awards three types of scholarships to students entering university from secondary school who have demonstrated academic excellence and the qualities of character, leadership and service to their school and the community. The CMSF National Award includes a cash grant of $3,250 per year (for a maximum of four years) from the Foundation and full tuition from one of the participating universities. The CMSF/Justens Regional Award is a non-renewable grant of $1,000 offered to a student attending one of the participating universities. The CMSF/Justens Provincial Award is a non-renewable grant of $500 offered to a student attending any university in Canada.

Contact: Application forms are available through secondary schools in all provinces and CEGEPs in Quebec.

Central Okanagan Teachers Association – A.S. Matheson Education Scholarship

Deadline: September 1

Terms of reference: A scholarship of $1,000 will be awarded annually to a son or daughter of a current or retired COTA member who is presently enrolled at a post-secondary institute and is proceeding into the first year of a teacher education program. The application must be accompanied with a letter of acceptance to the Faculty of Education and Teacher Education Program. The scholarship will be awarded by the COTA Scholarship Committee. In awarding the scholarship, the COTA Scholarship Committee will consider student ability and potential and accompanying letter or recommendation from a faculty member of an enrolled course in first year.

Contact: Central Okanagan Teachers’ Association, 210-1751 Harvey Avenue, Kelowna, BC, V1Y 6G4 Tel: (250) 860-3866, Fax: (250) 862-3024.

Terry Fox Humanitarian Award

Deadline: February 1

Terms of reference: In keeping with the spirit of his achievements, the Terry Fox Humanitarian Award Program is intended to encourage Canadian youth to seek the high ideals represented by Terry Fox by granting of commemorative scholarships for the pursuit of higher education. The Terry Fox Scholarship is a renewable award, subject to satisfactory progress, and is tenable at any Canadian university or college. The value of the award is $4,000 annually, for a maximum of four years or until a first degree is obtained. For candidates attending an educational institution in the provinces where no tuition fee is applicable, the award value is $2,500. The awards will be of particular interest to graduating secondary level students and those currently studying towards a first degree of diploma in a Canadian university or college. Scholarship candidates must be Canadian citizens or have landed immigrant status. They must not exceed 25 years of age. The field of study is open and at the discretion of the successful candidate. Demonstration of the highest ideals and qualities of citizenship will be criteria for selection of recipients. Further relevant qualities are courage in overcoming obstacles, involvement in humanitarian service and participation is sport, fitness and community service. Applications will be considered either directly or through academic institutions. Recommendations for scholarship assistance made by institutions will be an important factor in the final selection process. Successful Terry Fox scholars are expected to participate in Program activities such as volunteer service, recipients yearly meeting and annual reports.

Contact: Terry Fox Humanitarian Award Program, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A 1S6, Fax: (604) 291-3311.

Dr. L. M. Greene Scholarship

Deadline: May

Terms of reference: A scholarship in the amount of $500 and is awarded annually to a former Prince Rupert Senior Secondary School student who is interested in pursuing a vocation in any of the health care fields. Applications will normally be considered in May or June.

Contact: Prince Rupert Regional Hospital, 1305 Summit Avenue, Prince Rupert, BC, V8J 2A6.

William L. Hurford Memorial Scholarship

Deadline: June 30

Terms of reference: A scholarship of $1,200 is open to sons and daughters of members in good standing of the International Longshoremen’s and Warehousemen’s Union. It is awarded to a candidate who is proceeding in the Fall to a full first year program of studies at the University of British Columbia, the University of Victoria, Simon Fraser University, the BC Institute of Technology, or a regional college in British Columbia. Students may not hold more than one scholarship offered by the International Longshoremen’s and Warehousemen’s Union at any one time.

Contact: Award # 04786: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Imperial Oil Higher Education Awards

Deadline: unknown

Terms of reference: The Higher Education Awards program provides full tuition and compulsory fees for sons and daughters of Imperial Oil Limited employees, annuitants, or deceased employees. The applicant must begin their education within six years of starting secondary school (grade nine) and must have an average of 70% or more in the subjects required for admission by the institution. Once an award is granted, the student must pass all subjects and complete a full workload each year.

Contact: Administrative Management Services, Awards Division, PO Box 414, Pickering ON, L1V 2P6, Tel: (416) 420-0642.

International Longshoremen’s and Warehousemen’s Union Harry Bridges Entrance Scholarships

Deadline: June 30

Terms of reference: Four scholarships of $1500 each are offered to members, and sons and daughters of
members, in good standing, of the International Longshoremen’s and Warehousemen’s Union. They will normally be awarded to the candidates who are proceeding in the Fall to a full first year program of studies at the University of British Columbia, University of Victoria, Simon Fraser University, the BC Institute of Technology, or a regional college in BC.

Contact: Award #04718: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Sergio Lovison Scholarship

Deadline: August 13

Terms of reference: Two scholarships of $750 each have been set up in Sergio’s name, to commemorate his indomitable spirit which has touched so many lives. Selection criteria:

• Applicants must be residents of the Lower Mainland
• Applicants must be grade 12 students who expect to graduate with a 3.0 (B) grade point average or higher. An official transcript of final marks from the applicant’s school must accompany the application, along with an official BC Ministry of Education transcript of marks
• Applicants are expected, upon, high school graduation, to attend a university or community college where studies will lead to a university degree in Canada or in another country. The successful applicant will be required to submit a copy of his/her school tuition receipt
• Applicants are asked to submit a typewritten letter of no more than 400 words, double spaced, explaining why he/she deserves to obtain the scholarship.
• Applicants are asked to submit no less than three letters of reference — one of which must be written by the applicant’s parish priest and one of which must be written by a current teacher of the applicant — supporting the scholarship application and explaining why he/she is an appropriate candidate for the scholarship.

Contact: Sergio Lovison Foundation, c/o 5576 Argyle Street, Vancouver, BC, V5P 3J6.

Navy League of Canada University Entrance Scholarship Program

Deadline: August 15

Terms of reference: The Navy League of Canada annually awards scholarships to Royal Canadian Sea Cadets, former Cadets, Navy League Wrenettes or former Wrenettes, entering a university or college course of study leading to a degree. Each scholarship is valued at $400. These scholarships may not be granted where candidates enrol in the Canadian Forces on a basis whereby the Government provides free tuition or grants. The value of the scholarship is made payable to the university or college and is sent to successful candidates between September 1st and 15th.

Requirements are:

• Personal letter of application from candidate including information on the name and location of the university or college to be attended and the course of study to be taken.
• Original certificate, or certified copy thereof, as issued by the responsible educational authorities which records examination results, by subjects, upon which admission to university or college is based. (Certificate will be returned.)
• Letter from Commanding Officer of Corps attended by candidate including proof that candidate was a Royal Canadian Sea Cadet, or Navy League Wrenette, in good standing for at least 12 months, name and location of Corps, and recommendations.
• Recommendation of Branch President responsible for Corps.
• Recommendation of Division President responsible for Corps.

Contact: Navy League Branch responsible for the Corps of which the candidate was a member, to the responsible Division, to the National Office, Navy League of Canada.

Piping Industry Journeyman Training and Industry Promotion Fund

Deadline: June 30

Terms of reference: Two scholarships of $500 each are offered annually to students entering the first year at any British Columbia University or College, and proceeding to a full program of studies leading to a degree in any field. To be eligible, a candidate must be (a) the son, daughter or legal dependent of a member of the United Association of Plumbers and Steam-fitters, Local 170, who is employed by a firm which is a contributor to the Fund, or (b) the son, daughter or legal dependent of an employee of a firm who is a contributor to the Fund.

Contact: Award #0473: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Retail Wholesale Union, Local 517, Scholarship

Deadline: June 30

Terms of reference: A scholarship of $250 is offered to dependent’s or legal wards of members of Local 517. It is open in competition to applicants who are proceeding from Grade 12 to any accredited University or college in BC, in a full program leading to a degree or diploma. Should there be a tie, the financial need of the applicant and his/her family shall be the deciding factor.

Contact: Award #04779: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Father Emmanuele Rosaia Scholarship

Deadline: August 27

Terms of reference: A scholarship in the name of Father Emmanuele Rosaia has been set up by the Italian Cultural Centre Society to pay tribute to this special man whose charitable Franciscan spirit has helped and cheered many a soul. Two scholarships of $1,000 each will be awarded. Selection criteria:

• Applicants must be residents of the Lower Mainland
• Applicants must be Roman Catholic and of Italian-Canadian origin.
• Applicants must be Grade 12 students who expect to graduate with a 3.0 (B) grade point average or higher. An official transcript of final marks from the applicant’s school must accompany the application, along with an official BC Ministry of Education Transcript of Marks.
• Applicants are expected, upon, high school graduation, to attend a university or community college where studies will lead to a university degree in Canada or in another country.
• Applicants are asked to submit a typewritten letter of no more than 400 words, double spaced, explaining why he/she deserves to obtain the scholarship.
• Applicants are asked to submit no less than three letters of reference - one of which must be written by the applicant’s parish priest and one of which must be written by a current teacher of the applicant - supporting the scholarship application and explaining why he/she is an appropriate candidate for the scholarship.

Contact: The Father Rosaia Scholarship Committee, c/o St. Francis of Assisi Parish, 2025 Napier Street, Vancouver, BC, V5L 2N8.

United Association of Plumbers & Steamfitters, Local 170 Scholarship

Deadline: June 30

Terms of reference: Two scholarships of $1,000 each are offered to students entering first year at any public university in British Columbia. A candidate must be the son, daughter or legal dependent of a member in good standing of the United Association of Plumbers & Steamfitters, Local 170.

Contact: Award #04798: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Vancouver Sun/Province Scholarship

Deadline: June 30

Terms of reference: The Vancouver Sun offers annually two scholarships of $500 each to students proceeding from Grade 12 to the first year at BCIT, the University of British Columbia, the University of Victoria, Simon Fraser University or Trinity Western University. To be eligible, applicants must have been carriers of the Vancouver Sun/Province for at least 12 months continuous service or of a deceased member with the same service. The scholarship is open to students proceeding from grade 12 to a full program of studies at UBC, University of Victoria, Simon Fraser University, BCIT, Trinity Western (Langley), UNBC in Prince George or any accredited public college in BC. The financial circumstances of applicants and their families will be considered. Applications must contain details of family service with the Union and other pertinent information.

Contact: Award #04803: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Telecommunications Workers Union — J. Douglas Booth Memorial Scholarship

Deadline: June 30

Terms of reference: A $1,000 scholarship is offered to the son or daughter of a member with at least twelve months continuous service or of a deceased member with the same service. The scholarship is open to students proceeding from grade 12 to a full program of studies at UBC, University of Victoria, Simon Fraser University, BCIT, Trinity Western (Langley), UNBC in Prince George or any accredited public college in BC. The financial circumstances of applicants and their families will be considered. Applications must contain details of family service with the Union and other pertinent information.

Contact: Award #04793: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Contact: Award #04789: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1 Tel: (604) 822-5111, Fax: (604) 822-6929.
two consecutive years. The awards will normally be made to the students with the highest standing based on their final secondary school transcript but in no case will an award be made to a student who obtains a standing of less than 75%. Winners of these scholarships who, in successive years of their undergraduate courses maintain a 75% standing overall will be eligible for renewals of $500 a year until graduation, not exceeding a total of five payments in all. The application must be accompanied by the service certificate of the Vancouver Sun/Province.

Contact: Award #04750: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Vancouver Sun/Province Special Scholarship
Deadline: June 30
Terms of reference: The Vancouver Sun offers annually a scholarship of $500 to a student proceeding from Grade 12 to the first year at the University of British Columbia, the University of Victoria, or Simon Fraser University, BCIT or Trinity Western. An applicant must have been a carrier for The Vancouver Sun/Province for at least two consecutive years, and must have obtained an overall average of at least 75% based on the final secondary school transcript. The scholarship will be awarded to the eligible applicant who, in the opinion of the Selection Committee, is the most outstanding in combining high scholastic attainment with achievement in one or more areas such as: service to the school and community; writing, drama, fine arts; debating and public speaking; sports. The winner who, in successive years of his undergraduate studies, obtains and maintains a 75% standing overall will be eligible for renewals of $500 per year until graduation, not exceeding a total of five payments in all. The application must be accompanied by the service certificate of the Vancouver Sun/Province.

Contact: Award #04751: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Externally administered scholarships for continuing students

The following scholarships are not administered by Simon Fraser University. The information is intended for general reference only; it may be subject to change. The student is responsible for enquiring and applying through the appropriate agency as indicated in the description.

External scholarships for all students
All Nations Trust Company Endowment Fund Awards
Deadline: November 30
Terms of reference: All Nations Trust Company has developed annual educational achievement awards to reward and recognize Aboriginal Secondary and Post Secondary Students who are committed to attaining personal and educational success. These awards are open to individuals who are currently living within or are originally from one of the following Tribal Regions: Kootenay, Lillooet, Okanagan, Shuswap, Thompson.

Contact: All Nations Trust Company, Suite 208 West, 345 Yellowhead Highway, Kamloops, BC, V2H 1H1, Tel: (250) 828-9770, Fax: (250) 372-2585, Toll Free: 1-800-663-2959, E-mail: antco@antco.bc.ca

Jim Allard Broadcast Journalism Scholarship
Deadline: June 30
Terms of reference: Aspiring broadcasters enrolled in a broadcast journalism course at a Canadian college or university are eligible to apply for this $2,500 scholarship. To qualify, simply explain on a separate paper why you're interested in broadcast journalism, what your career goal is, and how this scholarship can help in that goal. Complete the application and attach it to your 500 word outline, and submit it to the course director of your educational institution. Each college/university is limited to three entries. In seeking the student who “best combines academic achievement with natural talent”, the judging committee also will look for evidence of: strong character and leadership qualities; a willingness to assist others in the industry; genuine enthusiasm for a career in Canadian broadcasting, as reflected in activities related to broadcasting, such as home study, part-time employment, etc.

Contact: The Canadian Association of Broadcasters, PO Box 627, Station B, Ottawa, ON, K1P 5S2.

ARC Arts Council Individual Grants program
Deadline: May 31
Terms of reference: The ARC Arts Council is a registered charitable non-profit organization serving School District #43 (Ammonre, Belcarra, Coquitlam, Port Coquitlam and Port Moody). The Individual Grants Program is designed to support further education in the fine and performing arts by providing financial assistance to selected recipients. The grants are intended to assist with the cost of tuition and related educational expenses and may not be used for capital costs or equipment or production costs. Applicants must reside in School District #43 and be registered in, or plan to register for formal study in the fine or performing arts at a recognized educational institution or in a recognized program of study in 2000/2001. Applications must be completed in full, with two letters of reference attached.

Contact: ARC Arts Council Awards and Scholarship Committee, 2425 St. John's Street, Port Moody, BC, V3H 2B2, Tel: (604) 931-8255, E-mail: arcarts@intergate.bc.ca
Web: www.intergate.bc.ca/arcarts

Associated Medical Services Hannah Institute Studentship
Deadline: January 10
Terms of reference: To offer undergraduate students the challenge, satisfaction and techniques of historical research and to encourage future serious study of medical history. Research is to be in the area of history of health, disease, and medicine, broadly defined. The research project should be a closely supervised full-time research experience. It should not be for academic credit nor should it represent work already undertaken or submitted for academic credit.

Contact: Conditions, application forms and further information may be obtained by corresponding to: Associated Medical Services, Inc., 14 Prince Arthur Avenue, Suite 101, Toronto, ON, M5R 1A9, Tel: (416) 924-3368, Fax: (416) 323-3338, E-mail: grants@ams-inc.on.ca

Association of First Nations Women Scholarship
Deadline: unknown
Terms of reference: Applicants must be of First Nations ancestry and be registered as full-time students at a post-secondary institution. They must include with their application proof of registration at a post-secondary institution, a copy of their transcript(s), a professional reference, and a personal reference, and a support letter from a major aboriginal organization.

Contact: Association of First Nations Women, #1-245 East Broadway, Vancouver, BC, V5T 1W4, Tel: (604) 873-1833, Fax: (604) 872-1845.

Dr. Aimee August Scholarship
Deadline: November 30
Terms of reference: The Dr. Aimee August Scholarship is awarded annually to a SCES/SFU student that demonstrates exceptional scholarship combined with an appreciation for Native language and culture. Applicants must be of Native ancestry and registered as full-time students (3 courses or more). The award is restricted to students who have successfully completed a minimum of 24 credit hours in the SCES/SFU program. Candidates will be evaluated according to the following criteria:

• Applicants must have a cumulative GPA of 3.0 or more. Students must further manifest the qualities of hard work, dedication and commitment to their studies.

• Applicants must show an appreciable financial need. The Committee will weigh such factors as parental and marital status, part-time employment and Band assistance.

• Applicants must demonstrate sensitivity to the unique cultural and linguistic traditions of Native people. The Committee will consider such criteria as the student’s extra-curricular activities within Native organizations, personal research and the nature of studies being pursued.

Contact: Chair, SCES/SFU Joint Steering Committee, 355 Yellowhead Hwy., Kamloops, BC, V2H 1H1

British Columbia Asia Pacific Students’ Awards
Deadline: Unknown
Terms of reference: The British Columbia Centre for International Education has received an allocation from the Ministry of Advanced Education, Training and Technology to fund the British Columbia Asia Pacific Students’ Awards program. The program has been established to provide an opportunity for British Columbia public university students to gain a better understanding of the cultures, economies and languages of Asian countries. The program will provide scholarships for outstanding students to permit attendance in a formal and rigorous program of educational study overseas. Research activities and co-op work terms are not eligible for funding under this program. Countries eligible for study are: Bangladesh, Brunei, China, Hong Kong SAR, India, Indonesia, Japan, Korea, Malaysia, Nepal, oceanica (exc. Australia and New Zealand), Philippines, Singapore, Sri Lanka, Taiwan, Thailand and Vietnam. To be eligible you must i) be a Canadian citizen or landed immigrant, ii) have been resident in BC for at least 12 full months before the application deadline, iii) be enrolled in full-time study at a BC public university; be attending that institution - and be returning to that institution for further study after having been abroad, iv) have completed two years of post-secondary education before going abroad; and v) have a 7+ percent (G.P.A. 3.4 or equivalent) average over 12 units (24 credit hours) in the last academic year completed.

Contact: British Columbia Centre for International Education, 8th Floor, 1483 Douglas Street, Victoria, BC, V8W 3K4, Tel: (250) 978-4242, Fax: (250) 978-4249, E-mail: bccie@bccie.bc.ca

BC Hydro Scholarships
Deadline: January 15
Terms of reference: BC Hydro is offering $1,000 scholarships to Environmental/Resource Science and Commerce students. As well, a $1,000 Power Smart scholarship is available for a student in any faculty who has completed an energy conservation project/paper. BC Hydro’s Scholarship Committee will select candidates who have/are:

• completed second year in good academic standing

• a balanced life style

• good written communication skills

• innovative
• committed to the protection of the environment and efficient and safe use of electricity.

Contact: BC Hydro, Human Resources and Improvement Services, 10th Floor, 333 Dunsmuir Street, Vancouver, BC, V6B 5R3, Tel: (604) 623-3789.

BC Hydro Native Scholarship
Deadline: November 1
Terms of reference: The applicant must be at least a second year student and demonstrate relevancy of discipline to BC Hydro careers. Applications must include a transcript, reference letter, letter stating financial need and academic goals, and completed application form. Six scholarships are available all in the amount of $1,000 each.

Contact: Aboriginal Scholarship Program, BC Hydro, PO Box 6500, Prince George, BC, V2N 2K4.

Calaver Estate Scholarship Fund
Deadline: before the second week of August and the second week of October
Terms of reference: Scholarships in the amounts of $300 and $500 will be awarded to non-status Aboriginal applicants who have lived in British Columbia for the last 6 months and must be active members of the United Nations local in local area, or be active in their individual community toward the betterment of Aboriginal heritage. Applicants must submit a completed application form with school transcript, a letter of recommendation from the University President, Chief, Council, Band Manager, school counsellor, teacher or principal), a personal profile, a letter stating career goals, personal traits/characteristics and involvement with UNN.

Contact: United Nations Native Nations, 8th Floor, 736 Granville Street, Vancouver, BC, V6Z 1G3, Tel: (604) 688-1821, Fax: (604) 688-1823.

James W. Bourque Undergraduate Scholarship in Northern Geography – Canadian Northern Studies Trust
Deadline: January 31
Terms of reference: ACUNS administers scholarships sponsored by the Royal Canadian Geographical Society. The awards are available to members of the ACUNS Paraplegic Association who have a physical disability and will be awarded on academic standing, merit and the basis of financial need. Recipients must be residents of British Columbia, Canadian Citizens, or Landed Immigrants. The monies for individual awards vary from year to year, dependent upon interest from investments. The award values will be updated annually. The scholarship and bursaries are adjusted annually according to the availability of funds. Completion of an application form will ensure the applicant is considered for each scholarship or bursary they are eligible for.

Contact: Scholarship and Bursary Awards Committee, c/o BC Paraplegic Association, 780 W.S. Marine Drive, Vancouver, BC, V6P 5Y7, Tel: (604) 324-3611, Fax: (604) 324-3671.

British Columbia Heritage Trust Post-Secondary Scholarships
Deadline: February 28
Terms of reference: Heritage Trust scholarships may be applied to an appropriate program of study in any heritage-related discipline including history, geography, ethnology, archaeology, architecture, heritage preservation, community planning, archival management, museology, etc. Applicants are evaluated on the following criteria:

- Undergraduate Scholarship — academic performance, relevant experience/service, expression of interest in heritage conservation.
- Graduate/Professional Scholarship — academic performance, relevant experience/service, career objectives and the practical application of research or contribution to knowledge of British Columbia’s history as expressed through the proposed program of studies.

Contact: British Columbia Heritage Trust, PO Box 9818, Stn Prov Govt, Victoria, BC, V8W 9W3, Tel: (250) 356-1433, Fax: (250) 356-7796, Web: www.heritage.gov.bc.ca.

Burnaby Savings Credit Union Scholarship
Deadline: June 30
Terms of reference: Two scholarships of $500 each are offered to students at UBC, SFU, UVIC, BCIT or a BC college. Applicants must be active members or immediate family of an active member of the Burnaby Savings Credit Union.

Contact: Award #04707: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Calvery Estate Scholarship Fund
Deadline: before the second week of August and the second week of October
Terms of reference: Scholarships in the amounts of $300 and $500 will be awarded to non-status Aboriginal applicants who have lived in British Columbia for the last 6 months and must be active members of the United Nations local in local area, or be active in their individual community toward the betterment of Aboriginal heritage. Applicants must submit a completed application form with school transcript, a letter of recommendation from the University President, Chief, Council, Band Manager, school counsellor, teacher or principal), a personal profile, a letter stating career goals, personal traits/characteristics and involvement with UNN.

Contact: United Nations Native Nations, 8th Floor, 736 Granville Street, Vancouver, BC, V6Z 1G3, Tel: (604) 688-1821, Fax: (604) 688-1823.

Canada 200 Scholarship
Deadline: January 1
Terms of reference: Scholarships of $200 are available to support Canadians who contribute through their actions to Canada’s betterment. This is a competition open to full-time Canadian university and college students. Applicants must: be Canadian citizens or permanent residents; demonstrate good scholastic standing; provide two letters of reference and submit a one page report on their contribution to Canada (e.g. local, provincial and/or national level).

Contact: Canada 200 Scholarship, c/o Dr. Alexander Katsabouris, Scholarship Co-ordinator, Unit 1 36 Yorkminster Road, Willowdale, ON, M2P 2A4.

Canadian Cambridge Scholarships
Deadline: October 11
Terms of reference: Canadian Cambridge Scholarships provide Canada’s most promising Graduate students with the unique opportunity of pursuing further academic work at Cambridge University with the hope that the recipients will eventually return and contribute significantly to Canadian life. Two scholarships will be awarded for students commencing their studies in the fall. The criteria for the Canadian Cambridge Scholarships are as follows:

- Eligibility:
  - students who have completed an undergraduate program of studies from an accredited university by the summer
  - applicants must be Canadian citizens or landed immigrants
  - awards are subject to an applicant’s acceptance to Cambridge University and to a Cambridge College Value: These scholarships will fully fund a student’s course of study at Cambridge, including tuition fees and return travel from Canada to Cambridge once a year.

Contact: Canadian Cambridge Scholarships Secretariat, 9 Sultan Street, Toronto, ON, M5S 1L6, Tel: (416) 934-6006, Fax: (416) 934-0702, E-mail: info@cantabct.org, Web: www.cantabct.org.

Canadian Federation of University Women - The James Craig Reid Memorial Scholarship
Deadline: Unknown
Terms of reference: To be awarded annually to a male or female student who must have graduated from a secondary school in District 69 (the Parksville/Qualicum area) or have lived in the area for at least three years. Candidates should, at least, be entering their fourth year of study in a university academic course. Preference shall be given to candidates in the Faculty of Music, Fine Arts or Liberal Arts, but candidates in other disciplines shall not be excluded. The scholarship may be used at a Canadian university only, and will be applied directly against tuition fees. This scholarship is administered by the Scholarship and Bursary Trust of the Canadian Federation of University Women - Parksville/ Qualicum.

Contact: The Secretary, The James Craig Reid Memorial Scholarship Trust, P.O. Box 113, Qualicum Beach, BC, V9K 1S7, Web: www.macn.bc.ca/cfufw/poq8.html.

The Canadian Golf Foundation Scholarship
Deadline: June 30
Terms of reference: The Canadian Golf Foundation offers several scholarship programs which encourages the athletic and academic careers of promising Canadian golfers and students of the industry by offering financial assistance through these scholarships and awards. The CCF established its academic scholarship program in 1982 and has since awarded over $775,000 in scholarships to promising junior golfers, landscape architects and turfgrass agronomists. The scholarships assist students with the cost of tuition, books, residence and other related expenses. Each application must meet standard criteria in order to be reviewed by the scholarship committee, which then chooses the recipients based on merit.

Contact: Canadian Golf Foundation, Golf House, 1333 Dorval Drive, Oakville, ON, L6J 4Z3, Tel: (905) 337-8116, Toll Free: (877) 226-6888, Fax: (905) 337-8119, E-mail: cff@informap.net.

Canadian Japanese-Mennonite Scholarship
Deadline: April 1
Terms of reference: The scholarship will be awarded to a student who is enrolled in a graduate degree program; a Canadian studying at a university in Canada and engaged in research that will assist the protection of minority or human rights in Canada.

Contact: Mennonite Central Committee Canada, Attn: Canadian Japanese-Mennonite Scholarship, 134 Plaza Drive, Winnipeg, MAN, R3T 5K9, Tel: (204) 261-6381, Fax: (204) 269-9875, E-mail: MCC@mennoniteCC.ca.

Canadian Labour Congress – A.A. Heaps Scholarships
Deadline: June 20
Terms of reference: The award is open to applicants, and in particular mature students, undertaking full-time undergraduate or graduate studies at a Canadian university or college during the academic year 2000-2001. Mature students are individuals who have been out of the post-secondary undergraduate environment for at least two years and are currently engaged in post-secondary graduate work that is consistent with the A.A. Heaps Scholarship criteria. Those eligible are Canadian citizens or landed immigrants of any age who, through their work involvement in the community, have demonstrated maturity and a commitment to the social ideals which characterized the life of A.A. Heaps. Applicants must submit a typed essay of 500-1000 words, outlining his/her education, employment history, background in community work and commitment to social ideals.

Applicant’s essay should show a knowledge regarding the contribution which A.A. Heaps made in the field of social reform. Please include name, address and
telephone number of two references who are prominent in the community and knowledgeable about the applicant's background and dedication to the philosophy underlying the scholarship.

Canadian Water Resources Association Scholarship
Deadline: March 1
Terms of reference: Four scholarships of $1,250 are offered to graduate students whose programs of study focus upon applied, natural, or social science aspects of water resources. All applicants will receive a one-year membership in the Canadian Water Resources Association. The scholarships are open either to Canadian citizens or landed immigrants who are full-time graduate students, in any discipline or profession, attending a Canadian university or college. Applicants must provide proof that they are enrolled in full-time graduate studies in the school year. Application Requirements:
• A 500-word statement which outlines the student's research project and its relevance to sustainable water resources. This statement should focus on the research methods of the project.
• Course transcripts at the undergraduate and graduate level.
• Two references, to be sent directly to the Scholarship Committee by the referees.

Canadian Aboriginal Scholarship
Deadline: June 15
Terms of reference: Canadian National (CN) makes four scholarships of $1,250 available to Inuit, status or non-status, or Metis students entering or enrolled full-time in a post-secondary program in Canada that can lead to a career in the transportation industry. This may include a wide range of occupations, from nurses to engineers and from computer programmers to market analysts. Scholarship amounts are individually determined, based on each student's needs.

Canadian Printing Industries Scholarship Trust Fund
Deadline: unknown
Terms of reference: The amount of each scholarship is $1000 per year, this represents the approximate cost of tuition for an approved program. These courses have titles such as graphics arts management, printing technology, graphic communications management and graphical arts. These titles may vary somewhat from school to school. Any college or university offering a full-time two, three or four-year certification program in any of these, or related courses, would be acceptable as an approved school. These scholarships are not available to students enrolled in design or art courses. The eligibility of any particular institution is at the discretion of the board of trustees of the scholarship fund, whose decision is final. Part-time students and students interested in careers in design or art are not eligible for scholarships. Students must be enrolled for a minimum of two years, on a full-time basis, in an approved program (not design or art) in a Canadian school. Applicants must maintain a B average or better and must have an interest in pursuing a career in the printing trades (this includes pre-press, press, sales, management, estimating, etc.)
Contact: Canadian Printing Industries Scholarship Trust Fund, c/o Canadian Printing Industries Association, 75 Albert Street, Suite 906, Ottawa, ON, K1P 5E7, Tel: 1-800-267-7280.

Coquitlam Foundation Scholarships and Bursaries
Deadline: April 1
Terms of reference: The applicant must be a resident of the City of Coquitlam, demonstrate financial need (in the case of the bursary), have a history of school and/or community involvement, show that he or she can successfully undertake a program of studies, attend an interview with the selection committee and begin designated studies within six months of formal notification of selection. Narrative applications must include a letter of application, which should include a statement outlining why the applicant merits the award, a resume, copy of appropriate school transcripts, a personal statement outlining financial need and two letters of reference which address the student's ability to complete the course of studies proposed.
Contact: Norm Cook, Secretary, Coquitlam Foundation, 300 Guildford Way, Coquitlam, BC, V3B 7N2, Tel: (604) 927-3003, Fax: (604) 927-3015.

Raymond Crepault Scholarship
Deadline: June 30
Terms of reference: A $5,000 scholarship to French Canadian students with broadcasting experience, who are presently enrolled in, or wish to begin or complete a program of studies in communications, at the university level. Candidates should meet one or more of the following requirements: university graduation in any discipline (1st degree); university graduation or current studies in communications; graduation from a recognized broadcasting course, or the equivalent; desire to improve broadcasting skills. The judging committee will consider each candidate's motivation; ability to complete studies; financial need; recommendations from a professor, colleagues and/or employers.
Contact: The Canadian Association of Broadcasters, PO Box 627, Station B, Ottawa, ON, K1P 5S2.

Embassy of Italy Scholarships
Deadline: March 25
Terms of reference: The Government of Italy offers scholarships to Canadian citizens wishing to pursue studies in Italy. They are intended for university undergraduate and graduate students, professionals, teachers, and artists, who meet the necessary requirements for enrollment in Italian universities, who would like to attend specialized courses or undertake research in specific fields. The scholarships are awarded for periods of 8 months, beginning November 1. They are awarded for specific research or specialized courses at public post-secondary institutions in any field of study. However, preference will be given to proposals for graduate or postgraduate research or study in the areas of Italian language and literature, music, visual arts, performing arts, art restoration or sciences. Candidates must be in possession of a high school diploma, BA, BSc, or PhD or have obtained one of the preceding by June 30, and must be 35 years of age or younger. The scholarship consists of a monthly allowance of 1,200.00 lire, plus Italian medical insurance for the period of the scholarship. Candidates are also entitled to pre-paid airfare but airfare will not be paid in cash nor will a refund be issued for tickets purchased directly by the scholarship holder.

Raymond Crepault Scholarship
Deadline: June 30
Terms of reference: A $5,000 scholarship to French Canadian students with broadcasting experience, who are presently enrolled in, or wish to begin or complete a program of studies in communications, at the university level. Candidates should meet one or more of the following requirements: university graduation in any discipline (1st degree); university graduation or current studies in communications; graduation from a recognized broadcasting course, or the equivalent; desire to improve broadcasting skills. The judging committee will consider each candidate's motivation; ability to complete studies; financial need; recommendations from a professor, colleagues and/or employers.
Contact: The Canadian Association of Broadcasters, PO Box 627, Station B, Ottawa, ON, K1P 5S2.

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Deadline: March 25
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Elements taken into consideration by the selection committee are:
• candidate's curriculum studiorum and vitae;
• nature of program proposed by the candidate;
• letters of reference from Canadian or Italian academics;
• existence of direct contacts between the candidate and Italian academics and/or Institutions, concerning the proposed stay in Italy;
• candidate's knowledge of Italian.

No application will be accepted after the dates indicated above; incomplete applications will not be considered.
Contact: Embassy of Italy, Cultural Office, Suite 2100-275 Slater Street, Ottawa, ON, K1P 5H9. Italian Cultural Institute in Vancouver, call (604) 688-0809; Italian Consulate in Vancouver (604) 684-7288.

Fairfax Financial Holdings Limited Scholarship Program
Deadline: July 2
Terms of reference: This program is offering up to sixty scholarships, 36 at the university level and 24 at the college level. Students enrolled in an undergraduate university program will receive $5000 and students pursuing a college diploma will receive $3,500. Candidates must be Canadian citizens or permanent residents. They must be completing the first year of a university degree program or college diploma program and be in need of financial assistance. They must also be enrolled on a full-time basis, as defined by their educational institution, and have attained high academic standing. Each institution may nominate only one candidate.
Contact: Canadian Awards Program, AUCC, 600-350 Albert Street, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca.

Terry Fox Humanitarian Award
Deadline: February 1
Terms of reference: In keeping with the spirit of his achievements, the Terry Fox Humanitarian Award
Program is intended to encourage Canadian youth to seek the high ideals represented by Terry Fox by the granting of commemorative scholarships for the pursuit of higher education. The Terry Fox Scholarship is a renewable award, subject to satisfactory progress, and is tenable at any Canadian university or college. The value of the award is $4,000 annually, for a maximum of four years or until a first degree is obtained. For candidates attending an educational institution in provinces where no tuition fee is applicable, the award value is $2,500. The awards will be of particular interest to graduating secondary level students and those currently studying towards a first degree or diploma in a Canadian university or college.

Scholarship candidates must be Canadian citizens or have landed immigrant status. They must not exceed 25 years of age. The field of study is open and at the discretion of the successful candidate. Demonstration of the highest ideals and qualities of citizenship will be criteria for selection of recipients. Further relevant qualities are courage in overcoming obstacles, involvement in humanitarian service and participation in sport, fitness and community service. Applications will be considered either directly or through academic institutions. Recommendations for scholarship assistance made by institutions will be an important factor in the final selection process. Successful Terry Fox scholars are expected to participate in Program activities such as volunteer service, recipients yearly meeting and annual reports.

Contact: Terry Fox Humanitarian Award Program, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A 1S6, Fax: (604) 291-3311.

Geomatics Canada Scholarship Program – Canadian Institute of Geomatics
Deadline: March 1

Terms of reference: The Geomatics Canada Scholarship Program has been created to assist in furthering the education and training of students in the field of Geomatics. Application for the scholarship is restricted to students that are in good standing, registered full time in a recognized university, technical institute or community college in Canada and who are either Canadian citizens or who have achieved landed immigrant status.

Contact: The Chair, Geomatics Canada Scholarship Program, c/o Canadian Institute of Geomatics, Suite 120, 162 Cleopatra Drive, Nepean, ON, K2G 5X2, Tel: (613) 224-9851, Fax: (613) 224-9577, Web: www.cig-acsg.ca

Global Television Network Scholarship Award for a Canadian Visible Minority Student
Deadline: May 26

Terms of reference: This annual Scholarship Award is offered to a Canadian student from a self-identified visible minority, and provides educational assistance towards the pursuit of a career in broadcasting. The Award, valued at $4,500, covers all tuition fees and textbooks for one scholastic year of a radio and television arts program or journalism program at a recognized Canadian university or college, commencing in the Fall.

Eligibility criteria:
- Canadian citizen who is from a self-identified visible minority.
- Secondary school graduate with a grade average suitable for admission to a radio and television arts or journalism program at a recognized Canadian university or college; or a mature student eligible for admission to a radio and television arts or journalism program at a recognized Canadian university or college.
- Strong English language communications skills.

Application requirements:
- Completed application form
- Copy of secondary school transcript of marks
- One-page written statement, 500 words or less, outlining Applicant’s educational and career goals, interest in broadcasting, and reasons for applying for the Scholarship-Internship Award.
- Three letters of reference (e.g. teacher, employer).

Contact: CanWest Global System, Broadcasters of the Future Awards, 81 Barber Greene Road, Don Mills ONT, M3C 2A2.

Global Television Network Scholarship – Internship Award for a Canadian with a Physical Disability
Deadline: May 26

Terms of reference: This annual Scholarship-Internship Award is offered to a Canadian student with a mobility impairment, and provides educational assistance as well as a challenging opportunity to work in private television, in pursuit of a career in broadcasting. The Award, valued at up to $15,000, covers all tuition fees and textbooks, for one full scholastic year of a radio and television arts program or journalism program at a recognized Canadian university or college, commencing in the Fall. The Award also includes a three or four month Internship at the Global Television Network, in Don Mills, for the summer, and moving expenses associated with the Internship.

Eligibility criteria:
- Canadian citizen with a mobility impairment.
- Secondary school graduate with a grade average suitable for admission to a radio and television arts or journalism program at a recognized Canadian university or college; or a mature student eligible for admission to a radio and television arts or journalism program at a recognized Canadian university or college.
- Strong English language communications skills.

Application requirements:
- Completed application form
- Copy of secondary school transcript of marks
- One-page written statement, 500 words or less, outlining Applicant’s educational and career goals, interest in broadcasting, and reasons for applying for the Scholarship-Internship Award.
- Three letters of reference (e.g. teacher, employer).
- Referral letter from a certified physician, describing type and extent of Applicant’s mobility impairment.

Contact: CanWest Global System, Broadcasters of the Future Awards, 81 Barber Greene Road, Don Mills ONT, M3C 2A2.

The Keith Gilmore Foundation
Deadline: July 1

Terms of reference: The Foundation was established to provide scholarships to worthy applicants taking secondary education in the fields of agriculture and journalism and for those schools that offer agricultural journalism. There is 1 $1,500 scholarship offered to an individual in a post graduate degree program in agriculture, journalism or communications at a recognized university. There are 3 $750 scholarships offered to individuals in an undergraduate degree program in agriculture, journalism or communications at a recognized university. There are 3 $750 scholarships offered to individuals enrolled in a recognized diploma program in agriculture and/or journalism or communications.

The successful applicant will have already completed a minimum of one year in his or her major field of studies.

Contact: The Keith Gilmore Foundation, 5160 Skyline Way, N.E., Calgary, AB, T2E 6V1, Tel: (403) 275-2662, Fax: (403) 295-1333.

Imperial Tobacco Canada Limited Scholarship Fund for Disabled Students
Deadline: June 1

Terms of reference: This scholarship has been created to encourage Canadian disabled students to pursue university studies with the ultimate objective of obtaining a first university degree. The criteria are as follows: for an undergraduate program in any field of study; candidates must meet the following definition:

“A disability is a functional limitation resulting from a physical, sensory, or mental impairment, which, for an indefinite period, affects the ability of the student to perform the activities necessary to participate fully in postsecondary education:" must be Canadian citizens or permanent residents; must be entering or currently enrolled in a first undergraduate degree program in a Canadian post-secondary institution; holders of an undergraduate degree are not eligible for the scholarship. The award is for one academic year which may be renewed upon application. The holder of an Imperial Scholarship is eligible to apply in subsequent years provided he/she submits a new application and all pertaining documents. The applicant, in a final year of study and required to attend only one academic term before graduation, is eligible to apply for a $2,500 scholarship provided all other criteria are met. Note: Students who re-apply for further awards will be considered in competition with all other applicants. A student can receive the award for a total of four years maximum.

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca.

Interior Logging Association Scholarship
Deadline: July 31

Terms of reference: There are several scholarships available for $1,000 to students enrolling in a full-time forestry related discipline; in any discipline who are immediate relatives of the Interior Logging Association; who are enrolling in a Trades School; in a Business Administration discipline.

Contact: Chairman, I.L.A. Scholarship Committee, #202-635 Victoria St., Kamloops, BC, V2C 2B3, Tel: (250) 374-0733, Fax: (250) 374-0700.

International Longshoremen’s and Warehousemen's Union Harry Bridges Undergraduate Scholarship
Deadline: June 30

Terms of reference: Three scholarships of $1,500 each are offered to members, and sons and daughters of members, in good standing of the ILWU in attendance at the University of BC, the University of Victoria, Simon Fraser University, BCIT or any college in BC who will continue in a full program of studies in the next session.

Contact: Award #00530: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1 Tel: (604) 822-5111, Fax: (604) 822-6929.

International Longshoremen’s and Warehousemen’s Union – Thomas P. Mayes Scholarship
Deadline: June 30

Terms of reference: An undergraduate scholarship of $1,500 is offered to members, and sons and daughters of members, in good standing. Candidates may attend the University of BC, the University of Victoria, Simon Fraser University, BCIT or any college in BC and must enrol in a full program of studies.

Contact: Award #00558: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1 Tel: (604) 822-5111, Fax: (604) 822-6929.

International Longshoremen’s and Warehousemen's Union Local 517 – Bud Smith Scholarship
Deadline: June 30

Terms of reference: A $450 scholarship is open to members in good standing of Local 517, and their sons and daughters. Candidates may attend the University of BC, the University of Victoria, Simon Fraser University, BCIT or any college in BC and must enrol in a full program of undergraduate studies.
Financial Assistance and Awards

Contact: Award #04804: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1; Tel: (604) 822-5111, Fax: (604) 822-6929.

International Longshoremen’s and Warehousemen’s Union Local 506 – Ralph Scuflon Memorial Scholarship
Deadline: June 30
Terms of reference: A $750 scholarship is available to members of the union in good standing and their sons and daughters. Candidates may attend the University of BC, the University of Victoria, Simon Fraser University, BCIT or any college in BC and must enrol in a full program of studies.

Contact: Award #00666: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1; Tel: (604) 822-5111, Fax: (604) 822-6929.

The Harry Jerome Scholarship fund
Deadline: May 30
Terms of reference: The Harry Jerome Scholarships are given to Black students attending a college or university in Canada in order to nurture academic excellence among Black youth. The eligible applicant must be a Black student who is a Canadian, a Canadian citizen or permanent resident of Canada, between 17 to 30 years of age as of September and enrolled in a full time degree (graduate or undergraduate), diploma or certificate program at a Canadian college or university. The applicants must have high academic achievement, proven financial need, has recognized contribution to the Black community.

Contact: The Harry Jerome Scholarship Fund, 675 King Street West, Suite 203, Toronto, ON, M5V 1M9 Tel: (416) 504-4097 Fax: (416) 504-7343, E-mail: hjsf@accessv.com, Web: www.bbpa.org.

Jewish Women International of BC Scholarships
Deadline: June 30
Terms of reference: Two scholarships of $500 each are offered annually to members of the Hillel or sons and daughters of B’nai Brith members. It is open to competition to students who have successfully completed at least one year at Simon Fraser University, the University of British Columbia or Vancouver Community College (Langara) by June 30th and are continuing studies at any of the three institutions. The application must be accompanied by a transcript of all post-secondary studies completed.

Contact: Award #00581: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1; Tel: (604) 822-5111, Fax: (604) 822-6929.

Earl Kinney Memorial Scholarship
Deadline: June 30
Terms of reference: A scholarship of $750 is offered by the Graphic Communications International Union, Local 525 M, to students entering the second or higher year of a full academic program of studies at the University of British Columbia, the University of Victoria, Simon Fraser University or Trinity Western University. An applicant must be a member, or the son, daughter or legal ward of a member in good standing and must enclose a letter from the Union attesting to their eligibility.

Contact: Award #00577: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1; Tel: (604) 822-5111, Fax: (604) 822-6929.

Laidlaw Foundation Children at Risk, Aboriginal and Black Scholars Programs
Deadline: February 1
Terms of reference: The foundation will assist university students from First Nations and black communities who have demonstrated academic and leadership qualities in areas related to the Foundation’s Children at Risk Program. Eligible applicants are full-time students registered in a degree program at a Canadian university who are interested in the processes that contribute to the creation, maintenance and overcoming of conditions that diminish the life quality and life chances of children.

Undergraduate Awards: First Nations students enrolled in a third or fourth year undergraduate program at a Canadian university may apply for a limited number of awards of up to $3,000 each for research relating to the Children at Risk Program. To be eligible, undergraduate students must be nominated by faculty. First Nations students enrolled in an undergraduate program at a Canadian university leading to a professional degree in a field relevant to the Children at Risk Program may also apply for an award of up to $500. Eligible candidates must be nominated by community leaders, employers or faculty.

Transitional Year Programs: Promising First Nations students accepted into an undergraduate or graduate transitional year program at a Canadian university may apply for a Laidlaw Scholarship (up to $500 if enrolled in a transitional year program leading to an undergraduate degree; up to $1,000 if enrolled in a transitional year program leading to a graduate degree). Consideration will be given to assisting promising scholars and practitioners nominated by faculty, community leaders, or employers. Applicants must indicate a course of study related to the Foundations’ Children at Risk Program.

Contact: Nathan Gilbert, Executive Director, Laidlaw Foundation, 950 Yonge St., Toronto, ON, M4W 2J4, Tel: (416) 964-3614, Fax: (416) 975-1429.

The Law Foundation of Newfoundland Scholarship
Deadline: May 1
Terms of reference: The Law Foundation of Newfoundland awards up to three annual law school entrance scholarships valued at $5,000 each, tenable at a recognized Canadian law school. Successful applicants must be residents of the province of Newfoundland, have achieved academic excellence and not be the recipient of any other major scholarship.

Contact: Law Foundation of Newfoundland, Murray Premises, PO Box 5907, St. John’s, NF, A1C 5X4, Tel: 754-4424, Fax: 754-4320.

Legal Studies for Aboriginal People Grants and Scholarships Program
Deadline: unknown
Terms of reference: check with contact.

Contact: Program Administrator, Legal Studies for Aboriginal People Program, Department of Justice Canada, 222 Queen St., 10th Floor, Ottawa, ON, K1A 0H8.

Lotus Light Charity Society Scholarship
Deadline: July 9
Terms of reference: Any student who is 17 years or older and attending or planning to attend college, university, or technical institution on a full time basis may be eligible to receive a $300 scholarship to assist him/her in his/her studies. Preferences will be given to single parents with children under 11 years of age, or students who are working part-time. There are 10 awards to be given.

Contact: Lotus Light Charity Society, #200-357 East Hastings St., Vancouver, BC, V6A 1P3, Tel: (604) 685-5548, Fax (604) 685-5598.

Magna For Canada Scholarship Fund
Deadline: June 5
Terms of reference: The Scholarship Fund will provide annual awards program. The As Prime Minister Awards program invites university, college and GEGEP students to write an essay in response to the question "If you were the Prime Minister of Canada, what political vision would you offer to improve our living standards?" Student essays are judged on the merits of their innovative and creative solutions for guiding Canada in the new century as the Prime Minister. Applicants must be full-time students at an accredited Canadian college or university. Fifty regional semi-finalists will receive $500. Ten finalists, selected from the group of semi-finalists, will receive $10,000 in cash and a four-month internship Magna International Inc., valued at $12,000. The national winner will receive an additional $10,000 and a one-year paid internship at Magna Internship Inc., valued at $36,000. The 9 finalists and national winner will also have their essay published in a special book entitled @stake "As Prime Minister, I Would..." Please submit a maximum 2,500-word essay in either official language. You may submit your essay electronically on-line at www.asprimeminister.com or you may submit your essay type-written on 81/2 x 11 paper. Also to be submitted is your full name, address and telephone number, college or university, area and year of study and extra-curricular activities.

Contact: Magna for Canada Scholarship Fund, 227 rue. Magna Drive, Aurora, ON, L4G 7K1, Tel: (800) 97-magna, Fax: (905) 726-7177, www.asprimeminister.com

The Maritime Dairy Industry Scholarship
Deadline: December 16
Terms of reference: A $5,000 cash award and 15 weeks of employment within the dairy industry, in the Maritimes, that will complement the successful candidate’s field of study. The applicant must be a resident of either N.S., N.B., or P.E.I.; currently attending a post-secondary education institution within Canada; completed at least 2 years of post-secondary education and currently enrolled in a program that has application to the dairy industry; applicant must show professional and academic promise and a commitment to the dairy industry; applicant must complete the application form, one-page letter stating their commitment and interest in the dairy industry, official transcript of marks for completed years in post-secondary education, and three reference letters must be available (at least one from a professor). Selection will be based on application requirements, academic standing, and potential contribution and commitment to the dairy industry.


Mattinson Endowment Fund Scholarship for Disabled Students
Deadline: June 1
Terms of reference: The criteria are as follows: for an undergraduate program in any field of study; candidates must meet the following definition: “A disability is a functional limitation resulting from a physical, sensory, or mental impairment, which, for an indefinite period, affects the ability of the student to perform the activities necessary to participate fully in post-secondary learning;” must be Canadian citizens or permanent residents; must be entering or currently enrolled in a first undergraduate degree program in a Canadian post-secondary institution; holders of an undergraduate degree are not eligible for the scholarship. The award is for one academic year which may be renewed upon application. The holder of a Mattinson Scholarship is eligible to apply in subsequent years provided he/she submits a new application and all pertaining documents. The applicant, in a final year of study and required to attend only one academic term before graduation, is eligible to apply for a $1,250 scholarship provided all other criteria are met. Note: Students who re-apply for further awards will be considered in competition with
all other applicants. A student can receive the award for a total of four year maximum.  

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: wwww.aucc.ca.

The William McCallum Memorial Scholarship  
Deadline: May 1  

Terms of reference: This scholarship is awarded annually to a graduate of Dawson College entering, or already studying Law. The scholarship is renewable in the amount of $500 per year, for a maximum of four years. It will be awarded to students who show high probability of both responsible citizenship and academic and professional success. The basis for selecting winners is scholarship, character, leadership, and community involvement.  

Contact: The William McCallum Scholarship Committee, c/o Bonnie Day Dawson College Awards Office, 3040 Sherbrook St. West, Room 4A-1, Westmount, QC, H3Z 1A4, Tel: (514) 931-8731, local 1546, Fax: (514) 931-5181.

The McEuen Undergraduate Scholarship for Study in Scotland  
Deadline: January 31  

Terms of reference: The McEuen Scholarship is awarded annually in memory of Dr. Charles Stuart McEuen to a Canadian student resident in Canada. The Scholarship is tenable for a three-year course of studies toward an ordinary degree or a four-year course toward an honours degree. It is renewable from year to year on the basis of satisfactory performance and covers all tuition fees, university residence costs and a stipend for basic expenses. Applicants must not be more than 21 years of age and must be attending university in Canada or be qualified for admission into a university in Canada. The winner is chosen on the basis of outstanding academic achievement and leadership potential.  

Contact: McEuen Scholarship Foundation Inc., Suite 1000, 60 Queen St., Ottawa, ON, K1P 5Y7, Tel: (613) 237-5160, Fax: (613) 230-8842, E-mail: javlen@scottaylen.com.

Mensa Canada Scholarship  
Deadline: February 28  

Terms of reference: Awards will be made on the basis of applicants’ essays. The essay should describe the specific goals (academic, vocational or career) that the Scholarship will help you to achieve. Membership in Mensa is not required. The sole eligibility requirement is that the applicant be enrolled in a full-time program at an accredited post-secondary institution for the academic year. Winners must provide proof of acceptance or enrollment, and may be required to provide two letters of reference. Maximum essay length is 500 words. Essays must be machine-produced, double-spaced, and submitted with the application form. No form of identification is to appear on the essay itself. Submit 3 copies.  

Contact: Coordinator, Mensa Canada Scholarship Program, 329 March Road, Suite 232, Box 11, Kanata, ON, K2K 2E1, Tel: (613) 599-5897.

Japanese Government (Monbusho) Scholarship  
Deadline: June 30  

Terms of reference: The Monbusho (Ministry of Education, Science, Sports and Culture, Government of Japan) offers scholarships to foreign students who wish to study at Japanese universities as undergraduate students under the Japanese Government Scholarship Program. As well the Monbusho offers scholarships to foreign students who wish to study at Japanese universities as research students under the Scholarship Program. The Undergraduate Studies is a five year program of study at a Japanese university. It includes one year of Japanese language training and four years of undergraduate study. When completed, the student can obtain a Bachelor’s degree. The Research Studies is for graduate students. The length of this scholarship is one and a half or two years.  

Contact: Monbusho Scholarship Program, The Consulate General of Japan, 900-1177 West Hastings St., Vancouver, BC, V6E 2K9, Tel: (604) 684-5868, ext. 370, Fax: (604) 684-6939, E-mail: japanvcr@istar.ca.

National Aboriginal Achievement Foundation Aboriginal Health Careers Program  
Deadline: May 1  

Terms of Reference: The Aboriginal Health Careers Program is administered by NAAF on behalf of Health Canada. The program provides support to students pursuing accredited health studies that demonstrate the potential for academic excellence.  

Contact: The National Aboriginal Achievement Foundation, Suite 33A, 70 Yorkville Avenue, Toronto ON, M5R 1B9, Tel: (416) 926-0775, Fax: (416) 926-7554. Email: naaf@istar.ca, Web: www.naaf.ca.

National Aboriginal Achievement Foundation Post-secondary Education Awards Program  
Deadline: June 1  

Terms of reference: The NAAF provides support for Aboriginal students studying education and professional development in business, sciences and all areas of study which contribute to economic self-reliance. The applicant must be Canadian Aboriginal peoples-First Nations Status and non-Status, Metis and Inuit. The NAAF will support community college or CEGEP diploma or certificate programs, undergraduate programs, professional degree programs, and graduate degree programs. This scholarship is based on financial need, academic merit, and the applicant’s interest and commitment to his or her education. NAAF also administers the following scholarships for Aboriginal students: Shell Canada Aboriginal Scholarship Program CIBC Achievers Petro-Canada Aboriginal Education Awards Amoco Aboriginal Youth Achievers Scholarship Aboriginal Veterans Scholarship Trust The Diana Fowler LeBlanc Aboriginal Social Work Scholarship The I masco Aboriginal Education Award The Shopper Drug Mart Scholarship The Great-West Business Education Scholarship TD Bank Financial Group Scholarships UGG Agricultural Scholarships The Alberta Museology Internships The CN Aboriginal Scholarships The Suncor Energy Aboriginal Awards Ross Charles Awards The Bahai Community of Toronto Scholar Weyerhaeuser Canada Ltd Aboriginal Scholarship The Royal Bank Award in Memory of Beth Hamilton Bell  

Contact: The National Aboriginal Achievement Foundation, Suite 33A, 70 Yorkville Avenue, Toronto, ON, M5R 1B9, Tel: (416) 926-0775, Fax: (416) 926-7554, E-mail: naaf@istar.ca. Web: www.naaf.ca.

National Congress of Italian-Canadians, Pacific Regions  
Deadline: May 1  

Terms of reference: The NCIC Pacific Region offers up to five scholarships yearly of $1,000 each to students in the Italian-Canadian ethnocultural community who are beginning or continuing their studies at post-secondary institutions in British Columbia. The scholarships will be awarded on the basis of academic excellence, personal character, and social responsibility. The application must be accompanied by transcript of grades, letter of recommendation, one-page letter by candidate regarding career goals.  

Contact: NCIC, c/o 1191 East 51st Ave., Vancouver, BC, V5X 4P7.

National Federation of the Blind: Advocates for Equality  
Deadline: unknown  

Terms of reference: The NFB: AE will be annually awarding four scholarships, one scholarship in the amount of $2000, one scholarship in the amount of $1,500 and two scholarships in the amount of $1,000. All scholarships are awarded on the basis of academic excellence, service to the community and financial need. All applicants must:  

• be legally blind  
• be residing in Canada  
• be pursuing or planning to pursue a full-time college or graduate course of study, and  
• be willing to attend the Annual NFB convention.  

Contact: The National Federation of the Blind: Advocates for Equality Scholarship Committee, 150 Moss Street, Victoria, BC, V8Y 4M3, Tel: (250) 387-3618 or (250) 995-3024.

The Navy League of Canada  
Deadline: August 15  

Terms of reference: The Navy League of Canada awards scholarships annually to serving or former Royal Canadian Sea Cadets entering the first year of a Community College, University or United World College course leading to a degree. These scholarships may not be granted where candidates enroll in the Canadian Forces on any basis whereby the Government provides free tuition or grants. Information and supporting documents i.e. personal letter of application, original certificate (transcripts), letter from Commanding Officer of Corps, letter recommending Branch President responsible for Corps, recommendation of Division President responsible for Corps must all be included.  

Contact: The Navy League of Canada, National Council, 305 Rideau St., Ground Floor, Ottawa, ON, K1N 9E5, Tel: (613) 993-5415, Fax: (613) 990-8701.

Nuu-Chah Nulth Post Secondary Scholarships  
Deadline: August 31  

Terms of reference: A scholarship in the amount of $500 is awarded to students of Nuu-chah-nulth ancestry who have completed a minimum of 8 months of post-secondary work and will be enrolled in full-time (6 or more credit courses) or graduate course of study. Send an application form, a transcript of last year’s grades, a letter of acceptance for the next school year and a minimum of a one-page essay on the importance of post-secondary education for Nuu-chah-nulth.  

Contact: Nuu-Chah-Nulth Tribal Council, Box 1383, Port Alberni, BC, V9Y 7M2, Tel: (604) 724-5757, Fax: (604) 723-0463.

Ontario Graduate Scholarship Program  
Deadline: November 16  

Terms of reference: The Ontario Graduate Scholarship (OGS) program is designed to encourage excellence in graduate studies at the master’s and doctoral levels. Students are eligible to apply if they:  

(a) plan to be enrolled full-time in an approved graduate program leading to a master’s or doctoral degree at an Ontario university that is financially assisted by the government of Ontario; (b) are a Canadian citizen or permanent resident, or have been admitted to Canada with a student visa.  

Contact: Ontario Graduate Scholarship Program, Student Support Branch, Ministry of Training, Colleges and Universities, PO Box 4500, 4th Floor, 199 Red River Rd, Thunder Bay, ON, P7B 6G9, Tel: (807) 343-7257, 1-800-465-3957, Web: osap.gov.on.ca/NOT-SECURE/ogs.htm.

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P.E.O. International Peace Scholarship Fund for Women
Deadline: unknown
Terms of reference: A scholarship of $5,000 is offered annually by the P.E.O. to a woman who is from a country other than the United States and Canada. The applicant must be qualified for admission to full-time graduate study or working toward a graduate degree in the University of their choice in the United States or Canada. The applicant must have a full year of class work remaining and enrolled and on campus for the entire school year of the grant and must promise to return to their country immediately following completion of degree to pursue their professional career.
Contact: P.E.O. International Peace Scholarship Fund, P.E.O. Executive Office, 3700 Grand Avenue, Des Moines, Iowa 50312-3820, Tel: (515) 255-3153, Fax: (515) 255-3820, Attention: International Student Advisor.

The Pisapio Scholarships
Deadline: September 25
Terms of reference: Scholarships in the amount of $1,000 are available each year. The number and the value of each award may be changed from time to time at the discretion of the Trustees.
Applicants must meet the following criteria:
• applicant must be accepted for admission to a university.
• applicant must be a full-time student working toward an undergraduate degree or graduate degree from the university.
• the applicant must have completed a minimum first year of university studies.
• the awards will be given: first to eligible applicants who are residents of the City of Nelson; second, to eligible applicants who are residents of an area within a 50 mile radius of City of Nelson; and third, to eligible applicants who live in the East or West Kootenay regions.
Contact: The Pisapio Scholarships Trust, 421 Baker St., Nelson, BC, V1L 4H7.

Public Works Association of British Columbia
Deadline: July 31
Terms of reference: This scholarship in the amount of $1,000 awarded in two $500 instalments, is open to any applicant planning full-time study at an educational institution in BC. Study will be in a Public Works field. Preference is given to female applicants
Contact: Public Works Association of BC, Scholarship Advisor.

Scholarship for Native Canadians
Deadline: March 31
Terms of reference: One major scholarship with a total value of $20,000 is available each year. In addition to the major scholarship, two minor scholarships of $4,000 each are available for the two top runners-up to the major winner each year. The scholarship will be given on a competitive basis to a graduate: • who has obtained an undergraduate degree from a British Columbia public university; • whose domicile or ordinary residence is in the Province; • who is a Canadian citizen; • who, in the opinion of the Advisory Committee, is a person of unusual worth and promise, and qualifies under the regulations; and • who proposes to conduct the studies for which the scholarship is awarded at an institution in any British Commonwealth country, except Canada.
The Advisory Committee will make its recommendations on the basis of academic achievement, demonstrated aptitudes, personal qualities and character, interest and participation in university and community affairs, and proposed programs of study.
Contact: Protocol and Events Branch, Ministry of Finance and Corporate Relations, 553 Superior Stree, Room 215, Victoria, BC, V8V 1X4.

Research Support in Arctic Environmental Studies – Canadian Northern Studies Trust
Deadline: January 31
Terms of reference: Environment Canada/Prairie and Northern Region offers opportunities of significant value in high arctic accommodation, facilities and services to support graduate students enrolled in master’s or doctoral studies at a Canadian university. Preference will be given to environmental research proposals in the physical and/or biological sciences for which location at the High Arctic Weather Station at Eureka is demonstrably advantageous.
Opportunities are not confined to students engaged in weather-related studies.
Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9E6, Tel: (613) 562-0515, Fax: (613) 562-0533, E-mail: acuns@cyberus.ca.
Web: aix1.uottawa.ca/associations/acuns.acuns.

Rhodes Scholarships
Terms of reference: Eleven scholarships are open for Canadian students and will be awarded annually. These scholarships are tenable at the University of Oxford, England. They are granted for two years, with the possibility of a third year. They are required to go to Oxford in October of each year. Selection is made on the basis of school and college records without written examinations. The qualities which will be considered in making the selection are: literary and scholastic attainment; fondness and success in outdoor sports; qualities of truthfulness, courage, devotion to duty, sympathy for and protection of the
the scholarship year. The student must be a citizen of the country of residency and where the sponsoring Rotary Club is located. In this and all other programs of the Rotary Foundation, a Rotarian, a dependent of a Rotarian, a child, grandchild, or sister of a Rotarian, or any spouse thereof, is ineligible for an award.

**Contact:** Application for an Undergraduate Scholarship must be made through a Rotary Club in the district in which the applicant's permanent residence is located, or in the district in which is located the school at which he is studying at the time of his application. The sponsoring Rotary Club will provide the necessary application forms and explanatory literature.

**Nancy Ryckman Scholarship**
**Deadline:** June 30

Terms of reference: Scholarships totalling $1,500 are awarded to students who have completed at least one year at a University or college and who attend school in the East Kootenays for three years, of which two years must have been immediately prior to entrance to the University or College. Consideration is given to character, intellectual potential and need.

**Contact:** Award #00544: Apply at British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

**The Paul Sargent Memorial Linguistics Scholarship Program**
**Deadline:** February 7

Terms of reference: This program, which is administered by the Association of Universities and Colleges of Canada, has been established to recruit students enrolled in a Master's Program specializing in the translation of an Oriental, Middle Eastern or Eastern European language who are willing to work at the Communications Security Establishment in Ottawa.

**Contact:** Canadian Awards Program, International and Canadian Programs Branch, Association of Universities and Colleges of Canada (AUCC), 600-350 Albert Street, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca.

**Saturn “Commitment to Excellence” Award**
**Deadline:** October 22

Terms of reference: Saturn Canada would like to recognize five exceptional female students attending university or college in Canada. Saturn's "Commitment to Excellence" Award will honor female students having made significant accomplishments in one or more of the following areas: academic, business, arts, athletics, philanthropy or community. Winning students will receive a $1,500 scholarship. Students must complete and return the application form along with the following items: a 250-500 work essay on their successes and contributions in one or more of the following areas: academic, business, arts, athletics, philanthropy or community, university or college transcripts, letters of reference from professors, employers, coaches or members of the community (maximum of three) and two photocopies of all materials you are sending.

**Contact:** Saturn Commitment to Excellence c/o Optimum Public Relations, 21 St. Clair Ave. East, 12th Floor, Toronto, ON, M4T 1L9. Attention: Perry Schwartz, Tel: (416) 934-8011.

**Elvie Smith Memorial Scholarship For Studies in Canadian Aviation**
**Deadline:** January 31

Terms of reference: The scholarship is awarded to the student who best exemplifies the spirit of Canada's aviation pioneers in seeking to enter the field of aviation, and who wishes to pursue studies in preparation for such a career. Entrants must be enrolled in the final year of a Canadian high school, or in a Canadian college or university. Submissions are to be made in writing. There is no set format; applicants may choose to submit a letter, essay, or other written presentation. Entries should not exceed 2000 words in length.

**Contact:** The Elvie Smith Memorial Scholarship Competition, c/o Canada’s Aviation Hall of Fame, PO Box 6360, Wetaskiwin, AB, T9A 2G1, Tel: (780) 489-3547, Fax: (780) 461-9066. E-mail: owaldm@telusplanet.net

**John J. Schumacher Minority Leadership Scholarship Program – Southwestern University School of Law**

Terms of reference: Southwestern University School of Law offers approximately 25 scholarships each year through the John J. Schumacher minority Leadership Scholarship Program. These scholarships provide up to full tuition to members of the Southwestern entering class whose academic and leadership qualities are exceptional. The awards are renewable for each year of the program attended, provided that the recipient remains in good academic standing. Any prospective student who would like to apply for a Schumacher Scholarship should complete and return the Interest Form and proceed with the general admissions and financial aid application processes as outlined in the Southwestern catalog.

**Contact:** Office of Admission, Southwestern University School of Law, 675 S. Westmoreland Avenue, Los Angeles, CA, 90005, USA, Tel: (213) 738-6717.

**Paul W. Wildman Scholarship Program – Southwestern University School of Law**

Terms of reference: Southwestern University School of Law offers approximately 25 scholarships each year through the Paul W. Wildman Scholarship Program. These scholarships provide up to full tuition to members of the Southwestern entering class who have demonstrated exceptional academic promise. The awards are renewable for each year of the program attended, provided that the recipient remains in good academic standing. Any prospective student who would like to apply for a Wildman Scholarship should complete and return the Interest Form and proceed with the general admissions and financial aid application processes as outlined in the Southwestern catalog.

**Contact:** Office of Admission, Southwestern University School of Law, 675 S. Westmoreland Avenue, Los Angeles, CA, 90005, USA, Tel: (213) 738-6717.

**Student Access Awards Program**
**Deadline:** June 1

Terms of reference: This scholarship is to encourage Canadian students with disabilities to pursue a university or college education which will ultimately prepare them to become active members of Canada's labour force. Candidates must meet the definition as: "A disability is a functional limitation resulting from a physical, sensory, or mental impairment, which, for an indefinite period, affects the ability of the student to perform the activities necessary to participate fully in post-secondary learning". The applicants can be enrolled at the undergraduate, graduate and diploma programs in any field of study. Each full-time scholarship will be based on percentage of full-time course load.

**Contact:** Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745. E-mail: awards@aucc.ca, Web: www.aucc.ca.

**Studentships in Northern Studies – Canadian Northern Studies Trust**
**Deadline:** January 31

Terms of reference: These scholarships are normally valued at $10,000 each, to support students enrolled in graduate, and undergraduate, degree programs, or other courses of study recognized at a Canadian university. The educational programs of the successful candidates will have special relevance to Canada's northern territories and adjacent regions. Preference will be given to candidates who will engage in research culminating in a thesis or similar document, and whose programs will involve direct northern experience. Applicants in all subject areas, including interdisciplinary study, will be considered, but the applicability of the proposed inquiry to northern themes, problems or issues should be demonstrated.

**Contact:** Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533. E-mail: acuns@cyberus.ca, Web: ax1.uottawa.ca/associations/acuns-acns.

**SWANA Scholarship for Studies in Solid Waste Management & Environmental Protection**
**Deadline:** October 15

Terms of reference: The BC Chapter of the Solid Waste Association of North America is offering a number of $500 scholarships to encourage students studying in disciplines related to solid waste management and environmental protection. Recipients of the scholarships will be determined by a panel of SWANA members and will be chosen on the basis of:
- intended course of studies
- academic performance
- involvement in school and community activities
- a brief written submission
- references

Applicants must be registered in a full course of studies in an environmental management or related program at a recognized post-secondary institution in British Columbia. They must have completed their first year of post-secondary studies. To be considered for one of these scholarships, the applicant must submit a completed application form, transcript or copy of last year’s statement of marks, reference letter from a faculty member and proof of registration.

**Contact:** SWANA Scholarship c/o GVRD Solid Waste Department, 4330 Kingsway, Burnaby, BC, V5H 4G8, Attention: Mike Stringer, Tel: (604) 436-6810, Fax: (604) 436-6811, Web: www.ecowaste.com/swanabc.

**The Swedish Institute Guest Scholarship**
**Deadline:** November 1

Terms of reference: This scholarship is offered to a qualified Canadian researcher or scholar of any age who wishes to spend an academic year on a research undertaking at a Swedish university or an independent research facility. The competition for the scholarship is global. The value of the scholarship is approximately SEK 6700 per month. Applicants should submit preliminary personal background information, particularly statements of purpose of study/ research and language competence, as well as a copy of letter of invitation from a Swedish University department.

**Contact:** Swedish Institute Guest Scholarship Office, PO Box 7434, S-10391, Stockholm, Sweden.

**Ted Trindell Memorial Scholarship**
**Deadline:** January 8

Terms of reference: Five Awards of $1,000 are awarded to Metis or Non-Status persons from Northwest Territories pursuing full-time post-secondary studies. Academic merit and financial need will be considered.

**Contact:** Chairman, Selection Committee, Ted Trindell Scholarship Fund, Box 1375, Yellowknife, NWT, X1A 2P1, Tel: (403) 873-3505.
United Food and Commercial Workers Union, Local 1518, Scholarship
Deadline: June 30
Terms of reference: Ten scholarships of $1,000 each are offered to students beginning or continuing studies in a full academic programme of studies at the University of BC, University of Victoria, BCIT, Simon Fraser University or at a college in British Columbia. Candidates must be a member, or the son, daughter, or legal ward of a member of the Union in good standing and must give full details of their own or their parents’ membership in the Union.
Contact: Award #00547: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

University College London Scholarships
Deadline: January 31
Terms of reference: The University College London Scholarships are offered to students from overseas. All scholarships are competitive and depend upon academic merit, and are tenable for the duration of the programme of study. To be eligible for any of the scholarships, applicants should: hold an offer of admission to a full-time program of study at University College London, be self-financing and liable to pay tuition fees at the rate for overseas students. These scholarships are not available to students already on a degree programme, or to students intending to pursue their studies at an institution other than UCL. These scholarships are available to students interested in graduate and undergraduate studies.
Contact: International Office, University College London, Gower Street, London, England, WC1E 6BT Tel: +44 171 380 7708, Fax: +44 171 380 7380, E-mail: international@ucl.ac.uk.

Vancouver Police Department Scholarships
Deadline: July 31
Terms of reference: To encourage and assist sons and daughters of members of the Vancouver Police Department to attend the Post Secondary Educational Institutes: University of British Columbia, Simon Fraser University, BCIT or any Regional College in BC Criteria:
• Graduation from secondary school
• Enrollment in one of the Post Secondary Educational Institutes
• Preference may be given to candidates who have not previously won a Vancouver Police Department Scholarship
• Preference may be given to applicants entering one of the above listed Post Secondary Educational Institutes from secondary school
• Applicants enrolled in Post Secondary educational institutes other than one listed above may be considered
• In selecting the winners, academic standing, financial circumstances and services to the community may be considered
• Award winners will be required to provide proof of registration with one of the Post Secondary Educational Institutes
The letter of application should contain the following information:
• The applicant’s full name, address, postal code, telephone number, place and date of birth
• A list of secondary schools attended, along with dates of attendance
• Parent’s name and details of service with the VPD
• Transcript of marks from senior secondary school(s) and Post Secondary Educational Institute(s) attended by applicant
• Other details which may assist the Committee in its selection.
Note: there are six different scholarships offered under the Vancouver Police Department Scholarships, please ask for information from the Financial Assistance Department.

Contact: Secretary, Vancouver Police Department Scholarship Committee, 2120 Cambie Street, Vancouver, BC, V5Z 4N6.

Vancouver Mycological Society
Deadline: Unknown
Terms of reference: The Vancouver Mycological Society would like to make available the sum of $400 to a graduate student studying in the province of BC whose field of study encompasses the macro fungi. Interested candidates must submit a one-page summary describing their research project; in addition, the candidates must indicate willingness to give a presentation on their research to the Vancouver Mycological Society at one of the regular meetings.
Contact: Vancouver Mycological Society, 101-1001 West Broadway, Box 181, Vancouver, BC, V6H 4E4 Tel: (604) 988-9390 or (604) 322-0074.

Geraldo Donato Vertone Scholarship
Deadline: August 31
Terms of reference: A scholarship in the name of Geraldo Donato Vertone has been set up by the Italian Cultural Centre Society and is open to any student who is accepted to, or attends a post secondary institution leading to a university degree. To qualify, applicants must:
• be of Italian origin
• attend, or be accepted at a University or Community College leading to a University degree.
• send an application letter detailing your reasons for applying, along with one letter of reference.
Contact: Italian Cultural Centre Society, Geraldo Donato Vertone Scholarship, 3075 Slocan Street, Vancouver, BC, V5M 3E4, Tel: 430-3337, Fax: 430-3331, Web: iccs.bc.ca

Village Credit Union Scholarship Program
Deadline: April 1
Terms of Reference: One scholarship is available to those students who are presently enrolled full-time at a college or university, planning to attend another year of studies, and who are junior members or the children or grand children of members of the Village Credit Union. Candidates will be selected on the basis of a completed Village Credit Union scholarship application form, a copy of the most recent official transcript, two letters of references (at least one from an instructor or faculty member, none from family members) and a 200 word essay “Why I should be chosen as a winner of a scholarship from Village Credit Union”. Proof of enrolment will be required prior to payment of scholarship.
Contact: Village Credit Union, 1013 Brunette Avenue, Coquitlam, BC, V3K 1E6, Tel: (604) 525-3331, Fax: (604) 525-2440.

Bridget Walsh Scholarship for Single-Parent Irish Women
Deadline: October 15
Terms of reference: The Bridget Walsh scholarship was created from the royalties of Sheelagh Conway’s book The Faraway Hills are Green; Voices of Irish Women in Canada published in October 1992 by Women’s Press. In recognition of the twenty-two Irish women from across Canada whose stories are told in this book, Sheelagh Conway has donated half of the royalties to low-income, single-parent Irish women in Canada who wish to pursue their education at university or college level. The scholarship will be awarded on the basis of academic merit or promise as well as economic need. The value of the scholarship will vary from year to year depending on royalties.
Contact: Mary Broderick, Chairperson, Bridget Walsh Scholarship, 205 Mountainview Road North, Georgetown, ON, L7G 4T8, Tel: (416) 873-0873.

Welch Foundation Scholarship
Deadline: April 15
Terms of reference: A scholarship is offered to a promising scholar who wishes to study vacuum science, techniques or their application in any field. Candidates for the scholarship should have at least a Bachelors degree; a Doctors degree is preferred.
Contact: Dr. F.R. Shepherd Nortel Networks, 043/11/ K14, 3500 Carling Avenue, Nepean, ON, K2H 8E9, Canada, Tel: (613) 763-3285, Fax: (613) 763-4147, E-mail: fsms@nortelnetworks.com.

Xerox Aboriginal Scholarships Program
Deadline: June 15
Terms of reference: Awards of $3,000 are awarded to applicants who are of Canadian citizen and resident; status or non-status Indian, Metis or Inuit; full-time student at Canadian post-secondary institution with significant content in information technology. Applications must include a transcript, proof of admission to a recognized post-secondary institution, two letters of reference and brief description of the applicant’s interest in information technology.
Contact: Contributions Administer, Corporate Affairs, Xerox Canada, 5650 Yonge Street, North York, ON, M2M 4G7, Tel: (416) 733-6837, Fax: (416) 733-6087.

Zaja Scholarship – Centre for Ability Association
Deadline: May 5
Terms of reference: The Zaja Scholarship is awarded annually to an individual with a disability that is attending/or planning to attend post secondary education (credited courses leading to a degree, diploma or certificate) or a structured vocational program. Applicant must be: Canadian citizen or resident; has a physical, neurological and/or developmental disability; attend post secondary (credited courses leading to a degree, diploma or certificate); demonstrate social interests, such as participation in volunteer work or leadership in community activities and demonstrate the philosophy and values of the Centre for Ability (believes in community inclusiveness and demonstrates strengths and resourcefulness in overcoming life challenges). Successful applicant will be notified at the end of May and the award will be presented at the annual general meeting at the Centre for Ability in June.
Contact: Zaja Scholarship Committee, c/o The Centre for Ability, 2805 Kingsway, Vancouver, BC, V5R 5H9, Tel: (604) 451-5511, Fax: (604) 451-5651, www.centreforability.bc.ca

External scholarships for Applied Sciences students

The BBM Scholarship (Bureau of Broadcast Measurement)
Deadline: June 30
Terms of reference: The BBM has created a scholarship, valued at $2,500, for students wishing to study Communications. Applicants must be enrolled in a graduate studies program, or be in the final year of anHonours degree with the intention of entering a graduate program, anywhere in Canada. Applicants must submit a 250 word essay, outlining his/her interest in audience research. The applicant may also submit a copy of any course project or paper on research he/she has previously completed. The applicant should attach to his/her application three (3) references/recommendations from appropriate sources. One (1) should be from his/her course director or advisor.
Contact: The Canadian Association of Broadcasters, PO Box 627, Station B, Ottawa, ON, K1P 5S2.

Canadian Engineering Memorial Foundation First Year Scholarships
Deadline: January 14
Terms of reference: Up to five $5000 scholarships are offered annually to women entering first year of an undergraduate engineering programme to encourage them to pursue this career path. The scholarship is based primarily on demonstrated leadership, community involvement and extracurricular activities,
with special emphasis on community services to recognize and encourage continued contribution to society. Academic achievement and work experience are also considered in awarding the scholarship. The applicant must be willing to act as a role model and take action in promoting engineering, particularly to young women by, for example, visiting high-schools and otherwise assisting the CEMF. Applicants must be Canadian citizens or landed immigrants with permanent residence in Canada.

Contact: The Canadian Engineering Memorial Foundation, Undergraduate Scholarship Award, c/o Canadian Council of Professional Engineers, 401-116 Albert Street, Ottawa, ON, K1P 5G3, Tel: (613) 232-2474, Fax: (613) 230-5759, E-mail: memorial.foundation@ccpe.ca, Web: www.ccpe.ca.

Canadian Engineering Memorial Foundation Graduate Scholarship
Deadline: October 25

Terms of Reference: One $15,000 scholarship is offered annually in Canada to a woman enrolled full-time in a graduate engineering programme at the Ph.D level to encourage them to pursue this valuable career path and to recognize the valuable contribution they bring to society through research, teaching and community involvement. The scholarship is based primarily on demonstrated leadership, community involvement and extracurricular activities, with special emphasis on activities that help attract or retain women in engineering. Engineering achievement is also considered in awarding the scholarship, and must be interpreted to include both research contributions and work experience. The applicant must be willing to act as a role model and take action in promoting engineering, particularly to young women by, for example, visiting schools and otherwise assisting the CEMF. Applicants must be Canadian citizens or landed immigrants with permanent residence in Canada.

Contact: The Canadian Engineering Memorial Foundation, Undergraduate Scholarship Award, c/o Canadian Council of Professional Engineers, 401-116 Albert Street, Ottawa, ON, K1P 5G3, Tel: (613) 232-2474, Fax: (613) 230-5759, E-mail: memorial.foundation@ccpe.ca, Web: www.ccpe.ca.

Canadian Society for Chemical Engineering – SNC LAVALIN Plant Design Competition
Deadline: May 15

Terms of Reference: The Canadian Society for Chemical Engineering offers the SNC LAVALIN Undergraduate Student Design Competition (SNC LAVALIN) to encourage the development of design skills among engineering students enrolled in undergraduate chemical engineering programs at Canadian universities. Eligibility: Individuals and groups of undergraduate students registered in chemical engineering programs in Canadian universities. Prize: The group of students with the best design will receive the SNC LAVALIN Inc. Plant Design Award of $1,000. Each member of the team receives a certificate and a two-year subscription of “The Canadian Journal of Chemical Engineering.”

Contact: Canadian Society for Chemical Engineering, #550-130 Slater Street, Ottawa, ON, K1P 6E2, Tel: (613) 232-6252, Fax: (613) 232-5682. E-mail: cic_adm@fox.nstn.ca, Web: www.fox.nstn.ca.

Canadian Society for Chemical Engineers - Edmonton Chemical Engineering Scholarship
Deadline: April 30

Terms of Reference: The Canadian Society for Chemical Engineering offers the Edmonton Chemical Engineering Scholarship to undergraduate students in chemical engineering entering the second, third, fourth, or fifth (in a five year program) year of studies at a Canadian university, for leadership qualities and demonstrated contributions to the Canadian Society for Chemical Engineering via participation in student chapters, and for above-average academic performance. Applicants must be members of the Canadian Society for Chemical Engineering.

Application: A letter of application should be submitted to the Society, including a transcript of academic performance and be supported by two letters of reference. Contact: Canadian Society for Chemical Engineers, #550-130 Slater Street, Ottawa, ON, K1P 6E2, Tel: (613) 232-6252, Fax: (613) 232-5682. E-mail: cic_adm@fox.nstn.ca, Web: www.fox.nstn.ca.

Canadian Society for Chemical Engineers – Sarnia Chemical Engineering Community Scholarship
Deadline: April 30

Terms of Reference: The Canadian Society for Chemical Engineering offers the Sarnia Chemical Engineering Community Scholarship to undergraduate students in chemical engineering about to enter the final year of studies at a Canadian university, and will be made for academic excellence and demonstrated contributions to the Canadian Society for Chemical Engineering, such as participation in student chapters. Applicants must be members of the Canadian Society for Chemical Engineering. Application: Application for the award should be submitted to Diane Goltz, Program Manager. Applications should contain evidence of academic standing, letters of reference and evidence of contribution to the Society.

Contact: Canadian Society for Chemical Engineers, #550-130 Slater Street, Ottawa, ON, K1P 6E2, Tel: (613) 232-6252 Fax: (613) 232-5682, E-mail: cic_adm@fox.nstn.ca, Web: www.fox.nstn.ca.

CCPE-ENCN Scholarship
Deadline: April 1

Terms of Reference: A CCPE-ENCN Endowment of $7,500 will be awarded to a professional engineer pursuing studies in the area of engineering failure investigation, risk management, and/or materials testing. This area of engineering is concerned with analyzing the causes of materials failure and preventing accidents in the industrial, manufacturing, or construction sector. To be eligible, candidates must be registered as full members of one or more of the 12 provincial and territorial associations/ordre which regulate the profession of engineering in Canada.

Contact: CCPE National Scholarship Program, Canadian Council of Professional Engineers, 401-116 Albert Street, Ottawa, ON, K1P 5G3, Tel: (613) 232-2474 ext 246, Fax: (613) 230-5759. E-mail: lynn.villeneuve@ccpe.ca, Web: www.ccpe.ca.

CCPE-Manulife Financial National Scholarships
Deadline: April 1

Terms of Reference: Three CCPE-Manulife Financial National Scholarships valued at $10,000 each to provide financial assistance to engineers returning to university for further study or research in an engineering field. Candidates must be accepted or registered in a Faculty of Engineering. Eligible candidates must be registered as full members of one or more of the 12 provincial and territorial associations/ordre which regulate the profession of engineering in Canada.

Contact: CCPE National Scholarship Program, Canadian Council of Professional Engineers, 401-116 Albert Street, Ottawa, ON, K1P 5G3, Tel: (613) 232-2474 ext 246, Fax: (613) 230-5759. E-mail: lynn.villeneuve@ccpe.ca, Web: www.ccpe.ca.

JDS FITEL Scholarship Program
Deadline: July 2

Terms of Reference: This program offers up to 22 scholarships, 11 at the undergraduate level and 11 at the graduate level. Undergraduate students will receive $3,000, and graduate students will receive $5,000. Students must be enrolled in a Physics or Engineering Physics program in a recognized Canadian degree-granting institution. They must be registered as full members of one or more of the 12 provincial and territorial associations/ordre which regulate the profession of engineering in Canada.

Contact: Canadian Awards Program, AUCC, 60-350 Albert Street, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745. E-mail: awards@aucc.ca, Web: www.aucc.ca.

Monsanto Native Forestry Scholarship
Deadline: July 31

Terms of Reference: This $500 scholarship is designed to assist First Nations students entering a nationally recognized forestry school. In addition to the scholarships, Monsanto Agricultural Company of Canada personnel will be available to the students as advisors in their studies.

Contact: National Aboriginal forestry Association, Attention: Monsanto Native Forestry Scholarship Program, 875 Bank St., Ottawa, ON, K1S 3W4, Tel: (613) 233-5563.
NRC-CNRC Women in Engineering and Science Program
Deadline: October 15
Terms of reference: The National Research Council has established a uniqueness program designed to encourage greater participation of women in the under-represented fields of engineering, science, and mathematics. Working with world-class researchers in top facilities, successful candidates of the Women in Engineering and Science Program will undertake career-related work while receiving a salary. The basic criteria is as follows: must be a woman who is a citizen or permanent resident of Canada; must have a high academic standing; must be currently attending a Canadian university or CEGEP; must be enrolled full-time in an undergraduate, science, engineering or undergraduate year of university or the second year of pre-university CEGEP before September 1st of the year application is made to WES.
Contact: National Research Council Canada, Human Resource Branch, WES Coordinator, Ottawa, ON, K1A 0R6, Tel: (613) 993-9134, Fax: (613) 990-7669, E-mail: WES.Coordinator@NRC.ca, Web: www.nrc.ca/careers.

Squires Foundation Scholarship
Deadline: October 31
Terms of reference: The Squires Foundation provides two scholarships each year to students who demonstrate an interest in the German language. Applicants must be Canadian or US citizens; are in a full-time computer science program at a university or college and maintain a high level of scholastic achievement. A student must meet all requirements to qualify. Apply on website (www.itisb.com).
Contact: Squires Foundation, Tel: (250) 595-8282, Fax: (250) 595-8088, E-mail: johns@itisb.com, Web: www.itisb.com.

The Wood Scholarship Fund – The Women’s Association of the Mining Industry of Canada, Toronto
Deadline: June 15
Terms of reference: The Wood Scholarships shall be awarded for tuition fees and books at a duly qualified school of mining in Canada in the amount of $6,000 to scholars with financial need and a “B” or better average. A scholarship can be continued up to four years the scholar maintains good academic standing and the need prevails.
Contact: The Women’s Association of the Mining Industry of Canada, Toronto, The Wood Scholarship Fund, PO Box 207, Postal Station A, Toronto, ON, M5W 1B2, Web: www.geocities.com/wamic toronto.

External scholarships for Arts students
Academy of Moving Image Archivists
Deadline: May 1
Terms of reference: Three scholarships, Mary Pickford Scholarship, Sony Pictures Scholarship and CFI/USID Solow Scholarship, are awarded as financial assistance to students of meritor who intend to pursue careers in the profession of moving image archiving. To be considered the applicant must be enrolled in a graduate-level or other advanced program in film or television studies or production, library or information services, archival administration, museum studies or a related discipline; or must be accepted into such a program for the next academic year. The applicant must have a GPA of 3.0 in his/her most recently completed academic program. The applicant must submit an application form, an official transcript from the most recent academic program, an essay of no more than 1000 words describing the applicant’s major field of study, interest in moving image archiving, relevant experience and/or education, and career goals. Two letters of recommendation. Applicants need only submit one application form and one set of supporting documents to be eligible for all three awards; however, no applicant will be awarded more than one scholarship.
Contact: Frances Gundry, 255 Niagara Street, Victoria, BC, V8V 1G4, Tel: (250) 387-3623.

Spaceflight and Life Sciences Training Program Scholarship – Canadian Space Agency
Deadline: March 15
Terms of reference: The Canadian Space Agency is sponsoring one Canadian student, who has demonstrated scholastic excellence and an interest in Space Life Sciences, to participate in a unique learning experience. The NASA Spaceflight and Life Sciences Training Program (SLSTP) is an intensive six-week training program at the Kennedy Space Center (KSC) in Florida for about 40 University students interested in Life Sciences, Bioengineering or related fields. The program will allow students to participate in the simulated space flight experiments and NASA Life Sciences research. The scholarship is limited to currently enrolled undergraduate students who: 1) are Canadian citizens, 2) are pursuing their first undergraduate degree in a Life Science at a recognized Canadian university, 3) have a minimum cumulative average of 75%, 4) will have completed at least their second year of study or graduating students who have been accepted into a graduate research or Bachelor of Education program at a recognized Canadian university.
Contact: SLSTP Canadian Space Agency, Space Science Program, PO Box 7275, Station V, Ottawa, ON, K1L 8E3, E-mail: slstp@space.gc.ca.

Squires Foundation Scholarship
Deadline: October 31
Terms of reference: The Squires Foundation provides two scholarships each year to students who demonstrate an interest in the German language. Applicants must be Canadian or US citizens; are in a full-time computer science program at a university or college and maintain a high level of scholastic achievement. A student must meet all requirements to qualify. Apply on website (www.itisb.com).
Contact: Squires Foundation, Tel: (250) 595-8282, Fax: (250) 595-8088, E-mail: johns@itisb.com, Web: www.itisb.com.

The Wood Scholarship Fund – The Women’s Association of the Mining Industry of Canada, Toronto
Deadline: June 15
Terms of reference: The Wood Scholarships shall be awarded for tuition fees and books at a duly qualified school of mining in Canada in the amount of $6,000 to scholars with financial need and a “B” or better average. A scholarship can be continued up to four years the scholar maintains good academic standing and the need prevails.
Contact: The Women’s Association of the Mining Industry of Canada, Toronto, The Wood Scholarship Fund, PO Box 207, Postal Station A, Toronto, ON, M5W 1B2, Web: www.geocities.com/wamic toronto.

External scholarships for Arts students
Academy of Moving Image Archivists
Deadline: May 1
Terms of reference: Three scholarships, Mary Pickford Scholarship, Sony Pictures Scholarship and CFI/USID Solow Scholarship, are awarded as financial assistance to students of meritor who intend to pursue careers in the profession of moving image archiving. To be considered the applicant must be enrolled in a graduate-level or other advanced program in film or television studies or production, library or information services, archival administration, museum studies or a related discipline; or must be accepted into such a program for the next academic year. The applicant must have a GPA of 3.0 in his/her most recently completed academic program. The applicant must submit an application form, an official transcript from the most recent academic program, an essay of no more than 1000 words describing the applicant’s major field of study, interest in moving image archiving, relevant experience and/or education, and career goals. Two letters of recommendation. Applicants need only submit one application form and one set of supporting documents to be eligible for all three awards; however, no applicant will be awarded more than one scholarship.
Contact: Frances Gundry, 255 Niagara Street, Victoria, BC, V8V 1G4, Tel: (250) 387-3623.

The Brucebo Fine Art Summer Scholarship
Deadline: June 15
Terms of reference: The ‘Brucebo’ has been a grant feature among practicing Fine Arts persons - painters, sculpturers, photographers, etc. for over 20 years. The grant finances a two month studio stay at Brucebo on the island of Gotland, Sweden. It includes free use of the fully furnished studio cottage, a two month food stipend and a generous transport allowance. The grant must be used within the period June 10-August 20. This grant is sponsored by the Gotland Konstmuseum (Gotland Museum of Fine Arts).
Contact: CSF Secretary, Dr. Jan O. Lundgren, Department of Geography, McGill University, 805 Sherbrooke St. W., Montreal, QC, H3A 2K, Tel: (514) 398-4304, Fax: (514) 398-7437, E-mail: lundgren@felix.geog.mcgill.ca

Burnaby Historical Society Scholarship
Deadline: June 15
Terms of reference: This scholarship, given by Drs. Violet and Blythe Eagles in honour of Evelyn Salisbury. The applicant for the scholarship should be an undergraduate attending an accredited British Columbia University or College and enrolled in a major or honours programme that specializes in Canadian history, with preference given to the history of British Columbia. Candidates must apply in writing, outlining their studies to date, provide an essay or an example of research done and including a current academic transcript and letters of recommendation from two professors at the university or college the candidate is attending.
Contact: The Burnaby Historical Society, Scholarship Committee, 6501 Deer Lake Avenue, Burnaby, BC, V5G 3T6, Tel: (604) 293-6500, Fax: (604) 293-6525.

Leo J. Krysa Family Undergraduate Scholarship
Terms of reference: The Leo J. Krysa family undergraduate scholarship is awarded annually to a student in the Faculty of Arts or Education about to enter the final year of study in pursuit of an undergraduate degree. Applicants’ programs must emphasize Ukrainian and/or Ukrainian-Canadian studies, through a combination of Ukrainian and East European or Canadian courses in one of the above disciplines. The scholarship is for an eight-month period of study at any Canadian university.

Robert Markle Scholarship
Terms of reference: Award of a $1,200 amount given to a First Nations student of a visual arts program at a post-secondary institution. Application must include a resume stating personal background and heritage; selection of colour slides and/or black and white photographs or a small portfolio of recent work; letter of recommendation from instructor. All entries will be returned to the sender.

Contact: Robert Markle Fund, c/o Woodland Cultural Centre, 184 Mohawk St., PO Box 1506, Brantford, ON, N3T 5V6.

National Aboriginal Achievement Arts Scholarship Program
Terms of reference: The NAAF continues its support of Aboriginal students, artists and cultural workers for basic, intermediate, post-secondary education, advanced graduate degrees and professional development initiatives in fields of study including, but not limited to the following: visual art, dance, media studies, graphic arts, creative writing, music, crafted arts, technical theatre, museum studies, film & television production, computer animation, graduate studies in fine art, arts administration, radio broadcasting. The applicants must be Canadian Aboriginal peoples, status, non-status, Metis and Inuit. The scholarship is based on financial need, academic merit and the applicant’s interest and commitment to his or her education.

Contact: The National Aboriginal Achievement Foundation, Suite 33A, 70 Yorkville Avenue, Toronto, ON, MSR 1B9, Tel: (416) 926-0775, Fax: (416) 926-7554, E-mail: naaf@istar.ca, Web: www.naaf.ca.

New Brunswick Arts Scholarships
Terms of reference: The Arts Scholarships program provides awards to New Brunswick students and arts professionals who are pursuing full-time or short-term studies for the purpose of becoming an arts professional or pursuing a career as an arts professional. The program is designed to recognize and encourage those who have already completed some basic training and who have demonstrated exceptional potential and talent as artists. The applicant should intend to study creative writing, music, theatre, dance, film/video, visual arts/photography, or craft at a recognized institution or with a recognized private instructor for the purpose of pursuing a career as a professional artist or an arts professional.

Contact: Arts Development Branch, Department of Economic Development, Tourism and Culture, PO Box 6000, Fredericton, NB, E3B 5H1, Tel: (506) 453-2555.

Don Smith Scholarship Fund (BCTV)
Terms of reference: In recognition of Don Smith’s long-term contributions to the broadcasting industry, BCTV has established a trust fund in his name that will provide scholarships to a maximum of $2,500 per year for up to four students enrolled in a recognized broadcast communications program, or a university program with an emphasis on broadcast journalism, leading to a journalism degree. These scholarships are intended to encourage entrance to a career in broadcasting to members of groups who are currently under-represented in the broadcast industry. These groups are: First Nations peoples, persons with disabilities, visible minorities, women.

Contact: Certified General Accountants Association of British Columbia, 1555 West 8th Avenue, BC, V6B 4A3.

External scholarships for Business Administration students
Ellen Bell YMCA Memorial Scholarship
Terms of reference: Ellen Bell will be remembered for her boundless energy, intelligence, kindness and willingness to commit herself to the betterment of the community. The scholarship will be granted to an individual or individuals who demonstrates the above qualities. Applications must be in writing, giving full particulars together with the reason for applying (in 500 words or less) along with letters of reference.

Contact: Ellen Bell YMCA Memorial Scholarship Committee, YMCA of Greater Vancouver, #200-1166 Alberni Street, Vancouver, BC, V6B 4A3.

Celanese Canada Inc.
Terms of reference: Two scholarships of $1500 will be awarded to students entering their final year of a program leading to a Bachelor of Administration or Commerce. Candidates must be Canadian citizens or must have held permanent resident status for one year prior to submitting application. Candidates for this award will be expected to have achieved a high level of academic excellence as well as to have exhibited superior intellectual ability and judgement. Applications are by nomination only. The Department Head in an eligible institution may nominate only one candidate using the appropriate application form. The scholarship program is administered by the Association of Universities and Colleges of Canada and selection is made by a committee of university representatives chosen by the AUCC.

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 600-3500 Albert Street, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca.

CGA Academic Excellence Scholarship
Terms of reference: The Certified General Accountants Association of British Columbia awards a $500 scholarship to an accounting student who has completed the third year of the undergraduate degree program at Simon Fraser University. The $500 scholarship will be applied to the student’s tuition fees when the recipient enrols in the final year of Simon Fraser University’s degree program. To apply for this scholarship, please submit a formal application to the Financial Assistance Office where the application will be reviewed and a recommendation made to the Certified General Accountants Association.

Contact: Certified General Accountants Association of British Columbia, 1555 West 8th Avenue, BC, V6B 4A3.
Terms of reference: The Certified General Accountants Association of British Columbia annually awards $750 CGA Continuing Education Tuition Scholarships to graduates of the accounting programs at Simon Fraser University. Three Continuing Education Scholarships are available for SFU students; two to graduates of the BBA program and one to a graduate of the MBA program. The $750 scholarship will be credited toward tuition fees when the recipient enrols in the professional education program of the Certified General Accountants Association of British Columbia. This scholarship is valid for the academic year following the award; the academic year is from September to June. To apply for these scholarships, please make formal application to the Financial Assistance Office where the applications will be reviewed and a recommendation made to the Certified General Accountants Association. Contact: Certified General Accountants Association of British Columbia, 1555 West 8th Avenue, Vancouver, BC, V6J 1T5, Tel: (604) 732-1211, Fax: (604) 732-1212, E-mail: info@cga-bc.org. Web: www.cga-bc.org.

Government Finance Officers Association – Minorities in Government Finance Scholarship Deadline: February 4
Terms of reference: The GFOA’s Minorities in Government Finance Scholarship of $3,500 will be awarded to an upper-division undergraduate or graduate student of public administration, (governmental) accounting, finance, public policy, economics, or business administration (with a specific focus on government or nonprofit management). The candidate must belong to one of the following groups: Black, Indian, Eskimo or Aleut, Asian or Pacific Islander, Hispanic. Must be a citizen or permanent resident of the US or Canada. Recommendation by the student’s academic advisor, department chair or dean is required. Contact: Scholarship Committee, Government Finance Officers Association, 180 North Michigan Avenue, Suite 800, Chicago, Illinois, 60601-7476, Tel: (312) 977-9700, Web: www.gfoa.org.

Government Finance Officers Association – Frank L. Greathouse Government Accounting Scholarship Deadline: February 4
Terms of reference: This scholarship competition is for senior students who are enrolled full-time in a university or college undergraduate accounting program in the United States or Canada. A senior is defined as a student in the last full year of study prior to being eligible for a baccalaureate degree. One or more scholarships of $2,000 each will be awarded. Candidates should have a superior academic record and show promise of completion of their undergraduate program at a high level of performance. In addition, candidates should have plans to pursue a career in state or local government or graduate studies in governmental accounting or public administration. Contact: Scholarship Committee, Government Finance Officers Association, 180 North Michigan Avenue, Suite 800, Chicago, Illinois, 60601-7476, Tel: (312) 977-9700, Web: www.gfoa.org.

Robert E. Oliver Scholarship (Advertising Standards Canada) Deadline: February 1
Terms of reference: ASC is pleased to award one $1,500 scholarship annually to a full-time post-secondary student enrolled in a recognized advertising and/or marketing program at a Canadian university or community college. The Robert E. Oliver Scholarship commemorates ASC’s first president — a pioneer of Canadian advertising self-regulation. Robert E. Oliver played a key role in developing the Canadian Code of Advertising Standards, the principal instrument of advertising self-regulation. Submit application to Financial Assistance by February 1. Only one nominee per institution. Contact: Standards Division, Advertising Standards Canada, 350 Bloor Street East, Suite 402, Toronto, ON, M4W 1H5, Tel: (416) 961-6311, Fax: (416) 961-7904, Web: www.adstandards.com

External scholarships for Education students
Leo J. Krysa Family Undergraduate Scholarship in Education, History, Humanities, Social Sciences Deadline: May 1
Terms of reference: The Leo J. Krysa family undergraduate scholarship is awarded annually to a student in the Faculty of Arts or Education about to enter the final year of study in pursuit of an undergraduate degree. Applicants’ programs must emphasize Ukrainian and/or Ukrainian-Canadian studies, through a combination of Ukrainian and East European courses in one of the above disciplines. The scholarship is for an eight-month period of study at any Canadian university. Candidates must be Canadian citizens or permanent residents of Canada at the time of application. Contact: Canadian Institute of Ukrainian Studies, 352 Athabasca Hall, University of Alberta, Edmonton, AB, T6G 2E8.

External scholarships for Science students
Association of Professional Biologists Scholarship Deadline: June 30
Terms of reference: The scholarship may be awarded each year to a student, who is son or daughter of a member in good standing of the Association, and who is entering the third or fourth year of a program leading to a degree in Biology or a closely related area as specified in the membership guidelines. For a student who receives the award in the third year, the scholarship will be renewable for the fourth year on proof of successful completion of third year. It is the intention of the association that the student will be planning on a career in some aspect of Biology. There will be no more than two scholarships funded each year.

• The applicant shall complete an application form, as well as enclosing a copy of her/his transcript, two letters of reference, and an essay of approximately 500 words in which the student discusses her/his career goals and their importance to the science of biology.

• The scholarship shall have the value of $1,000 each year, which will be forwarded to the winner on proof of registration in the third or fourth year of an approved biology program at an approved post-secondary institution. The student will also be given a one-year honorary membership in the APB as a student biologist in each year that they receive the scholarship.

Contact: Association of Professional Biologists, Suite 205 -733 Johnson Street, Victoria, BC, V8W 3C7, Tel: (250) 383-3306, E-mail: apbbc@uvic.tct.net.

Baxter Corporation Jean Goodwill Scholarship Deadline: July 1
Terms of reference: This is given to applications of Canadian and Inuit ancestry who intend to serve in the North, including students who are graduating from a registered nurses’ course and are accepted into one of the following; community health nursing, outpost nursing or midwifery. The scholarship shall have the value of $1,000 each.

Contact: President of the Indian and Inuit Nurses of Canada, c/o Baxter Corporation, 55 Murray Street, Third Floor, Ottawa, ON, K1N 5M3, Tel: (613) 241-1864, Fax: (613) 241-1542.

Canadian Society for Chemistry’s Alfred Bader Scholarships Deadline: May 15
Terms of reference: The Canadian Society for Chemistry offers the Alfred Bader Scholarship as a mark of excellence for achievement in organic chemistry or biochemistry by undergraduate students completing their final year of study in an Honours program. Eligibility: Nominees must be student chapter members of the CSC and be continuing in a graduate program in chemistry or biochemistry at a Canadian University. Two scholarships are presented annually by the CSC, unless the Committee feels that no suitable nominee exists in a given year. Application: Nominations should be submitted to Diane Goltz, Program Manager, Awards, Canadian Society for Chemistry. They shall include: a copy of the Honours’ research project report; a statement from the research supervisor describing the student’s contribution at the academic and extracurricular levels, two letters of reference; and an official transcript of the student’s academic record, all in quadruplicate. The nominees chosen will be notified in July. Award: The funds to endow this award, in the amount of $1,000 for each scholarship, have been provided by Alfred Bader.

Contact: Canadian Society for Chemistry, #550-130 Slater Street, Ottawa, ON, K1P 6E2, Tel: (613) 232-6252, Fax: (613) 232-5862, E-mail: cic_adm@fox.nstn.ca, Web: www.fox.nstn.ca.

IBM Canada Limited Pacific Development Centre Scholarship – Science Council of British Columbia Deadline: March 1
Terms of Reference: The IBM Canada Limited Pacific Development Centre Scholarship program, administered by the Science Council of BC, offers 50 $10,000 information technology scholarships over five years, to students pursuing education at a BC post-secondary institution. The intent of the scholarship is to encourage academic excellence and the pursuit of higher education in the information technology sector among youth in the province of British Columbia. This includes, but not limited to, computing science, computer engineering, management information systems, electrical engineering, physics or first year programs leading to these disciplines at a BC post-secondary institution. Applicants must be a BC high school student who is completing grade 12 and entering the first year of a full-time post-secondary program at a qualifying BC institution the year of application. Applications must be made by nomination by the students’ secondary school. To maintain eligibility, recipients must maintain a minimum average of 75% or equivalent.

Contact: Science Council of British Columbia, Suite 400, 4710 Kingsway, Burnaby BC, V5H 4M2, Tel: (604) 438-2792, Fax: (604) 438-6564.

JDS FITEL Scholarship Program Deadline: July 2
Terms of reference: This program offers up to 22 scholarships, 11 at the undergraduate level and 11 at the graduate level. Undergraduate students will receive $3,000, and graduate students will receive $5,000. Students must be enrolled in a Physics or Engineering Physics program in a recognized Canadian degree-granting institution. They must ordinarily be resident in Canada other than for the purpose of attending an educational institution. Each institution may nominate up to two candidates at any level. The nomination form attached to the application must be completed by the institution on behalf of the candidate meeting the award criteria. All pertaining documents (official transcript of marks, letters of reference) along with the nomination and application forms must arrive at the AUCC by July 2.

Contact: National Research Council Canada, Human Resources Branch, WES Co-ordinator, Ottawa, ON, K1A 0R6, Tel: (613) 993-9134, Fax: (613) 990-7669, E-mail: WES.Coordinator@NRC.CA. Web: www.nrc.ca/careers.

Monsanto Native Forestry Scholarship
Deadline: July 31

Terms of reference: This $500 scholarship is designed to assist First Nations students entering a nationally recognized forestry school. In addition to the scholarships, Monsanto Agricultural Company of Canada personnel will be available to the students as advisors in their studies.

Contact: National Aboriginal forestry Association, Attention: Monsanto Native Forestry Scholarship Program, 875 Bank St., Ottawa, ON, K1S 3W4, Tel: (613) 233-5563.

NRC-CNRC Women in Engineering and Science Program
Deadline: October 15

Terms of reference: The National Research Council has established a unique program designed to encourage greater participation of women in the under-represented fields of engineering, science, and mathematics. Working with world-class researchers in top facilities, successful candidates of the Women in Engineering and Science Program will undertake career-related work while receiving a salary. The basic criteria is as follows: must be a woman who is a citizen or permanent resident of Canada; must have a high academic standing; must be currently attending a Canadian university or CEGEP; must be enrolled full-time in an undergraduate physics, science, engineering or undergraduate year of university or the second year of pre-university CEGEP before September 1st of the year application is made to WES.

Contact: National Research Council Canada, Human Resource Branch, WES Co-ordinator, Ottawa, ON, K1A 0R6, Tel: (613) 993-9134, Fax: (613) 990-7669, E-mail: WES.Coordinator@NRC.CA. Web: www.nrc.ca/careers.

Port Moody Ecological Society Scholarship
Deadline: March 8

Terms of reference: An award of $500 is offered to a School District #43 student currently engaged in an environmental studies discipline at a post secondary institution. Eligibility: You must be a School District #43 student who is enrolled at a post secondary institution and who has completed at least one year towards accreditation in an environmental studies discipline. Qualifications: you must have
- a strong ongoing volunteer record with environmental service groups
- a good academic record
- career goals which reflect a commitment to the environment
- financial need

Application Procedure:
- complete the application form
- submit a personal statement (type, not to exceed 500 words) outlining a) volunteer experience and its benefits to you; b) career plans; and c) financial need
- provide copies of your high school and post secondary institution transcripts
- include your resume (not to exceed two pages)
- include two letters of reference regarding your qualifications. One letter should be from someone familiar with your academic strengths; the other from an executive member of an environmental service group.

Contact: Port Moody Ecological Society, 300 Ioco Road, Port Moody BC, V3H 2V7, Telephone and Fax: (604) 469-9106.

Spaceflight and Life Sciences Training Program Scholarship – Canadian Space Agency
Deadline: March 15

Terms of reference: The Canadian Space Agency is sponsoring one Canadian student, who has demonstrated scholastic excellence and an interest in Space Life Sciences, to participate in a unique learning experience. The NASA SpaceFlight and Life Sciences Training Program (SLSTP) is an intensive six-week training program at the Kennedy Space Center (KSC) in Florida for about 40 University students interested in Life Sciences, Bioengineering or related fields. The program will allow students to participate in the simulated space flight experiments and NASA Life Sciences research. The scholarship is limited to currently enrolled undergraduate students who: 1) are Canadian citizens; 2) are pursuing their first undergraduate degree in a Life Science at a recognized Canadian university; 3) have a minimum cumulative average of 75%; 4) will have completed at least their second year of study or graduating students who have been accepted into a graduate research or Bachelor of Education program at a recognized Canadian university.

Contact: SLSTP Canadian Space Agency, Space Science Program, PO Box 7275, Station V, Ottawa, ON, K1L 8E3. E-mail: slstp@space.gc.ca.

The Wood Scholarship Fund – The Women’s Association of the Mining Industry of Canada, Toronto
Deadline: June 15

Terms of reference: The Wood Scholarships shall be awarded for tuition fees and books at a duly qualified school of mining in Canada in the amount of $5,000 to students with financial need and a “B” or better average. A scholarship can be continued up to four years providing the scholar maintains good academic standing and the need prevails.

Contact: The Women’s Association of the Mining Industry of Canada, Toronto, The Wood Scholarship Fund, PO Box 207 Postal Station A, Toronto, ONToronto, ON, M5W 1B2, Web: www.geocities.com/wamic/toronto/

Externally administered bursaries

The following bursaries are not administered by Simon Fraser University. The information is intended for general reference only; it may be subject to change. The student is responsible for applying and applying through the appropriate agency as indicated in the description.

External bursaries for all students

Arctic Cooperatives Bursary
Deadline: January 31

Terms of reference: Arctic co-operatives Ltd., the NWT Cooperative Business Development Fund, and the Canadian Northern Studies Trust offer a bursary, normally valued at up to $2,000 to support a student whose studies will contribute to the understanding and development of cooperatives in the Northwest Territories. The award may be held concurrently with a Special Bursary for Northern Residents. Applicants who are not northern residents must be full-time students at a recognized Canadian community college, or a Canadian university. In making the selections, preference will be given to northern residents.

Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533.

BC Government and Service Employees’ Union
Deadline: February 28

Terms of reference: Twelve $1,000 scholarships are available each year to students who are BCGEU members or relatives of members of staff. Applicants must be regularly registered in a post-secondary program at a BC education institution with a satisfactory academic record.

Contact: 4911 Canada Way, Burnaby, BC, V5G 3W3, Tel: (604) 291-9611, Fax: (604) 291-6030, Web: www.bcgue.bc.ca.

British Columbia Health Care Bursaries
Deadline: November 15, March 15 & July 15

Terms of reference: You may apply for a health care bursary if you meet all of the following:
- a) you have worked for an employer who is base funded by the Ministry of Health, for at least 12 months in the last 3 years, dating back from the start of the bursary period; or
- b) you have worked in a position that was base funded by the Ministry of Health prior to the creation of the Ministry for the Children and Families, for at least 12 months in the last 3 years, dating back from the start of bursary period; and
- c) you have been a permanent resident of BC for the last 12 months; and
- d) during the bursary award period for which you are applying, you are enrolled in an eligible health care program of study at least 4 months in length, at a BC public post-secondary school, St. Paul’s Hospital or BC Cancer Agency program, that leads to a Certificate, Diploma or Degree recognized for practice in BC; and
- d) based on the information provided on the application, you can demonstrate financial need and/or that you will suffer significant financial loss by taking training.

Contact: Health Care Scholarship Fund, Student Services Branch, PO Box 9173 Stn. Prov. Gov’t, Victoria, BC, V8W 9H7, Tel: (250) 387-6100 in Victoria / 660-2610 in the lower Mainland / 1-800-561-1818, Fax: (250) 356-5440.

BC Indian Arts and Welfare Society Memorial Bursary
Deadline: Unknown

Terms of reference: A bursary of $150 will be awarded annually by the BC Indian Arts and Welfare Society in memory of those Indian Canadians who gave their lives in either World War. Native Indian applicants must be from the Province of BC and must be planning to enter one of the established universities or colleges in BC; or a recognized technical school or other training centre. The award will be made by the Executive Committee of the BC Indian Arts and Welfare Society. If no application is received from a student entering first year university, then the bursary may be awarded to a student enrolled in any of the senior years.

Contact: The Honourable Secretary, BC Indian Arts Society, 212 - 701 Esquimalt Road, Victoria, BC, V9A 3L5.

BC Ministry of Aboriginal Affairs - First Citizen’s Fund
Deadline: May 31
Terms of reference: Bursaries in the amounts of $700 - $2,000 per year (depending on other funding sources). Applicants must be persons of North American aboriginal ancestry and have been resident in BC for at least six months. Applicants must be recommended by a Band Council or an Aboriginal organization (like the UNN), be enrolled in at least a two-year program and maintain at least a C+ average. Out-of-province assistance will be given consideration providing the academic courses or equivalent are not offered in BC or the courses are offered, but all BC facilities are filled. Applications will be considered for each academic year required to attain a degree including additional academic years to attain a Master's degree of the same discipline. In the event a student changes programs, the first academic year in the new program will not be eligible; however, the second and subsequent terms may be considered. Applications must include an application form; self-written letter on family background, tribal ancestry and work history; supporting letter from your Band, recognized First Nations organization, home school coordinator or school counsellor; any additional information pertaining to the application should be included on a separate page. Contact: Ministry of Aboriginal Affairs, Manager, First Citizens’ Fund, Parliament Buildings, Victoria, BC, V8V 1X4.

BC Paraplegic Foundation Scholarships/ Bursaries Deadline: July 31
Terms of reference: Each year the BC Paraplegic Foundation gives out a number of scholarships and bursaries to needy students with disabilities attending post secondary institutes in British Columbia. The awards are available to members of the BC Paraplegic Association who have a physical disability and will be awarded on academic standing, merit and the basis of financial need. Recipients must be residents of British Columbia, Canadian Citizens, or Landed Immigrants. The monies for individual awards vary from year to year, dependent upon interest from investments. Therefore, the values of the scholarships and bursaries are adjusted annually according to the availability of funds. Completion of an application form will ensure the applicant is considered for each scholarship or bursary they are eligible for.
Contact: Scholarship and Bursary Awards Committee, c/o BC Paraplegic Association, 780 S.W. Marine Drive, Vancouver, BC, V6P 5Y7 Tel: (604) 324-3611, Fax: (604) 324-3671.

Cal Callahan Memorial Bursary Deadline: September 30
Terms of reference: A Bursary, or bursaries, not exceeding six thousand dollars ($6,000) in total, will be awarded by the Pipe Line Contractors Association of Canada to a son, daughter, or legal ward of persons who derive their principle income from pipeline construction. To qualify, the parent or guardian of the applicant must be employed by or have a history of employment with an association member firm. The applicant must be enrolled in first year studies at any recognized Canadian university or college in a programme leading to a degree or certificate in any field. Applications may be obtained from and submitted to the association office at any time but must be supported by transcripts of high school record, evidence of university or college enrollment, and proof of payment, by not later than September 30th.
Contact: Pipeline Contractors Association of Canada, Suite 720-5915 Airport Road, Mississauga, ON, L4V 1T1, Tel: (905) 673-0544, Fax: (905) 673-0546.

Canadian Federation of University Women of South Delta Deadline: May 31
Terms of reference: Bursaries are available for women who wish to enroll in, return to, or continue to study in a college or university. Applicants must be residents of South Delta (Tsawwassen/Ladner). Contact: CFUW of South Delta, C/O 5206-4A Ave., Delta, BC, V4M 1H5, Tel: (604) 943-4297.

Caribou Research Bursary Deadline: January 31
Terms of reference: The Beverly and Qamanirjuaq Caribou Management Scholarship Fund provides awards of up to $3,000 to full-time students enrolled in a recognized Canadian community college or university pursuing studies that will contribute to the understanding of Barren Ground Caribou (and its habitat) in Canada. Preference will be given to individuals who are normally resident in one of the caribou-using communities on the range of the Beverly or Qamanirjuaq caribou. These awards may be held concurrently with a special Bursary for Northern Residents.
Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533, E-mail: acuns@cyberus.ca, Web: www.acs.ca.

Hugh Christie Memorial Bursary - YMCA Deadline: November 1
Terms of reference: A $500 bursary is available to a student who is pursuing a career in Corrections, International Development, Social Work or YMCA, etc. The student must be full-time and taking courses in any of the following fields of study: Physical Education, Recreation, Social Work, Criminology or any related directed course work. Applications must be in writing, giving full particulars together with the reason for applying (in 500 words or less) along with letters of reference. Contact: Hugh Christie Memorial Bursary Committee, YMCA of Greater Vancouver – Endowment, #200-1166 Alberni Street, Vancouver, BC, V6E 3Z3, Tel: (604)681-9622; Fax: (604) 688-0220.

Forest Renewal BC Bursary Program Deadline: unknown
Terms of reference: Forest Renewal BC Bursary Program is open to:
• graduating grade 12 students attending high schools, regional correspondence schools, or band schools in BC
• first and second year students attending post secondary institutions in BC
Application may be by:
• printing the application form from Forest Renewal BC’s web page (www.forestrenewal.bc.ca/ forestrenwal) and faxing it to Forest Renewal BC Communications,
• on an application form available from Forest Renewal BC regional offices across the province.
Applications for bursaries must include the completed application form and a typed document of no more than 500 words explaining how your ideas or proposed course of study will support sustainable forest development and Forest Renewal BC goals.
Contact: Peg Ainsley, Forest Renewal BC, Bursary Program Administration, Tel: (250) 387-2500, Fax: (250) 356-7134, E-mail: peg.ainsley@gemis1.gov.bc.ca, Web: www.forestrenewal.bc.ca.

Hamilton Community Foundation Deadline: October 1, 2018 & June 1
Terms of reference: Hamilton Community Foundation provides modest financial assistance from various bursary funds established by generous citizens to post-secondary students who can demonstrate serious financial need; have graduated from publicly-funded secondary schools in the Hamilton-Wentworth area, having completed the requirements for the ONT, Secondary School Diploma (grade 12 or 13); are registered/in attendance at an approved college or university in Canada or, for specialized programs, in the USA; are enrolled in full-time undergraduate studies. In special circumstances, part-time or postgraduate studies may be considered.
Contact: Hamilton Community Foundation, 2 King Street West, Plaza Level, Hamilton, ON, L8P 1A1, Tel: (905) 523-5600, Fax: (905) 523-0741.

The Lisa Huus Memorial Fund Bursary Deadline: May 31
Terms of reference: A bursary in the amount of no less than the $1,500 will be awarded annually to assist a severely disabled student to undertake or continue his/her post-secondary education at the University of Victoria.
Contact: Mrs. Annie Huus, The Lisa Huus Memorial Fund Committee, Development and Committee Relations, Queen Alexandra Foundation for Children, 2400 Arbutus Road, Victoria, BC, V8N 1V7.

Indian/Inuit Health Careers Bursary Program Deadline: February 15
Terms of reference: Bursaries are available to assist students of Aboriginal ancestry who wish to pursue educational opportunities leading to careers in health professions. Candidates must be Canadian citizens of Aboriginal ancestry who have resided in British Columbia for the last 12 months. Candidates must demonstrate financial need and be acceptable for enrolment in a professional health careers program. A professional health careers program is a post-secondary program in a federally recognized college or university that provides a degree or diploma qualifying graduates for employment in an accredited health care profession, such as medicine, nursing, dentistry, health administration, traditional medicine.
Contact: First Nations Chiefs’ Health Committee, Health Careers/Financial Manager, #902-100 Park Royal South, West Vancouver, BC, V7T 1A2.

Insurance Institute of BC Bursary Deadline: June 15
Terms of reference: Valued at $1500 this bursary is offered annually to students entering third year in the faculty of Risk Management who completed secondary schooling within British Columbia. It is based on academic standing and financial need. It is available to students transferring into the Faculty of Management from a post-secondary institution of BC.
Contact: University of Calgary, Students Award Office, 124 MacKinnie Library Block, 2500 University Drive NW, Calgary, AB, T2N 1N4, Tel: (403) 220-6925.

Kinsmen and Kinettes Bursary – A Program of the Hal Rogers Endowment Fund Deadline: February 1
Terms of reference: The Kinsmen and kinettes Bursary, a program of the Hal Rogers Endowment Fund, was established by Kinsmen & Kinette Clubs of Canada as a legacy to their founder Harold Allin Rogers (1889-1994). The program was established to promote, encourage and sponsor educational programs and activities by providing assistance to applicants in their quest for higher learning at a recognized post-secondary institution. To be eligible you must:
• be a Canadian citizen or landed immigrant,
• plan to register as a full-time student in September at a recognized University, Community College, Technical Institute or other post-secondary institution for advanced learning,
• submit the application for endorsement to one of a Kinsmen, Kinette, or Kin Club nearest your permanent residence,
• demonstrate high ideals and qualities of citizenship,
• be enrolled in a program leading to a degree or diploma.
Contact: Kinsmen and Kinettes Bursary, c/o Kinsmens & Kinettes Clubs of Canada, 1920 Hal Rogers Drive, P.O. Box KIN, Cambridge, ON, N3H 5C6, Tel: 1-800-
Financial Assistance and Awards

The Leonard Foundation Financial Assistance Program
Deadline: March 15
Terms of reference: This award supports students in an undergraduate degree program in Canada if the institution accepts the student, regardless of age or any other prerequisite. The main criterion is based on financial need. All applicants will be considered but preference will be given to sons and daughters of clergy, teachers, military, personnel, graduates of Royal Military College, members of the Engineering Institute of Canada and members of the Mining and Metallurgical Institute of Canada. The amount of the award may vary depending on the applicant’s financial assistance, but on average, it will be in the amount of $1,250 and approximately $140 will be made annually across Canada.
Contact: Silvio Saurro, Honourary Secretary, The Leonard Foundation, 20 Englington Avenue West, Seventh Floor, Toronto, ON, M4R 2E2 Fax: (416) 361-8711. E-mail: info@leonardfdn.org Web: www.leonardfdn.org

Ministry of Education – Official-Language Programs
Deadline: February 15, June 16
Terms of reference: A number of official-language programs are available to residents of British Columbia. Funded by the federal Secretary of State and administered by the provincial Ministry of Education, the following programs are currently available:
- Summer Language Bursary Program – deadline mid-February
- Official-Language Study Fellowships – deadline June 16
- Minority Intercanadian Travel Bursaries – deadline June 16
- Official-Language Monitor Program – deadline mid-February
- British Columbia/Quebec six-month Bilingual Exchange Program
- apply through participating schools
- French Teachers’ Bursary Program
Contact: Provincial Coordinator Federal Programs, French Programs Branch, Ministry of Education, President, generally 1200 Government Street, Victoria, BC, V8V 1X4, Tel: (250) 256-2516, Fax: (250) 387-1470.

Ministry of Health – Native Health Bursary
Deadline: unknown
Terms of reference: Applicants must have lived in BC or the Yukon for at least the last year before applying. The program must be a recognized Native Health Program. You must have a letter of reference from a Band Council, Friendship Centre or other recognized Aboriginal organization. Value of award determined by financial need.
Contact: Ministry of Health, Human Resources Office, 4th Floor-1600 Third Avenue, Prince George BC, V2L 3G6, Tel: (250) 565-7259.

Bill and Elsie More Indian Bursary
Deadline: October 1
Terms of reference: Bursaries are available to assist First Nations students attending any university or college in BC. Amount of bursary is based on need. Bursary amount is $1,000 and may be divided between more than one student.
Contact: The Bill and Elsie More First Nations Bursary Fund, Attention: Dr. Art More, c/o Department of Educational Psychology, University of BC, 2125 Main Mall, Vancouver, BC, V6T 1Z4

Pacific Coast Fishermen’s Mutual Marine Insurance Company
Deadline: September 1
Terms of reference: Bursaries of $600 are available to sons, daughters and legal wards of past or present members (or persons to whom a past or present member stood in Loco Parentis) of Pacific Coast Fishermen’s Mutual Marine Insurance Company. Applicants must be enrolled full time at a post-secondary educational institution.
Contact: Pacific Coast Fisherman’s Mutual Marine Insurance Company, #220-4259 Canada Way, Burnaby, BC, V5G 1H1, Tel: (604) 438-4240.

Peterhouse-Cambridge Friends of Peterhouse Bursary
Deadline: April 1
Terms of reference: Peterhouse offers a Bursary to a well-qualified graduate student from overseas who is not already a resident member of the College and who wishes to read for an undergraduate degree as an affiliated student of to pursue a one- or two-year taught course as a registered graduate student. The Bursary is intended to assist towards the cost of study at Cambridge. Candidates should be under twenty-five years of age on December 1. Candidates must be graduates of a University in the United Kingdom or elsewhere. They must intend to be candidates for a degree in the University of Cambridge. Tenure of the Bursary is subject to the condition that the elected student be admitted for a place, if an Affiliated Student, at Peterhouse; if intending to read for a graduate degree by Peterhouse and by the Board of Graduate Studies of the University of Cambridge. The bursary may only be held at Peterhouse.
Contact: Senior Tutor, Peterhouse, Cambridge, CB2 1RD, England.

Piolat Foundation Bursary
Deadline: September 30
Terms of reference: To encourage the use of French in the province, an award for studies in fine arts to student applicants who:
- use French as a means of communication, whether natively or after studying the language;
- are pursuing training in any of the fine arts;
- are a part of the candidate’s personal and professional life;
- copies of relevant academic documents;
- an indication of artistic accomplishments, with two letters of reference.
The award of $500, will be announced to the recipient by the end of October.
Contact: M. Walter Herrin, Secrétaire des Bourses d’études, La Fondation Andre Piolat, 1575 Avenue Tieme ouest, Vancouver, BC, V6J 1S1.

The Pisapio Bursaries
Deadline: September 25
Terms of reference: Bursaries in the amount of $500 are available each year. The number and the value of each award may be changed from time to time at the discretion of the Trustees. Applicants must meet the following criteria:
- applicant must be accepted for admission to a university;
- applicant must be a full-time student working toward an undergraduate degree or graduate degree from the university.
The awards will be given: first to eligible applicants who are residents of the City of Nelson; second, to eligible applicants who are residents of an area within a 50 mile radius of City of Nelson; and third, to eligible applicants who live in the East or West Kootenay regions.
Contact: The Pisapio Scholarship Trust, 421 Baker Street, Nelson, BC, V1L 4H7.

Province of BC International Year of Physically Challenged Persons Bursaries
Deadline: unknown
Terms of reference: In recognition of the International Year of Physically Challenged Persons, these bursaries were created to financially assist students with disabilities and will be awarded on merit and the basis of financial need. Several annual bursaries of $500 each are available. Applicants must be residents of BC, Canadian citizens or Landed Immigrants.
Contact: Grant Co-ordinator, BC Paraplegic Foundation, 780 SW Marine Drive, Vancouver, BC, V6P 5Y7.

The Public Trustee Educational Assistance Fund
Deadline: April 15
Terms of reference: Public Trustee Educational Assistance Fund bursaries are awarded annually in conjunction with the Ministry for Children and Families from a limited fund to high school graduates who are over 19 years old and pursuing a post-secondary academic, technical or vocational program. These bursaries are only available to former permanent wards of the Ministry of Social Services and those formerly in continuing custody of the Ministry for Children and Families of the Province of British Columbia. These bursaries assist recipients to further their academic or vocational goals by supplementing existing funding to cover shortfalls which otherwise might cause the individual to terminate their studies prematurely. Applicants must have other sources of funds.
Contact: Personal Trust Officer, Public Trustee of British Columbia, 700-808 West Hastings Street, Vancouver, BC, V6C 3L3, Tel: (604) 660-4077, Fax: (604) 660-0964.

Quota International District 11 Speech and Hearing Bursary
Deadline: April 30
Terms of reference: This bursary is in the amount of $1,000 and is available to:
- assist a person with communication disorder to receive instruction or
- a teacher who is willing to undertake the instruction of children with communication disorders or
- assist a person to undertake professional training for work in the field of communication disorders.
Applicants must attach the following documents with their application form: transcript of grades or other certificates, two letters of reference attesting to pre-existing involvement in the fields of hearing and speech or communication disorders, or the deaf community.
Contact: District 11 Bursary, Quota International, 220 Manor Park Road, Penticton, BC, V2A 2R2, Tel: (204) 728-2633, Fax: (204) 728-9610.

Rixon Rafter Bursary Fund
Deadline: September 30
Terms of reference: This fund was established in honor of the late Rixon Rafter, a graduate of the ONT, School for the Blind (now the W. Ross MacDonald School) in Brantford, ONT. Mr. Rafter became a successful newspaper publisher. Interest from the fund provides assistance to needy, registered blind students involved in academic or educational pursuits. The Rixon Rafter Bursary Grants will make available financial awards of from $300 to $500 to legally blind Canadians pursuing post-secondary studies with strong career aspirations. Because a limited number of awards are available each year, grants may be made based on the following criteria: financial need and career goals.
Contact: Chairman, Rixon Rafter Bursary Committee, The W. Ross MacDonald School, Brantford, ON, N3T 3J9.
Retail Wholesale Union Local 580 Bursaries

**Deadline:** June 30

**Terms of reference:** One bursary of $500 is offered to active members, or sons, daughters and legal wards of active members of the Union in good standing. They are offered to students who are proceeding from Grade 12 to studies at the University of British Columbia, the University of Victoria, BCIT, or Simon Fraser University, or to a college in a full program leading to a degree or equivalent in any field. Candidates must have satisfactory academic standing (normally an average of at least 65% in Grade 12) however, winners are selected on the basis of financial need.

**Contact:** Award #07872: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Retail Wholesale Union Local 580 - Stan Colbert Bursary

**Deadline:** June 30

**Terms of reference:** A bursary of $500 is offered to active members, or sons, daughters and legal wards of active members of the Union in good standing. It is offered to a student who is proceeding from Grade 12 to studies at the University of British Columbia, the University of Victoria, BCIT, or Simon Fraser University, or to a college in a full program leading to a degree or equivalent in any field. Candidates must have satisfactory academic standing (normally an average of at least 65% in Grade 12) however, winners are selected on the basis of financial need.

**Contact:** Award #07939: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Royal Canadian Legion (Pacific Command) Bursaries

**Deadline:** May 1

**Terms of reference:** A number of awards are offered annually for students proceeding from high school to university and to students taking a full course-load (12 hours or more) in second, third, and fourth year university. They are awarded on the basis of academic standing, financial need, and participation and achievement in school and community affairs. Preference is given to sons and daughters of deceased, physically challenged, or other veterans.

**Contact:** Secretary, Ladies Auxiliary, Royal Canadian Legion, 1825 Comox Avenue, Comox BC, V9M 3M3.

R.B. Shaw Bursaries

**Deadline:** September 25

**Terms of reference:** Bursaries in the amount of $500 are available each year. The number and the value of each award may be changed from time to time at the discretion of the Trustees. Applicants must meet the following criteria:

- Applicant must be a full-time student working toward an undergraduate degree or graduate degree from the university.
- Applicant must be a full-time student working toward an undergraduate degree or graduate degree from the university.
- Applicant must be registered with a Canadian university or college.
- Applicant must have completed a minimum first year of university studies.
- The award will be given: first to eligible applicants who are residents of the City of Nelson; second, to eligible applicants who are residents of an area within a 50 mile radius of City of Nelson; third, to eligible applicants who live in the East or West Kootenay regions.

**Contact:** The Pisapio Scholarship Trust, 421 Baker Street, Nelson, BC, V1L 4H7.

Special Bursary for Northern Residents - Canadian Northern Studies Trust

**Deadline:** January 31

**Terms of reference:** These bursaries, valued at $5,000 each, allow persons who are northern residents and in need of financial assistance to engage in an educational experience at a degree granting institution in Canada. The objective of this bursary is to permit Northerners to undertake studies in a field of interest that will further their careers in the north or assist their local communities. The programme of studies can be flexible, and may not necessarily lead to the completion of a degree or diploma. It is desirable that the student have a sponsor at the institution of learning, and a mutually satisfactory programme of studies is agreed upon.

**Contact:** Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533, E-mail: acuns@cyberus.ca, Web: aix1.uottawa.ca/associations/acuen-acuns.

Judge Brian Stevenson Bursary Fund

**Deadline:** September 30

**Terms of reference:** The intent of the fund is to assist blind youth in continuing their post-secondary education. Judge Stevenson served as International President of the International Association of Lions Clubs in 1987-1988. This bursary will make available financial assistance of from $300 to $500 to legally blind Canadians pursuing post-secondary studies with strong career aspirations. Because a limited number of awards are available it is desired to have an even distribution of awards across the country whether by province or region. As well, grants will be made based on the following criteria: financial need and career goals.

**Contact:** Judge Brian Stevenson Bursary Committee, The W. Ross MacDonald School, Brantford ON, N3T 5J8.

Surrey/White Rock University Women’s Club Bursary Foundation

**Deadline:** September 2

**Terms of reference:** The Surrey/White Rock University Women’s Club Bursary Foundation offers bursaries for women who are either:

- Entering the third year or higher of a degree program at a recognized University and who have graduated from a Secondary School in Surrey or White Rock (School District 36); or
- A mature student entering the third year or higher of a degree program at a recognized University who has been a resident in the Surrey/White Rock area for the immediately preceding five years.

**Contact:** Surrey White Rock Bursary Foundation, Box 75143, White Rock, BC, V4A 9M4.

University Women’s Club of the Comox Valley Bursary

**Deadline:** July 1

**Terms of reference:** A $500 bursary is offered to a female graduate of a Comox Valley high school program who has completed at least one year of study in an accredited course at a Canadian university or college.

**Contact:** University Women’s Club of the Comox Valley, Box 296, Union Bay, BC, V9R 3B0.

White Spot Limited Bursary

**Deadline:** June 30

**Terms of reference:** Two $500 bursaries are offered by White Spot Limited for their employees and sons and daughters of their employees who have served with White Spot for at least one year by the application deadline. The bursaries are open to students in a full program of studies at the University of British Columbia, the University of Victoria, Malaspina College, Simon Fraser University or BCIT. Candidates must have achieved an average of at least 65% in their previous year of study.

**Contact:** Award #07724: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

External bursaries for Applied Science students

Division of Engineers and Geoscientists for the Forest Sector Bursaries

**Deadline:** February 15

**Terms of reference:** The purpose of the award is to encourage and promote education and advancement in forest engineering and geoscience/geomimictry and provide nominal financial assistance to students enrolled in programs directly related to these areas. Applications should be made in writing. Applicants must be enrolled in at least a third year program, at either the University of British Columbia or Simon Fraser University, in a program directly related to the practice of forest engineering and/or geoscience/geomimictry, leading to membership in the Association of Professional Engineers and Geoscientists of British Columbia; or must be enrolled in Institute of Forest Engineering of British Columbia (IFEC) Advanced Forest Engineering Diploma and must have successfully completed Module 1 of the IFECB program. All applicants shall demonstrate above average grades.

**Contact:** DEGIFS Bursary Sub-committee, c/o APEGBC, 200-4010 Regent St., Burnaby, BC, V5C 6N2. E-mail: brian.chow@gems3.gov.bc.ca, Web: www.aipeg.bc.ca/members/divisions_degifs/Degifs.htm.

James M. Harrison Bursary

**Deadline:** June 1

**Terms of reference:** The objective of this bursary is to assist a student from the Northwest Territories to obtain an education in the natural sciences to be applied to future work in the Northwest Territories. Selection is based upon future aspirations of the applicant for a career within the Northwest Territories, academic record and financial need. Applicants must be entering a) graduate school or b)fourth year, or c) third year of undergraduate studies as a full-time student in the natural sciences at a Canadian University or College or the University of Alaska.

**Contact:** Executive Director, Science Institute of the Northwest Territories, Box 1617, Yellowknife, NWT, X1A 2P2.

External bursaries for Science students

Canadian Women in Timber Fraser Valley Branch Bursary

**Deadline:** Unknown

**Terms of reference:** Canadian Women in Timber is a non-profit society formed to further the education of Forestry in all its aspects. The Fraser Valley Branch of Canadian Women in Timber is pleased to announce the provision of a $1,000 Bursary to a student who:

- was born in and/or educated in the Regional District of Fraser Chem.
- is in the second year of a recognized Forestry program at a Post Secondary Institution in BC.

(Proof of acceptance will be required before the Bursary is awarded.)

**Contact:** Canadian Women in Timber, Fraser Valley Branch, #21-46244 Airport Road, Chilliwack, BC, V2P 1AS.

James M. Harrison Bursary

**Deadline:** June 1

**Terms of reference:** The objective of this bursary is to assist a student from the Northwest Territories to obtain an education in the natural sciences to be applied to future work in the Northwest Territories. Selection is based upon future aspirations of the applicant for a career within the Northwest Territories, academic record and financial need. Applicants must be entering a) graduate school or b)fourth year, or c) third year of undergraduate studies as a full-time student in the natural sciences at a Canadian
University or College or the University of Alaska. Applicants must also have been resident in the Northwest Territories for at least five years.

**Contact**: Executive Director, Science Institute of the Northwest Territories, Box 1617, Yellowknife, NWT, X1A 2P2.

### Externally administered awards

The following awards are not administered by Simon Fraser University. The information is intended for general reference only; it may be subject to change. The student is responsible for enquiring and applying through the appropriate agency as indicated in the description.

### External awards for all students

#### ABA Legal Opportunity Scholarship Fund

**Deadline**: March 30

**Terms of Reference**: The American Bar Association Legal Opportunity Scholarship Fund will award $5000 of financial assistance annually to each scholarship recipient attending an ABA-accredited law school. The mission of the Legal Opportunity Scholarship Fund is to encourage racial and ethnic minority students to apply to law school and to provide financial assistance to ensure students have the opportunity to attend law school for three years. Applicants should submit an application form, a personal statement and letters of recommendation. Before receiving scholarship funds, recipients will be required to demonstrate admission to and plans to enroll at an ABA-accredited law school.

**Contact**: ABA Legal Opportunity Scholarship Fund, Fund for Justice and Education, American Bar Association, 760 N. Lake Shore Dr., Chicago, IL, 60611, Tel: (312) 988-5927.

### Associated Medical Services Bioethics Studentship

**Deadline**: December 1

**Terms of Reference**: The Associated Medical Services Inc., through the Bioethics Program, provides outstanding individuals, registered in an undergraduate degree program in the health sciences, arts and science or the science disciplines, with an opportunity to pursue an interest in bioethics. Students must be Canadian citizens or permanent residents and registered in a recognized undergraduate program at a Canadian university. Any full-time undergraduate student is eligible to apply provided the proposed project and supervisor meet the criteria. Research should be related to, but not limited to the following areas: beginning and end of life issues, managed care and health care reform, corporate entities and how they relate to organized or managed care, ethics of the healthcare profession, bioethics education, and ethics of human research. The project should be a closely supervised full-time research experience. It should not be for academic credit nor should it represent work already undertaken or submitted for academic credit.

**Contact**: Associated Medical Services, Inc., 14 Prince Arthur Avenue, Suite 101, Toronto, ON, M5R 1A9 Tel: (416) 924-3368 Fax: (416) 323-3338, E-mail: grants@ams-inc.on.ca.

### BC Press Council Prize

**Deadline**: May 28

**Terms of Reference**: The British Columbia Press Council wants young British Columbians to think about the press and the important role journalism plays in a free democratic society. That's why the BC Press Council Prize has established two awards of $1,000 each for the best essay submitted by both secondary and post-secondary students in the province.

Two categories: 1) High school students will have a 1,500 word limit; and 2) College and University students will have a 2,500 word limit.

Entries must be typed, double-spaced and presented in the form of a formal essay.

**Contact**: British Columbia Press Council, 201-1290 Broad Street, Victoria, BC, V8W 2A5 Tel: (250) 384-3344.

#### The Canadian Foundation for the International Space University – Summer Program

**Deadline**: December 15

**Terms of Reference**: The International and Canadian Programs Division of the Association of Universities and Colleges of Australia (AUCC) has been appointed by the CFIUS to advertise and administer the Summer Session Competition in Canada. The scholarships are available to students in all disciplines and include cost for travel, tuition fees and living costs for July and August. There are 10-15 scholarships available depending on the resources. You must be a Canadian citizen or landed immigrant. Competition is open to graduate students and recent graduates (within 5 years of the start of the summer session). Fourth year students of an undergraduate program may also apply if registered in a Masters degree program for September. Candidates must be conversant in English or one other language.

**Contact**: Ms. Christiane Carruthers, Program Assistant, Scholarships and Exchanges Program, International and Canadian Programs Branch, Association of Universities and Colleges of Canada, 600-350 Albert Street, Ottawa, ON, K1R 1B1, Tel: (613) 563-3961 ext 311, Fax: (613) 563-9745, E-mail: ccarruth@aucc.ca.

#### Canadian Mine Action Research Program

**Deadline**: November 1

**Terms of Reference**: Canada’s Mine Action Team, in co-operation with York University and Mines Action Canada, is supporting policy relevant research in three areas related to the implementation of the Ottawa Convention: universalizing the ban on the production, stockpiling, trade and use of anti-personnel mines; clearing mined land; and assisting mine victims and their communities. The awards are open to students enrolled in Canadian universities in the final year of a (minimum) four-year undergraduate program, all Law students, all Master’s students, and any PhD students who have not yet completed their course work and examinations. Successful applicants will be asked to produce a 20- to 30-page paper on one of the above topics in return for: a $500 research award; participation in a mine action colloquium in Ottawa in May involving key Canadian and international mine action experts; and an opportunity for publication of the best papers.

**Contact**: York University Centre for International and Security Studies, 4700 Keele Street, Toronto, ON, M3J 1P3, Tel: (416) 736-5156, Fax: (416) 736-5752, E-mail: ycss@yorku.ca, Web: www.mines.gc.ca.

### Canadian Unity Essay Contest

**Deadline**: March 31

**Terms of Reference**: Canadians attending Colleges and Universities are invited to submit an essay on Canadian unity. First Prize: $2,000. Two additional prizes of $200 will be awarded. Requirements:

- **Essays may be submitted in either official language**
- **Maximum length**: 2,500 words (typed)
- **Entrants must be registered students at a Canadian University or College**
- **All entries must be accompanied by name, address, telephone number of the submitter with proofs of student and citizenship status, a short curriculum vitae and a signed statement of assignment of all rights to The Military and Hospitaller Order of St. Lazarus of Jerusalem**

**Contact**: Dr. David Lenarcic, Canadian University Essay Competition, Wilfrid Laurier University, Waterloo, ON, N2L 3C5, E-mail: dlarenac@mach1.wlu.ca.

### Canadian-Scandinavian Foundation Special Purpose Grant

**Deadline**: January 31

**Terms of Reference**: The CSF Special purpose grants are small travel grants in the range of $500 to $800 dollars set up in order to help defray travel costs in connection with shorter research/study visits to Scandinavia.

**Contact**: Jan O. Lundgren, CSF Secretary, c/o Geography Department, McGill University, 805 Sherbrooke Street W., Montreal, QC, H3A 2K6, Tel: (514) 398-4111, Fax: (514) 398-7437, E-mail: lundgren@felix.geog.mcgill.ca.

### Centennial Flame Research Award for Persons with Disabilities

**Deadline**: March 31

**Terms of Reference**: The recipient of the Award will have one year in which to use the money to prepare a report focusing on the public achievements of one or more disabled Canadians. Value: $2,500. Any Canadian citizen with a disability wishing to apply for the Award should submit an outline of his or her proposed research project to the Clerk of the Committee. The Committee will select the recipient according to a set of criteria. Selection Criteria: The research report for the Centennial Flame Research Award must deal with the contribution of a disabled person (or persons) to public life in Canada or the activities of Parliament.

- Any interested party must send an outline of his or her research project to the Clerk of the Standing Committee on Human Rights and the Status of Persons with Disabilities.
- The applicant may submit his or her outline in any medium.
- The submission must contain a brief background of the applicant, including current employment, if any; an outline of the subject of the research; the significance of this choice; and a description of how the research will be undertaken.
- Each submission should be accompanied by a letter of support from a person selected by the applicant.

**Contact**: The Clerk, Standing Committee on Human Rights and the Status of Disabled Persons, Tel: (613) 996-4663, Fax: (613) 996-1962.

### China Synergy Programme For Outstanding Youth

**Deadline**: March 15

**Terms of Reference**: The objective of the programme is to provide an opportunity for outstanding Chinese youths who are residing overseas and in Hong Kong to know more about the socio-economic, technological and cultural development of China. The 17-day programme of exploration and exchange activities will be held in Hong Kong, Xian, Shanghai and Beijing. Activities include: meeting with top government officials; touring major socio-economic, technological and cultural development projects; participating in exchange activities with local undergraduates; visiting local households; meeting with outstanding youths; and sightseeing. Candidates should be ethnic Chinese, full-time undergraduates and fluent in English. Applicants must complete an application form and attach copies of documentary evidence.

**CONTACT**: Office of Student Affairs (Attn: Dr. Eddie K.W. Ho), Hong Kong Baptist University, Level 8, Yeung Shiu Sang Building, 224 Waterloo Road, Kowloon Tong, Hong Kong, Tel: (852) 2339-7883, Fax: (852) 2339-5983.

### CIBC Youthvision Graduate Research Award Program

**Deadline**: February 1

**Terms of Reference**: Six research awards valued at $15,000 each will be offered in recognition of academic excellence and to support and encourage research in specialized fields of study related to...
Terms of reference: The Department of Justice Assistance
Two awards of $1,000 are available to students who have completed undergraduate or graduate degree course at a Canadian University. The essays should have significant relevance for numismatics. This would include essays in history, art history, archaeology or classics for which coins, tokens, jetons, paper money, cheques or medals provide an important source of evidence as well as essays in banking history, monetary history, medallic art, banknote engraving, or the technology and metallurgy of coinage. Although students are encouraged to select topics relevant to Canadian numismatics, essays on ancient, medieval, or modern international topics are also eligible. The essays may be submitted in a course or may represent new work. Applicants may submit three clear copies (typed or printed) or one copy plus a computer file on disk. The text should be double-spaced, on one side of the page only, with pages numbered, and author's name and address clearly marked on the title page. Include also a short resume. Winning essays in both categories will be published in the Canadian Journal most relevant to their topics.
Contact: The J. Douglas Ferguson Historical Research Foundation, 654 Hiawatha Blvd., Ancaster, ON, L9G 3A5.

The Foundation for the Advancement of Aboriginal Youth
Deadline: September 15
Terms of reference: These awards, valued at $1,000 each, are awarded to a student or returning student of Aboriginal descent and residents of Canada. Applicants must be enrolled and accepted in a first, second, or third year college or university program, preferably in the areas of business, accounting, marketing, medical or technology. Consideration will be given to applicants who have made contributions to their community by volunteering or providing a leadership role for educational goals and a potential career choice in the future; copies of recent transcripts; a completed registration form; two letters of reference (no relatives), one personal and one academic; a letter from an educational institution indicating confirmation of registration or a photocopy of school application form.
Contact: Brenda Maracle O’Toole, National Director, FAAY, 204 St George Street, 2nd Floor, Toronto, ON, M5R 2N5, Tel: (416) 961-8663, Fax: (416) 961-3995, Toll Free: (800) 465-7078.

J. Douglas Ferguson Historical Research Foundation
Deadline: October 15
Terms of reference: The J. Douglas Ferguson Historical Research Foundation offers two competitions for student essays. One award for $1000 will be made to the author of the best postgraduate essay and two others, for $750 each, will go to the undergraduates who write the best essays. To be eligible for an award, applicants must either be enrolled in a postgraduate programme (MA, MSc or PhD) or undergraduate programme (BA, BSc) at a Canadian University. The essays should have significant relevance for numismatics. This would include essays in history, art history, archaeology or classics for which coins, tokens, jetons, paper money, cheques or medals provide an important source of evidence as well as essays in banking history, monetary history, medallic art, banknote engraving, or the technology and metallurgy of coinage. Although students are encouraged to select topics relevant to Canadian numismatics, essays on ancient, medieval, or modern international topics are also eligible. The essays may be submitted in a course or may represent new work. Applicants may submit three clear copies (typed or printed) or one copy plus a computer file on disk. The text should be double-spaced, on one side of the page only, with pages numbered, and author's name and address clearly marked on the title page. Include also a short resume. Winning essays in both categories will be published in the Canadian Journal most relevant to their topics.
Contact: The J. Douglas Ferguson Historical Research Foundation, 654 Hiawatha Blvd., Ancaster, ON, L9G 3A5.

The Foundation for the Advancement of Aboriginal Youth
Deadline: September 15
Terms of reference: These awards, valued at $1,000 each, are awarded to a student or returning student of Aboriginal descent and residents of Canada. Applicants must be enrolled and accepted in a first, second, or third year college or university program, preferably in the areas of business, accounting, marketing, medical or technology. Consideration will be given to applicants who have made contributions to their community by volunteering or providing a leadership role for educational goals and a potential career choice in the future; copies of recent transcripts; a completed registration form; two letters of reference (no relatives), one personal and one academic; a letter from an educational institution indicating confirmation of registration or a photocopy of school application form.
Contact: Brenda Maracle O’Toole, National Director, FAAY, 204 St George Street, 2nd Floor, Toronto, ON, M5R 2N5, Tel: (416) 961-8663, Fax: (416) 961-3995, Toll Free: (800) 465-7078.

J. Douglas Ferguson Historical Research Foundation
Deadline: October 15
Terms of reference: The J. Douglas Ferguson Historical Research Foundation offers two competitions for student essays. One award for $1000 will be made to the author of the best postgraduate essay and two others, for $750 each, will go to the undergraduates who write the best essays. To be eligible for an award, applicants must either be enrolled in a postgraduate programme (MA, MSc or PhD) or undergraduate programme (BA, BSc) at a Canadian University. The essays should have significant relevance for numismatics. This would include essays in history, art history, archaeology or classics for which coins, tokens, jetons, paper money, cheques or medals provide an important source of evidence as well as essays in banking history, monetary history, medallic art, banknote engraving, or the technology and metallurgy of coinage. Although students are encouraged to select topics relevant to Canadian numismatics, essays on ancient, medieval, or modern international topics are also eligible. The essays may be submitted in a course or may represent new work. Applicants may submit three clear copies (typed or printed) or one copy plus a computer file on disk. The text should be double-spaced, on one side of the page only, with pages numbered, and author's name and address clearly marked on the title page. Include also a short resume. Winning essays in both categories will be published in the Canadian Journal most relevant to their topics.
Contact: The J. Douglas Ferguson Historical Research Foundation, 654 Hiawatha Blvd., Ancaster, ON, L9G 3A5.

The Foundation for the Advancement of Aboriginal Youth
Deadline: September 15
Terms of reference: These awards, valued at $1,000 each, are awarded to a student or returning student of Aboriginal descent and residents of Canada. Applicants must be enrolled and accepted in a first, second, or third year college or university program, preferably in the areas of business, accounting, marketing, medical or technology. Consideration will be given to applicants who have made contributions to their community by volunteering or providing a leadership role for educational goals and a potential career choice in the future; copies of recent transcripts; a completed registration form; two letters of reference (no relatives), one personal and one academic; a letter from an educational institution indicating confirmation of registration or a photocopy of school application form.
Contact: Brenda Maracle O’Toole, National Director, FAAY, 204 St George Street, 2nd Floor, Toronto, ON, M5R 2N5, Tel: (416) 961-8663, Fax: (416) 961-3995, Toll Free: (800) 465-7078.

J. Douglas Ferguson Historical Research Foundation
Deadline: October 15
Terms of reference: The J. Douglas Ferguson Historical Research Foundation offers two competitions for student essays. One award for $1000 will be made to the author of the best postgraduate essay and two others, for $750 each, will go to the undergraduates who write the best essays. To be eligible for an award, applicants must either be enrolled in a postgraduate programme (MA, MSc or PhD) or undergraduate programme (BA, BSc) at a Canadian University. The essays should have significant relevance for numismatics. This would include essays in history, art history, archaeology or classics for which coins, tokens, jetons, paper money, cheques or medals provide an important source of evidence as well as essays in banking history, monetary history, medallic art, banknote engraving, or the technology and metallurgy of coinage. Although students are encouraged to select topics relevant to Canadian numismatics, essays on ancient, medieval, or modern international topics are also eligible. The essays may be submitted in a course or may represent new work. Applicants may submit three clear copies (typed or printed) or one copy plus a computer file on disk. The text should be double-spaced, on one side of the page only, with pages numbered, and author's name and address clearly marked on the title page. Include also a short resume. Winning essays in both categories will be published in the Canadian Journal most relevant to their topics.
Contact: The J. Douglas Ferguson Historical Research Foundation, 654 Hiawatha Blvd., Ancaster, ON, L9G 3A5.

The Foundation for the Advancement of Aboriginal Youth
Deadline: September 15
Terms of reference: These awards, valued at $1,000 each, are awarded to a student or returning student of Aboriginal descent and residents of Canada. Applicants must be enrolled and accepted in a first, second, or third year college or university program, preferably in the areas of business, accounting, marketing, medical or technology. Consideration will be given to applicants who have made contributions to their community by volunteering or providing a leadership role for educational goals and a potential career choice in the future; copies of recent transcripts; a completed registration form; two letters of reference (no relatives), one personal and one academic; a letter from an educational institution indicating confirmation of registration or a photocopy of school application form.
Contact: Brenda Maracle O’Toole, National Director, FAAY, 204 St George Street, 2nd Floor, Toronto, ON, M5R 2N5, Tel: (416) 961-8663, Fax: (416) 961-3995, Toll Free: (800) 465-7078.

J. Douglas Ferguson Historical Research Foundation
Deadline: October 15
Terms of reference: The J. Douglas Ferguson Historical Research Foundation offers two competitions for student essays. One award for $1000 will be made to the author of the best postgraduate essay and two others, for $750 each, will go to the undergraduates who write the best essays. To be eligible for an award, applicants must either be enrolled in a postgraduate programme (MA, MSc or PhD) or undergraduate programme (BA, BSc) at a Canadian University. The essays should have significant relevance for numismatics. This would include essays in history, art history, archaeology or classics for which coins, tokens, jetons, paper money, cheques or medals provide an important source of evidence as well as essays in banking history, monetary history, medallic art, banknote engraving, or the technology and metallurgy of coinage. Although students are encouraged to select topics relevant to Canadian numismatics, essays on ancient, medieval, or modern international topics are also eligible. The essays may be submitted in a course or may represent new work. Applicants may submit three clear copies (typed or printed) or one copy plus a computer file on disk. The text should be double-spaced, on one side of the page only, with pages numbered, and author's name and address clearly marked on the title page. Include also a short resume. Winning essays in both categories will be published in the Canadian Journal most relevant to their topics.
Contact: The J. Douglas Ferguson Historical Research Foundation, 654 Hiawatha Blvd., Ancaster, ON, L9G 3A5.
Global Television Network Broadcasters of the Future Awards – Aboriginal Peoples’ Internship Award

Deadline: September 1

Terms of reference: This annual Internship Award offers an aboriginal Canadian a challenging opportunity to work in private television, in pursuit of a career in broadcasting. The award, valued at about $10,000, places the award recipient in a 4-month internship program at any one of our Global Television stations located in Toronto, One, Ontario; Halifax, Nova Scotia; Vancouver, British Columbia; Winnipeg, Manitoba; or Regina/Saskatoon, Saskatchewan, where the award recipient will be paid on a salary basis for the summer. The applicant must be an Aboriginal Canadian, minimum education (secondary school graduate) interest in, and aptitude for, a career in the broadcasting industry, and strong English language communication skills.

Contact: Global Television Network Broadcasters of the Future Awards, 81 Barber Greene Road, Toronto, ON, M3C 2A2.

Gulf and Fraser Credit Union – Robert F. Long Educational Award

Deadline: September 1

Terms of reference: It is a prerequisite that the applicant be a member of the Gulf & Fraser Credit Union, and that the successful applicant be enrolled at a University or Technical Institute. An official transcript of your most recent marks must be submitted.

Contact: Gulf and Fraser Credit Union, 803 East Hastings Street, Vancouver, BC, V6A 1R8 Tel: (604) 254-7270, Fax: (604) 254-7332.

Heart and Stroke Foundation of BC and Yukon

Deadline: February 12

Terms of reference: The Heart and Stroke Foundation is now offering a limited number of Summer Research Studentships positions to academically excellent university students not currently registered in or undertaking studies toward a graduate degree. To be eligible for this program, the student must currently be registered in a British Columbia university or college. It is open to undergraduate and medical students with a GPA of 3.0 or higher.

Contact: Research Department, Heart and Stroke Foundation of BC & Yukon, 1212 West Broadway, Vancouver, BC, V6H 1Y2, Tel: (604) 736-3401 Toll Free: 1-888-473-4636, E-mail: tkjang@hsf.bc.ca, Web: www.hsf.bc.ca.

Heroes of Our Time

Deadline: June 15

Terms of reference: There are seven awards of up to $1,000 each for people of First Nations ancestry beginning post-secondary studies. The awards are designed to cover tuition and other compulsory fees, textbooks and supplies in order to help the student's living expenses during the academic year. The purpose of the awards is to encourage and assist people of First Nations ancestry to pursue undergraduate post-secondary educational studies in disciplines relevant to the petroleum industry. The awards may be renewable for an additional three years. The competition is open to: First Nations - status and non-status, Inuit and Metis students; residents of BC, AB, Saskatchewan, the Yukon or the Northwest Territories for at least one year prior to applying for the award; those who can provide proof of acceptance to an eligible post-secondary educational institution; those who will pursue studies in the following disciplines: Engineering, Commerce/ Business, Geology, Geophysics, Computer Science or Petroleum Land Management; those who will register in a program of studies leading to a recognized degree, certificate or diploma; those who are in need of financial assistance to pursue post-secondary studies; those who are academically qualified.

Contact: Native Educational Awards Coordinator, Imperial Oil Resources Ltd., 37 4th Avenue S.W., Calgary, AB, T2P 0H6, Tel: (403) 237-3737, Fax: (403) 237-4017.

Indian and Northern Affairs Canada Post-Secondary Student Support Program

Deadline: February 28

Terms of reference: To be eligible you must be Inuit or registered as Indian, have lived in only Canada for the past year and have met a university or college’s entrance requirements, have been accepted into university or college or for a program of studies. This funding is open to both full-time and part-time students and you must be registered in at least a year-long course to receive funding. Indian and Northern Affairs Canada (INAC) defines the limits of funding every year. You can also apply for the following funding in addition to the above programs:

• Monetary Incentives - for postgraduate or professional degree students payments of up to $1,500 for continuing with program.

• Strategic Scholarships - for students of commerce, public or business administration, economics, applied and physical science, mathematics, computer science, forestry and engineering scholarships of up to $3,500 annually.

• Academic Achievement Scholarships - undergraduate students who have at least a B average may apply for scholarships of up to $1,000 annually.

Contact: Indian and Northern Affairs Canada Post-Secondary Student Support Program (Coquitlam Foundation)

Deadline: August 1

Terms of reference: Ten to fifteen awards of $200 to $500 are given annually, based on the number of successful applicants. Applicants must be of First Nations ancestry and a full-time student. Applicants must include 1) a completed application, 2) a recent transcript of marks, and 3) two letters of reference which address the student’s ability to complete the course of studies proposed.

Contact: Norm Cook, Secretary, Coquitlam Foundation, 300 Guildford Way, Coquitlam, BC, V3B 7N2, Tel: (604) 927-3003, Fax: (604) 927-3015.

JET Programme

Deadline: August 1

Terms of reference: This award may be made annually to a student who would benefit from an established work-study program at the Museum of Anthropology, and may be supplemented by other funds when available. To receive more information or to apply, forward a resume and letter of interest to the Awards Committee at the address below, outlining the work study program you would like to pursue.

Contact: Awards Committee, c/o Anne-Marie Fenger, UBC Museum of Anthropology, 6393 NW Marine Drive, Vancouver, BC, V6T 1Z2.
The Military and Hospitaller Order of St. Lazarus of Jerusalem Grand Priority in Canada
Deadline: March 15
Terms of reference: The Military and Hospitaller Order of St. Lazarus of Jerusalem is sponsoring an essay competition on the subject of Canadian unity. The author of the winning essay will be eligible for an award of $2,000. A second place award of $500 will also be awarded. Essays must be submitted in either official language. The length of 2000 words typed. Entrants must be Canadian citizens or landed immigrants and must be registered students at a Canadian University, College or CEGEP. All entries must be accompanied by the name, address and telephone number of the submitter with proofs of student and citizenship status, a short curriculum vitae and statement of assignment.
Contact: The Military and Hospitaller Order of St. Lazarus of Jerusalem Grand Priority in Canada, 39 McArthur Avenue, Vanier, ON, K1L 8L7, Tel: (613) 746-5280, Fax: (614) 746-3982, E-mail: lazarusl@istar.ca, Web: home.istar.ca/~lazarusl.

The Shastri Indo-Canadian Institute Awards
Deadline: June 30
Terms of reference: The Shastri Indo-Canadian Institute Awards Program offers up to four financial awards annually which may continue for two to four years, depending on the recipient’s program of study. You are eligible to apply if you are: a person of aboriginal ancestry (status and non-status Indian, Metis or Inuit); female; a person with a disability (as defined by the Canada Employment Equity Act); or, a member of a visible minority (as defined by the pending Canada Employment Equity Act). You must also be a Canadian citizen or permanent resident who has resided in BC for the past 12 months. Preference will be given to individuals residing in BC communities where Weyerhaeuser has operation. You must also demonstrate acceptance to a recognized Canadian university. The Institute funds research, links institutions in the two countries, and organizes seminars and conferences. It is named after Lal Bahadur Shastri, the Prime Minister of India from 1964 to 1966 and a distinguished mediator and statesman. The Shastri Indo-Canadian Institute offers the following awards:
• Summer Programme in India (deadline: October 30)
• Women and Development Awards in India (deadline: November 15)
• Undergraduate Awards (deadline: January 31)
• Language Teaching Fellowships (deadline: January 31)
• Language Teaching Grants (deadline: February 1)
• Seed Grants for India Studies (deadline: February 1)
Contact: Volunteer Recognition Awards, Volunteer Vancouver, #301-3102 Main Street, Vancouver, BC, V5T 3G7; Tel: 875-5144, Fax: 875-0710, E-mail: volvan@volunteer.ca.

Weyerhaeuser Canada Diversity Education Awards
Deadline: June 30
Terms of reference: Weyerhaeuser Canada Diversity Education Awards Program offers up to four financial awards annually which may continue for two to four years, depending on the recipient’s program of study. You are eligible to apply if you are: a person of aboriginal ancestry (status and non-status Indian, Metis or Inuit); female; a person with a disability (as defined by the Canada Employment Equity Act); or, a member of a visible minority (as defined by the pending Canada Employment Equity Act). You must also be a Canadian citizen or permanent resident who has resided in BC for the past 12 months.

Royal Bank Native Student Awards Program
Deadline: January 31
Terms of reference: The Royal Bank Native Student Awards Program was launched in 1992 to assist Aboriginal students achieve a post secondary education. Annually, five individuals are selected to receive an award of up to $4,000 for a maximum of four years toward the cost of a university or college education. These awards are to cover the cost of tuition, textbooks and supplies, and to contribute to living expenses during the academic year. To date 30 students have received these scholarships. In addition, some award recipients who apply, are also given consideration for post graduate employment in the organization. If you are a Status Indian, Non-Status Indian, Inuit or Metis, you are eligible to apply provided that i) you are a permanent resident/citizen of Canada ii) you can provide proof of acceptance (with transcript of marks) or are already attending a university or college listed in the Directory of Canadian Universities, in a discipline relevant to the banking industry (e.g. business; economics; computer science) iii) maintain a full course workload leading to a recognized degree, certificate or diploma iv) you are in need of financial assistance to pursue your education. If you are receiving partial funding from other sources, you may still apply to the Royal Bank Native Student Awards program to cover your additional educational costs.

Maxine Sevack Memorial Grant
Deadline: unknown
Terms of reference: Annual scholarships of $500 are available to Little Sisters or Little Brothers enrolled in post-secondary education who were matched with their Big Sisters by Big Sisters of BC Lower Mainland. Eligibility: any Little Sister or Little Brother who has been a member of Big Sister of BC Lower Mainland for at least one year and has been matched with a Big Sister; is between 17 and 24 years of age; is enrolled in a training or educational program (exclusive of high school) which is at least three months in duration; has completed Grade 10 and can demonstrate financial need.
Contact: Big Sisters of BC Lower Mainland, 34 East 12th Avenue, Vancouver, BC, V5T 2G5, Tel: (604) 873-4525, Fax: (604) 873-2122, Web: www.bigsisters.bc.ca.

The Caring Companies Award
Deadline: March 31
Terms of reference: Weyerhaeuser Canada Diversity Education Awards Program offers up to four financial awards annually which may continue for two to four years, depending on the recipient’s program of study. You are eligible to apply if you are: a person of aboriginal ancestry (status and non-status Indian, Metis or Inuit); female; a person with a disability (as defined by the Canada Employment Equity Act); or, a member of a visible minority (as defined by the pending Canada Employment Equity Act). You must also be a Canadian citizen or permanent resident who has resided in BC for the past 12 months.

The Volunteer Vancouver Award for Innovation: This award is designed to recognize organizations that have furthered their objectives while responding to the changing needs of the community with exceptional creativity and innovation.

The Volunteer Vancouver Award for Leadership: This award recognizes youth 17 years of age and under, and separately, youth age 18-25 years.

The Caring Companies Award: These awards recognize the support for voluntary activity among employees and for the financial support provided to community organizations.

The Community Service Awards: These awards honor volunteers or volunteer groups for their invaluable service and focus public attention on the similar works of countless others.

Contact: Volunteer Recognition Awards, Volunteer Vancouver, #301-3102 Main Street, Vancouver, BC, V5T 3G7; Tel: 875-5144, Fax: 875-0710, E-mail: volvan@volunteer.ca.
BC post-secondary educational institution as a full-time student in a 2 year diploma or a university degree program.
Contact: Diversity Education Awards Program, Weyerhaeuser Canada Ltd., PO Box 800, Kamloops, BC, V2C 5M7, Tel: (250) 828-7387 Fax: (250) 828-7580.

The Women’s Opportunity Award (Soroptimist International)
Deadline: December 15
Terms of reference: The Women’s Opportunity Awards Program was established by Soroptimist International of North America in 1972 to assist women entering or re-entering the workforce in obtaining the education and skills training they need to improve their employment status. Women’s Opportunity Awards are designed to give women heads of household, who provide the primary source of financial support for their families, the opportunity to achieve their career goals—an opportunity they have not previously had, whether because of economic or social barriers, or personal circumstances. The Women’s Opportunity Awards program begins at the community level, where award amounts vary. Local winners then become eligible to receive region-level awards. First-place region winner become eligible to receive a $10,000 international finalist award.
Contact: Teresa Wylie, Soroptimist International of Vancouver, 2907 Woodland Drive, Vancouver, BC, V5N 3P2, Tel: (604) 876-4469; or Lilian Fuller, Soroptimist International of the Langleys, P.O. Box 7, 20372 Fraser Highway, Langley, BC, V3A 4G1, Tel: (604) 888-2507, Web: www.soroptimist.org.

External awards for Applied Science students
Caribou Research Award – Canadian Northern Studies Trust
Deadline: January 31
Terms of reference: The Beverly and Qamanijuaq Caribou Management Scholarship Fund provides awards of up to $3,000 to full-time students enrolled in a recognized Canadian community college or university pursuing studies that will contribute to the understanding of Barren Ground Caribou (and its habitat) in Canada. Preference will be given to individuals who are normally resident in one of the caribou-using communities on the range of the Beverly or Qamanijuaq Caribou. These awards may be held concurrently with a special award for Northern Residents.
Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533, E-mail: acuns@cyberus.ca.
Web: aix1.uottawa.ca/associations/acuns-acuns.

CIPS Computing Co-op Award
Deadline: Unknown
Terms of reference: The Vancouver section of the Canadian Information Processing Society provides an award valued at $750 to a third or fourth year MSSC Computer Science student. A scholarship of $250 is available to a runner-up student. Applicants must have at least a 3.00 CGPA and have completed at least two co-op terms.
Contact: The applicable department for application procedures.

Engineering Students Project Award – Canadian Engineering Memorial Foundation
Deadline: January 4
Terms of reference: The Engineering Students Project Award is a $5,000 award offered annually and regionally, one in each of British Columbia, the Prairie provinces, Ontario, Quebec, and the Atlantic provinces. This award is offered to the team of engineering students which develops and implements the outreach programme deemed most effective at attracting senior high-school students, particularly women, to engineering.
Contact: Canadian Engineering Memorial Foundation, 470 11th Avenue S.W., Calgary, AB, T2P 0H6.

Eso Resouces Canada Limited – Native Education Award
Deadline: June 15
Terms of reference: Two $4,500 awards are available to students enrolled in full-time, petroleum industry-related studies and have financial need. Your grades will be considered. You must have been living in BC, Alberta, Saskatchewan, the Yukon or the Northwest Territories for 12 months before applying.
Contact: Coordinator, Native Education Awards Program, Human Resources Department, Eso Resources Canada Limited, 237 Fourth Avenue S.W., Calgary, AB, T2P 0H6.

C.D. Howe Memorial Foundation Engineering Awards Program
Deadline: July 2
Terms of reference: The C.D. Howe Memorial Foundation is pleased to grant scholarships to students enrolled in an engineering program in a Canadian university. Two scholarships of $6,000 will be awarded each year. One award will be offered to a male and one to a female student. The awards are renewable twice for a maximum tenure of three consecutive years. This is a merit scholarship open to qualified full-time engineering students entering the second year of their program and who will graduate within the next two or three years. Candidates must be Canadian citizens or permanent residents who have completed a full first year program in a Canadian faculty of engineering and who intend to continue their studies in engineering. Candidates must have attained a first class standing as defined by the nominating institution. Applications are by nomination only.
Contact: Canadian Awards Program, International and Canadian Programs Branch, Association of Universities and Colleges of Canada (AUCC), 600-350 Albert St., Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-8745, E-mail: award@aucc.ca, Web: www.aucc.ca.

External awards for Arts students
Award for Ukrainian Art in Alberta (URDC)
Deadline: November 30
Terms of reference: This award is available annually to any qualified applicant (individual or group) who, through an exhibit, tour, festival, educational program or special project, fosters a greater awareness of Ukrainian art in Alberta. Works in progress and/or recently completed works will be considered. Applicants must submit a portfolio and/or visual or audio sample of the Ukrainian art being promoted, along with a written proposal outlining the intended exhibit, tour, festival, educational program or special project, as per the application form. Limit of one submission per applicant. Applications may also include information about their education and life experiences, awards, community involvement, letters of support, or other information.
Contact: Alberta Council for the Ukrainian Arts Award, c/o Ukrainian Resource and Development Centre (URDC), Grant MacEwan Community College, Box 1796, Edmonton, AB, T5J 2P2, Tel: (780) 497-4374, Fax: (780) 497-4377, Web: www.gmcc.ab.ca/nw/urdc/scholars.htm.

Anna Pidruchev Award for New Writers (URDC)
Deadline: November 30
Terms of reference: Awarded annually to a novice writer for a literary work which includes Ukrainian Canadian characters or is based on a Ukrainian Canadian theme. Only completed works will be considered. All genres of writing (including novels, short stories, poems, essays, and dramatic works) are acceptable. Open to Grant MacEwan Community College students and other authors. Preference will be given to young writers who have not yet had their work published on a regular basis, and who are considering writing as a profession. The award will be granted for English-language and Ukrainian-language submissions in alternating years. In odd-numbered years, beginning in 1991, the award will be for an

Contact: No application is necessary.

Maria Mae and Sergei Eremenko Music Award (URDC)
Deadline: November 30
Terms of reference: This scholarship is available annually to any qualified applicant (individual or group), who is planning to pursue further studies in the field of Ukrainian music. Courses of study or workshops, either in progress or recently completed, will be considered. Applicants must submit a written description of the course of study or workshop, along with an explanation of how the course or workshop will help the applicant in promoting the awareness and development of Ukrainian music in Alberta. The application should be approximately one page in length, and may include information about the applicant’s past accomplishments and experiences.
Contact: Ukrainian Resource and Development Centre (URDC), Grant MacEwan Community College, Box 1796, Edmonton, AB, T5J 2P2, Tel: (780) 497-4374, Fax: (780) 497-4377, Web: www.gmcc.ab.ca/nw/urdc/scholars.htm.

HBK-Savings Bank Prize
Deadline: June 30
Terms of reference: HBK Savings Bank awards a prize in order to encourage the scientific study on workers’ financial participation and democracy in enterprises. This study deals with economic (ownership) and/or industrial (participation) democracy in enterprises. Candidates have to hold a university degree. A typewritten or printed copy of their work as well as a curriculum vitae mentioning their studies, degrees, professional activities and publications have to be sent to HBK Savings Bank. The study has to be written in one of the following languages: English, French, German or Dutch.
Contact: HBK-Banque d’Epargne, Lange Lozanastraat 250, B-2018 Antwerpen, Belgium, Tel: 32-3-2475501, Fax: 32-3-2475399.

William and Mary Kostash Award for Film and Video Arts (URDC)
Deadline: November 30
Terms of reference: Awarded annually for a project which promotes Ukrainian Canadian identity through the medium of film or video. Works in progress and/or completed works will be considered. Drama, documentary, experimental, promotional, educational, and other genres are acceptable. Open to Grant MacEwan Community College students and independent film or video producers. Successful applicants must forward two copies of their completed films or videos to the Ukrainian Resource Development Centre within one year of receiving this award.
Contact: William and Mary Kostash Award for Film and Video Arts, c/o Ukrainian Resource and Development Centre (URDC), Grant MacEwan Community College, Box 1796, Edmonton, AB, T5J 2P2, Tel: (780) 497-4374, Fax: (780) 497-4377, Web: www.gmcc.ab.ca/nw/urdc/scholars.htm.
English-language work. In even-numbered years, beginning in 1992, the award will be for a Ukrainian-language work. Applications are considered in the year prior to that when the award is granted. Contact: Anna Pidruchney Award for New Writers, c/o Ukrainian Resource & Development Centre (URDC) Grant MacEwan Community College, Box 1796 Edmonton, AB, T5J 2P2. Tel: (780) 497-4374, Fax: (780) 497-4377, Web: www.gmcc.ab.ca/ru/urdc/scholars.htm.

**Prize of French Consulate in Vancouver**
*Deadline: summer*

**Terms of reference:** Several book prizes and medals have been donated to Simon Fraser University to be awarded to students for outstanding achievement in French. Contact: Applicants must be recommended to the French Consulate in Vancouver by the Department of French, Simon Fraser University.

**Vancouver Foundation – Advanced Arts Study Awards**
*Deadline: May 31*

**Terms of reference:** The Vancouver Foundation initiated the Advanced Arts Study Awards to help develop talent from our Province. Awards will range from $3,000 to $5,000. Terms of the Awards:
- for a program of advanced study in music, dance or theatre
- at a recognized institution or with an established professional within or outside of British Columbia
- student has shown talent and demonstrated a high level of achievement
- financial assistance is required to enable the student to take up the study opportunity
- student is a BC resident and a Canadian citizen or landed immigrant
- student has not received more than one previous award from this program

Contact: Vancouver Foundation Advanced Arts Study Awards, Mary Olson, Administrator, Vancouver Academy of Music, 1270 Chestnut Street, Vancouver, BC, V6J 4R9, Tel: (604) 734-2301, Fax: (604) 731-1920.

**External awards for Science students**

**Canadian Association of Geographer’s Annual Award**
*Deadline: Spring*

**Terms of reference:** The Canadian Association of Geographers will award in Spring semester, a prize to the outstanding student in Geography. Contact: No application is necessary.

**Caribou Research Award – Canadian Northern Studies Trust**
*Deadline: January 31*

**Terms of reference:** The Beverly and Qamanijuaq Caribou Management Scholarship Fund provides awards of up to $3,000 to full-time students enrolled in a recognized Canadian community college or university pursuing studies that will contribute to the understanding of Barren Ground Caribou (and its habitat) in Canada. Preference will be given to individuals who are normally resident in one of the caribou-using communities on the range of the Beverly or Qamanijuaq Caribou. These awards may be held concurrently with a special award for Northern Residents.

Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533, E-mail: acuns@cyberus.ca.

**CIPS Computing Co-op Award**
*Deadline: Unknown*

**Terms of reference:** The Vancouver section of the Canadian Information Processing Society provides an award valued at $750 to the third year MSSC student who has major or minor in Mathematics or Computing Science. A scholarship of $250 is available to a runner-up student. Applicants must have at least a 3.00 CGPA and have completed at least two co-op terms. Contact: The applicable department for application procedures.

**Eso Resources Canada Limited – Native Education Award**
*Deadline: June 15*

**Terms of reference:** Two $4,500 awards are available to students enrolled in full-time, petroleum industry-related studies and have financial need. Your grades will be considered. You must have been living in BC, Alberta, Saskatchewan, the Yukon or the Northwest Territories for at least two years of study, but may draw only $1,000 of the loan in one academic year. Students must complete satisfactorily one semester’s work before
making application. Interest at a 6% rate is to be paid annually, and the student is expected to begin payment of the principal as soon as she is out of school.

**Royal Canadian Naval Benevolent Fund**

**Deadline: October 31**

**Terms of reference:** This fund recognizes the need of financial assistance for educational purposes of former members of the Naval Forces of Canada and Canadian Merchant Navy Veterans. This program is not only for university but for vocational and other special training as well. Financial assistance for dependants is limited to cover tuition, student fees, books and supplies.

**Contact:** Royal Canadian Naval Benevolent Fund, PO Box 505 Station “B” Ottawa, ON, K1P 5P6, Tel: (613) 996-5087, Fax: (613) 236-8830.

**Government administered programs**

**Canadian Armed Forces Subsidization Plans**

**Admission Requirements**

An applicant must be a Canadian citizen; be physically fit for enrolment in the Canadian Forces; and be at least 16 years of age on the first day of January of the year the student commences first year studies at university.

**How to Apply**

Individuals interested in obtaining more information on, or wishing to make application for, any of these plans are requested to contact: Commanding Officer, Canadian Forces Recruiting Centre, 757 West Hastings Street, Vancouver, BC, V6C 1A1.

**Government loans**

A loan is a sum of money borrowed by a student who proves financial need on a promise to repay at some specified time.

**Canada Student Loan/BC Student Assistance**

The purpose of the Canada Student Loan/BC Student Assistance Program is to assist students whose resources are insufficient to provide the cost of full time studies at the post secondary level of education. Therefore, funds under the program are granted only where the financial resources available to students from parents, summer or other employment, part time work, or other sources, are insufficient to meet their estimated educational costs. Normally, the funds provided under this program will be disbursed through a combination of the Canada Student Loan and BC Student Assistance. Students in the first 136 weeks of undergraduate study receiving student financial assistance at a BC public post-secondary institution may be eligible for grant funding either in the form of a BC grant or Canada Millennium Scholarship grant. Some students with dependent children may qualify for Canada Study Grant funding. A detailed booklet describing the program in full is available at Financial Assistance.

**Eligibility**

Applicants must be Canadian citizens or permanent residents (landed immigrants) to be eligible. Assistance will be provided to eligible registered full time students taking a minimum of 60% of nine regular credit hours (40% or six for students with permanent disabilities) of a full program of study leading to a certificate, diploma or undergraduate degree, or registered full time (part time for students with permanent disabilities) graduate students. The amount of assistance awarded will be based on assessed need as determined by the provincial authority.

Currently, single full time students are eligible for a maximum of $4,420 in BCSAP each semester. The maximum for students with dependent children is $7,985 a semester. You can apply for BCSAP for either one semester or two semesters at once (e.g. fall only, spring only, fall and spring).

A student in need of a Canada Student Loan/BC Student Assistance must first obtain an application form from Financial Assistance. The application must be completed carefully and accurately by the student, and where applicable, by the spouse or parent(s). If the student’s application is approved, the student will receive in the mail a notification of award/loan remission program qualifier from the Student Services Branch in Victoria. After receiving this notification, the student’s Canada Student Loan document will be mailed to the student from the Student Services Branch and the student will then take the loan document to a lending institution for negotiation.

If the student is also eligible for BC Student Assistance, the loan certificate and grant cheques (BC/Millennium Scholarship cheques) will be mailed to the student from the Student Services Branch, usually at the mid-point of the period of study for which assistance was awarded, and the student will then take the loan certificate to a lending institution for negotiation. Students are advised to keep in constant touch with the bank, or lending institution, from which they secure their loans.

Students should note the summary of obligations on the reverse side of the loan certificate prior to negotiating the loan. Interest on the loan is paid by the federal or provincial government as long as the student is registered as a full time student. Students should contact their lending institution (bank, credit union etc.) for information regarding the current interest rate and repayment schedule for Student Loans. Students who have previously received Canada Student Loans or BC Student Loans, but who do not negotiate one for their immediate period of study, should submit a Schedule 2 and/or Certificate 2 to their lending institution in order to retain payment free status. Students must be undertaking a minimum of nine regular credit hours (six for students with permanent disabilities) in the current semester, be a registered full time (part time for students with permanent disabilities) graduate student, or enrolled in a co-op education work term to be considered eligible for payment free status. A copy of these forms may be obtained from the lending institution or Financial Assistance.

For appeals, reassessments or other concerns, please contact Financial Assistance.

The provincial government has a loan remission program available to some graduating students. For more information, contact: Loan Remission and Management Unit, Student Services Branch, Ministry of Advanced Education, Training and Technology.

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**International student loans**

**United States Students**

Citizens (or eligible non-citizens) of the United States attending the university may apply for funding through the US Department of Education Student Financial Assistance Program. A Free Application for Federal Student Aid (FAFSA) must be completed by the student and submitted to the Federal Student Aid Programs. A Student Aid Report (SAR) is then issued to the student. To receive Stafford loans, the student must submit the SAR to the Simon Fraser University Financial Assistance office, with an application and promissory note, which is available from the student’s lender or state guarantee agency. Financial Assistance calculates the student’s costs, completes the school section of the application, and forwards the application to the appropriate agency for processing.

For more information regarding financial aid from the US Department of Education, call: 1-800-4-FED-AID (1-800-433-3243), or www.ed.gov/offices/OSFAP/Students.

**Students with permanent resident status**

Students with permanent resident status may be eligible to apply for Canada Student Loans. See section International Students.

**Students from other countries**

Students who are not Canadian citizens or Permanent Residents, and who will require financial assistance to attend Simon Fraser University must arrange such assistance in their country of origin before arrival in Canada.

Simon Fraser University permits non-Canadian students to compete for scholarships once they have enrolled at the University on the basis of course work undertaken at Simon Fraser University. It must be stressed that non-Canadian students should not predicate their tuition and living expense estimates upon these sources. Non-Canadian students are normally not permitted to work in Canada. Such students are expected and required by federal law to have sufficient funds guaranteed for their education prior to arrival in Canada.

**Government part-time grants/loans**

If you are a part time student with demonstrated financial need, you may qualify for a federal study grant of up to $1,200. Grants are targeted to students with dependents and possibly other students with special circumstances who are not able to take full time studies.

Federal students loans up to $4,000 are also available to part time students with financial need. These loans supplement other financial resources such as earnings, scholarships and bursaries.

Part time students who are Canadian citizens or landed immigrants and who are not in default of previous federal student loans or grants may apply for both the grant and loan programs.

Applications and information are available from Financial Assistance. The deadline for applications is eight weeks before the end of each semester.

**Grants for students with permanent disabilities**

A federal grant program is available to students with permanent disabilities. Check with the service coordinator for students with disabilities in MBC 1250 or call (604) 291-3112.
Grants for female doctoral students
A federal grant program is available to female doctoral students in specific doctoral programs. Please call (604) 291-4356 for further information.

Work-study program
The Work-Study program provides part time on-campus jobs for full time students during the fall, spring, and summer semesters. To become eligible, students must apply for BCSAP funding, if their financial need is greater than the maximum BCSAP funding, they may be notified by Financial Assistance that they are eligible for Work-Study placement. Each Work-Study placement lasts one semester and pays approximately $8.75 an hour, covering a range of 90 to 155 hours of work.

For more information
For further information on programs offered by Financial Assistance (Office of the Registrar) come to MBC 3200 or call (604) 291-4356. You may also e-mail us at faassist@sfu.ca

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Faculty of Applied Sciences

Dean
R.G. Marteniuk BPE, MA (Alta), EdD (Calif)
Associate Dean
R.D. Cameron BASc, PhD (Br Col)

The Faculty of Applied Sciences offers programs in communication, computing science, engineering science, kinesiology, and resource and environmental management. Bringing together the University’s educational and research activities in the applied sciences, the faculty is concerned with major areas of applied science and technology, as well as human and social aspects of the application of science.

Undergraduate Degrees Offered
Bachelor of Applied Science
Bachelor of Arts (Honors)
Bachelor of Arts
Bachelor of General Studies
Bachelor of Science (Honors)
Bachelor of Science
Bachelor of Science (Kinesiology) (Honors)
Bachelor of Science (Kinesiology)

Diplomas and Certificates Offered
Certificate in Applied Human Nutrition
Certificate in Computing Studies
Certificate in Health and Fitness Studies
Post Baccalaureate Diploma in Communication
Post Baccalaureate Diploma in Computing Science
Post Baccalaureate Diploma in Kinesiology

School of Communication

Director
B. Lewis, BA (Hamilton), MA, PhD (Iowa)

Professors
R.S. Anderson BA (Br Col), MA, PhD (Chic)
R.S. Gruneau BA (Guelph), MA (Calg), PhD (Mass)
R.A. Hackett BA (S Fraser), MA, PhD (Qu)
L.M. Harasim BA, MA (Alta), PhD (T or)
P. Heyer BA (Sir G Wms), MA (New Sch Soc Res), MPhil, PhD (Rutgers)
K. Kline BA (T or), PhD (Lond)
B. Lewis BA (Hamilton Coll), MA, PhD (Iowa)
R.M. Lorimer BA, MA (Manit), PhD (Tor)
W.D. Richards, Jr BA (Mich State), MA, PhD (Stan)
B.D. Truax BSc (Qu), MMus (Br Col)*

Associate Professors
P.S. Anderson BGS, MA (S Fraser)
E. Balka BA (Wash), MA, PhD (S Fraser)
A.C.M. Beale BA, MA, PhD (McG)
P. Guild BA (Wat), MA (Car), DPhil (Oxt)
P.M. Howard BA, MA (Regina), PhD (S Fraser)
M. Laba BA (York), MA, PhD (Nfld)
C.A. Murray BA, MA (Wat), PhD (Qu)

Assistant Professors
G.W. Fauschou BA (Winn), MA, PhD (York)
R.K. Smith BA (Car), MA, PhD (S Fraser)

Senior Lecturer
D. Gutstein BArch, MArch (Br Col)

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Ms. M. Shimizu, 6139 Robert C. Brown Hall, (604) 291-3862 Tel, mshimizu@sfu.ca

*joint appointment with contemporary arts

Faculty members on the school’s undergraduate curriculum committee are also available for student consultations.

Faculty and Areas of Research
The study of communication has recently emerged as an identified academic discipline. At the same time, a number of the traditional disciplines in the social sciences, the humanities, and the natural sciences employ communication approaches in various areas. Communication perspectives are also becoming prominent in the professions, notably in law, medicine, counselling, business, labour, education, trade, diplomacy, advertising, broadcasting, etc. As a social science, communication is distinctively trans-disciplinary.

The school has drawn on a number of perspectives, but is most readily distinguished by the fact that it treats communication as a humanistic social science, and is concerned with the contexts within which information in all its diverse forms is created, coded, communicated, and controlled. This approach provides students with wide opportunities to explore both communication theory and communication practice, as well as the relationship between the two. It encourages the concrete application of theory and research to modern society, its historical origins, its dominant values, its institutions and policies, its present structure, its current problems and its potential for change.

Refer to graduate Communication for faculty’s areas of research.

Program of Studies
The school offers a specialized program leading to a bachelor of arts major or honors degree. It also offers a minor program and a variety of courses in communication for students in other degree programs in the University.

Students with a degree in communication can seek employment opportunities in the following.

• public education, information or relations;
• research or development related to the field of communication industries, such as radio, television, book publication and telecommunications (few courses in media production or journalism are offered, however);
• research or policy development in government or industry related to the use of media, public information, public policy formation or the introduction of communications technologies in organizations or in international development;
• research or development related to the field of marketing or advertising and social marketing (in conjunction with a specialization in business administration) or political communications;
• public education, information or relations; specialized research or production in acoustic and video communication.

The school is interdisciplinary in its approach. It offers a concentrated program of study in a variety of loosely-structured streams. Courses in each of the streams are listed below for the guidance of students, but students are encouraged to take courses from more than one stream in the School of Communication.

Streams
Applied Media Studies

Cultural Industries, Public Information and Policy

History, Theory and Critical Media Studies
CMNS 205, 210, 220, 221, 235, 240, 259, 304, 310, 321, 331, 359, 422, 428

Information Technology and Society
CMNS 253, 342, 353, 354, 362, 408, 435, 436, 446, 453, 454, 455, 456, 458

International Communication

Political Economy

Enrolment Limitations
Admission to the upper division of the major, minor, honors and related joint programs is limited. Space in upper division communication courses is mostly reserved for students who have been formally accepted into such a program; only such students will be able to obtain the upper division courses necessary to complete the program. Exceptions to this rule may be made by instructors in consultation with the director of the school.

With approval of the Dean of Applied Sciences Office, the school will establish a yearly quota — the number of students that can be accommodated in the major/ honors, joint major or minor programs. This quota will be established on the basis of projected available course space and school resources.

The school admits a limited number into its programs each semester, consistent with the overall quota, on the basis of minimum CGPA announced two semesters in advance of the Fall semester each year. The school will determine this annual minimum requirement for entry on the basis of the number of places available. Every applicant for a major, minor or joint major program whose CGPA is greater than, or equal to, the annually announced requirement will be admitted; under normal circumstances admission to a program will not be granted to any applicant who has a CGPA which is less than the admission CGPA set by the school.

These requirements apply equally to a transfer or second degree student.

Major Program

Entry Requirements
Admission to the School of Communication is highly competitive.

Entry to the communication major program is possible via direct admission from high school, via college or university transfer or via internal transfer if admitted to another department or program at Simon Fraser University.

In the fall of 1999, entry to the School of Communication was offered to applicants who had secondary school averages of 85% and better, to
college or university transfer applicants who had grade point averages of B or better, and to internal transfer applicants who had a minimum 2.25 CGPA upon completion of the lower division requirements below.

**Continuation Requirement**
Once approved for a major in communication, a student will be required to maintain a minimum CGPA of 2.25 to remain in good standing in the program (that is, to retain eligibility to continue in the program).

**Lower Division Requirements**
Students must complete the following core courses.
- CMNS 110-3 Introduction to Communication Studies
- CMNS 130-3 Explorations in Mass Communication
- CMNS 260-3 Introduction to Empirical Communication Research Methods
- CMNS 261-3 Documentary Research in Communication

Students must also complete nine credits of additional CMNS course work at the 200 level, for a total of 21 lower division credit hours in communication.

A grade of C- or better is required in each of the required lower division CMNS courses.

In addition, students must complete a course in social science research methods, chosen from the following.
- BUEC 232-3 Elementary Economic and Business Statistics
- CMNS 240-3 Exploration in Mass Communication
- CRIM 220-3 Research Methods in Criminology
- EDUC 222-3 Research Methods in Educational Psychology
- GEOG 251-3 Methods in Spatial Analysis
- PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
- POL 201-3 Research Methods in Political Science
- PSYC 201-4 Research Methods in Psychology
- PSYC 210-4 Data Analysis in Psychology
- SA 255-4 Introduction to Social Research (SA)
- SA 355-4 Quantitative Methods (SA)
- SA 356-4 Ethnography and Qualitative Methods (SA)
- SA 358-4 The Philosophy of the Social Sciences (SA)
- STAT 101-3 Introduction to Statistics
- STAT 301-3 Statistics for the Life Sciences

**Upper Division Requirements**
Seven upper division (normally four credit) courses in communication must be completed. At least two of these shall be 400 level courses. Directed study and field placement courses may not be used to meet this requirement.

Normally, upper division courses may not be taken unless lower division course work has been completed, and normally, 75 credit hours must be taken prior to enrolment in 400 level courses.

**External Requirements**
In addition to CMNS courses, at least 60 credit hours must be chosen from disciplines other than communication. These 60 credit hours may include a course in social science research methods, identified in Lower Division Requirements above, and must also include the following additional course work.
- a minimum of 12 credit hours chosen from Asia-Canada, contemporary arts, English, First Nations, French, general studies, history, humanities, Latin American studies, linguistics, philosophy, Spanish or other languages.
- a minimum of six credit hours chosen from biochemistry, biological sciences, chemistry, computing science, earth sciences, engineering science, environmental sciences, kinesiology, management and systems science, mathematics, molecular biology and biochemistry, physics, resource and environmental management, statistics, at least three credit hours of which must be from the Faculty of Applied Sciences (CMPT, ENSC, KIN, REM), and
- at least three credit hours of upper division course work plus lower level prerequisites, if any, chosen from archaeology, business administration, BUEC, Canadian studies, community economic development, criminology, economics, education, geography, gerontology, political science, psychology, sociology and anthropology, women's studies.

A minimum total of 45 upper division credit hours is required for the degree. This includes the required upper division CMNS courses, any additional upper division CMNS courses taken, and any upper division courses taken to fulfill the required 60 credit hours outside CMNS.

**Communication Minor Program**

**Entry Requirements**
Acceptance into the minor program is subject to enrolment limitations. In the fall of 1999, applicants were accepted who had a minimum CGPA or transfer GPA of 2.25, upon completion of the lower division requirements.

**Lower Division Requirements**
Students must earn a grade of C- or better in each of the following courses.
- CMNS 110-3 Introduction to Communication Studies
- CMNS 130-3 Explorations in Mass Communication

**Continuation Requirement**
Once approved for a minor in communication, a student must maintain a minimum CGPA of 2.25 to remain in good standing.

**Upper Division Requirements**
Four upper division courses in communication must be completed (together with lower division prerequisites, if any). Directed study and field placement courses may not be used to meet this requirement.

**Publishing Minor Program**

**Entry Requirements**
Acceptance into the publishing minor program is subject to enrolment limitations. In the fall of 1999, applicants were accepted who had a minimum CGPA or transfer GPA of 2.25, upon completion of the lower division requirements.

**Lower Division Requirements**
Students must complete the following courses.
- CMNS 110-3 Introduction to Communication Studies
- CMNS 130-3 Explorations in Mass Communication
- CMNS 260-3 Introduction to Empirical Communication Research Methods
- CMNS 261-3 Documentary Research in Communication

Students must also complete nine credit hours of additional CMNS course work at the 200 level (for a total of 21 lower division credit hours in Communication).

A grade of C- or better is required in each of the required lower level CMNS courses.

In addition, students must complete a course in social science research methods, chosen from the following.
- BUEC 232-3 Elementary Economic and Business Statistics
- CRIM 220-3 Research Methods in Criminology
- EDUC 222-3 Research Methods in Educational Psychology
- GEOG 251-3 Methods in Spatial Analysis
- PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
- POL 201-3 Research Methods in Political Science
- PSYC 201-4 Research Methods in Psychology
- PSYC 210-4 Data Analysis in Psychology
- SA 255-4 Introduction to Social Research (SA)
- SA 355-4 Quantitative Methods (SA)
- SA 356-4 Ethnography and Qualitative Methods (SA)
- SA 358-4 The Philosophy of the Social Sciences (SA)
- STAT 101-3 Introduction to Statistics
- STAT 301-3 Statistics for the Life Sciences

**External Requirements**
In addition to CMNS courses, at least 60 credit hours must be chosen from disciplines other than communication. These 60 credit hours may include a course in social science research methods, identified in Lower Division Requirements above, and must also include the following additional course work.
- a minimum of 12 credit hours chosen from Asia-Canada, contemporary arts, English, First Nations, French, general studies, history, humanities, Latin American studies, linguistics, philosophy, Spanish or other languages.
- a minimum of six credit hours chosen from biochemistry, biological sciences, chemistry, computing science, earth sciences, engineering science, environmental sciences, kinesiology, management and systems science, mathematics, molecular biology and biochemistry, physics, resource and environmental management, statistics, at least three credit hours of which must be from the Faculty of Applied Sciences (CMPT, ENSC, KIN, REM), and
- at least three credit hours of upper division course work plus lower level prerequisites, if any, chosen from archaeology, business administration, BUEC, Canadian studies, community economic development, criminology, economics, education, geography, gerontology, political science, psychology, sociology and anthropology, women's studies.

A minimum total of 45 upper division credit hours is required for the degree. This includes the required upper division CMNS courses, any additional upper division CMNS courses taken, and any upper division courses taken to fulfill the required 60 credit hours outside CMNS.

**Communication Extended Minor Program**

A communication extended minor program may be part of a BA degree in the Faculty of Arts, which includes two extended minors. Consult the Faculty of Arts section for specific details about this option.

**Entry Requirements**
Acceptance into the extended minor program is subject to enrolment limitations. In the fall of 1999, applicants were accepted who had a minimum CGPA or transfer GPA of 2.25, upon completion of the lower division requirements.

**Lower Division Requirements**
Students must complete the following courses.
- CMNS 110-3 Introduction to Communication Studies
- CMNS 130-3 Explorations in Mass Communication
- CMNS 260-3 Introduction to Empirical Communication Research Methods
- CMNS 261-3 Documentary Research in Communication

Students must also complete nine credit hours of additional CMNS course work at the 200 level (for a total of 21 lower division credit hours in Communication).

A grade of C- or better is required in each of the required lower level CMNS courses.

In addition, students must complete a course in social science research methods, chosen from the following.
- BUEC 232-3 Elementary Economic and Business Statistics
- CRIM 220-3 Research Methods in Criminology
- EDUC 222-3 Research Methods in Educational Psychology
- GEOG 251-3 Methods in Spatial Analysis
- PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
- POL 201-3 Research Methods in Political Science
- PSYC 201-4 Research Methods in Psychology
- PSYC 210-4 Data Analysis in Psychology
- SA 255-4 Introduction to Social Research (SA)
- SA 355-4 Quantitative Methods (SA)
- SA 356-4 Ethnography and Qualitative Methods (SA)
- SA 358-4 The Philosophy of the Social Sciences (SA)
- STAT 101-3 Introduction to Statistics
- STAT 301-3 Statistics for the Life Sciences

**Continuation Requirement**
Once approved for an extended minor in communication, a student must maintain a minimum CGPA of 2.25 to remain in good standing.

**Upper Division Requirements**
Four upper division courses in communication must be completed (together with lower division prerequisites, if any). Directed study and field placement courses may not be used to meet this requirement.

**Continuation Requirement**
Once approved for the publishing minor program, a student must maintain a minimum CGPA of 2.25 to remain in good standing.

**Upper Division Requirements**
Four courses must be chosen from the following.
Joint Major in Communication and Business Administration
See “Joint Major in Business Administration and Communication” on page 168 for requirements.

Joint Major in Communication and Latin American Studies
See “Communication” on page 148 for requirements.

Joint Major in Communication and Sociology/Anthropology
See “Joint Major in Sociology or Anthropology and Communication” on page 159 for requirements.

Honors Program
Entry Requirements
Communication majors wishing to apply to the honors program should obtain the appropriate application form from the general office. The deadlines for application submission are March 15, July 15 and November 15 each year. The main difference between the regular communication program and the honors program is that honors students complete an honors project (described below). The application form requires the student to describe the proposed honors project and obtain approval signatures: a communication faculty member who agrees to supervise the execution of the project, one other faculty member who agrees to be on the student’s supervisory committee, and the honors co-ordinator.

The school reserves the right to limit the number of honors students if faculty resources are not available for supervision. In such cases, priority for registration in the honors program will be given to the students with a higher CGPA.

Students who have difficulty finding an honors supervisor should contact the school’s honors co-ordinator.

Other admission requirements are as follows:
- completion of 75 credit hours of course work including the lower division requirements of the CMNS major;
- completion of at least one of CMNS 362 or 363;
- a minimum GPA of 3.0 on all CMNS courses, and
- a minimum CGPA of 3.0.

Continuation
To remain in this program, students must maintain a minimum grade point average of 3.0 or higher for all courses (including communication courses) taken in each semester. Students who do not meet this requirement may be dropped from the program but may apply for readmission at a later date.

Graduation Requirements
To receive an honors in communication, students must
- meet the graduation requirements of the communication major program;
- meet the honors graduation requirements of the University and the Faculty of Applied Sciences including at least 60 credits at the upper level;
- successfully complete an honors project (CMNS 497 and 498);
- obtain certification by the undergraduate studies committee that the program has been satisfactorily completed.

Honors Project
Students must have completed at least 90 credit hours of university work with at least 20 credit hours in upper division communication courses before enrolling in the honors project. A plan must be approved by the faculty supervisor and by the honors co-ordinator before work is begun. A pamphlet describing the requirements for the honors project can be obtained from the School of Communication general office.

The honors project is carried out in two stages: CMNS 497 and 498. CMNS 497 is offered every semester. Students may enrol in CMNS 498 in any semester subsequent to the one in which they complete CMNS 497.

Post Baccalaureate Diploma in Communication
This program is available for students who have already completed a degree.

Requirements
Successful completion of an approved program comprised of 30-32 credit hours of upper division or graduate level courses (normally eight 4-credit courses numbered 300 or above). Courses must be selected from an approved listing in consultation with a program advisor. At least five of the upper division courses (20 credits) must be in communication; the remaining 10-12 credits could be in related disciplines, such as sociology, Canadian studies, history, English, women’s studies, etc.

Students may also be required to take some background lower division courses in preparation for the advanced courses. For example, a student who has a BA in an area not related to communication would be encouraged to take at least CMNS 110 and 130 before enrolling in any of the 300 and 400 level courses.

For further information, refer to the Continuing Studies section.

Co-operative Education Program
Co-operative education is a system which combines work experience with academic studies. The student spends alternate semesters on campus and in paid, study-related jobs.

Arrangements for the work experiences are made through the school’s co-op co-ordinators and the University’s Office of Co-operative Education. For further details, students should refer to the Co-operative Education section.

School of Computing Science
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T.C. Shermer BES (Johns H), PhD (McG)
K. Wang BSc (Chongqing), MSc, PhD (Georgia Inst of Tech)
Q. Yang BSc (Peking), MSc, PhD (Maryland)
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T.W. Calvert BSc(Eng) (Lond), MSEE (Wayne), PhD (Carnegie Tech), PEng**
M. Drew BASc, MSc (Tor), PhD (Br Col)
F.D. Fraschka BSc (Regina), MS (Wat), PhD (Regina)
T. Schaub BSc, MSc, PhD (Darmstadt)
E. Schenk BSc, MSc (Calg), PhD (Tor)
T. Strothotte BSc, MSc (S Fraser), PhD (McG), DSc (Wat)
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M.D. Evans BSc, MA (Dal), MSc (Dund), MSc (Birm)
C. Groeneboer BSc (Wisc), MSc (S Fraser)
Lecturer
S. Pearce BSc, MSc (Br Col), PhD (Ariz)
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B. Borwein, Mathematics and Statistics
J.C. Dill, Engineering Science
M. Monagan, Mathematics and Statistics
R.D. Russell, Mathematics and Statistics
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**joint appointment with engineering science
*joint appointment with kinesiology
***joint appointment with mathematics and statistics
The School of Computing Science offers a general program leading to a BSc and BA degree with major or honors in computing science, and specialist programs leading to a BSc degree with a major in computing science. It also contributes to a wide variety of programs that combine studies in computing science with studies in other academic disciplines. Formal joint programs include the joint major in information systems in business administration and computing science, the mathematics and computing science joint honors program, the cognitive science program (in co-operation with the Departments of Linguistics, Philosophy, and Psychology), and the Management and Systems Science Program (in co-operation with...
the Department of Mathematics and Statistics, the Department of Economics, and the Faculty of Business Administration). The school also offers a minor program that may be taken in conjunction with other major or honors programs or a general degree program.

Co-operative Education Program

Co-operative education is a system which combines work experience with academic studies. The student spends alternate semesters on campus and in paid, study related jobs. Arrangements for the work experiences are made through the school’s co-op co-ordinator and the University’s Office of Co-operative Education. For further details, students should refer to the Co-operative Education section.

Minimum Grade Requirement

Students must obtain a grade of C or higher in their courses, as they normally will not be permitted to enrol in any computing science course for which a C-grade or lower was obtained in any prerequisite. A minimum CGPA of 2.25 is required for entry into upper division computing courses.

Admission Requirements

Entry into computing science programs is possible via
- direct admission from high school
- direct transfer from a recognized post secondary institution, or
- internal transfer from within Simon Fraser University

Admission is competitive. A separate admission average for each of the three entry routes is established each semester, depending on the number of spaces available and subject to the approval of the Dean of Applied Sciences. Admission averages are calculated over a set of five to seven courses satisfying particular breadth constraints.

See “Admission and Readmission” on page 25. Here you will find the provisions governing direct entry from high school or direct transfer from another post secondary institution.

Internal Transfer

SFU Students applying for admission to the School of Computing Science are selected on the basis of an admission GPA calculated over seven courses chosen to satisfy the following breadth constraints.
- one writing course: PHIL 001 or any 100 level ENGL course
- two mathematics courses chosen from: MACM 101, 201, MATH 151, 152 and 232
- two computing courses chosen from: CMPT 101, 150, 201, 250 and 275
- one physical sciences course: BISC 101, 102, CHEM 120, 121, KIN 142, PHYS 101, 102, 120 or 121
- one social sciences course: ARCH 105, CMNS 110, 130, CNS 160, CRIM 101, ECON 100, HIST 106, POL 100, PSYC 100, SA 101, 150 or WS 101

All seven courses used for this calculation must have been taken at Simon Fraser University. At least five of the seven courses must have been taken in the one year period preceding the admission application. No course may be included in the average if it is considered a duplicate of any previous course taken at Simon Fraser University or elsewhere. However, students are free to take additional courses in each breadth area; the admission grade point average is calculated over the best seven courses that satisfy the constraints.

Continuation Requirements

Students in computing science programs are expected to maintain a cumulative GPA of 2.4 or better. Students whose CGPA falls below 2.4 will be placed on probationary standing with the school. The number of courses available to probationary students may be limited. Each semester, probationary students are required to consult an advisor prior to course registration and must achieve either a semester GPA of at least 2.4 or an improvement in CGPA to at least 2.4. Reinstatement from probationary standing occurs when the CGPA improves to 2.4 or better. A student may not take, for further credit, any course offered by the School of Computing Science which is a prerequisite for a course the student has already completed with a grade of C or higher, without permission of the department.

Major and Honors Programs

These programs are organized so that students may take advantage of a number of options. Among these are preparation for employment in computer related positions in government, business, or industry, and for computing science graduate studies or a related area. A computing science undergraduate degree also is an appropriate preparation for other areas where computers play a major role, especially business administration, economics, and science.

Lower Division Requirements

Students who plan to undertake a major, or honors in computing science must obtain credit for the following lower division courses (or equivalents).

one of
- CMPT 101-4 Introduction to Computer Programming
- CMPT 104-2 Computer Programming

plus all of
- CMPT 150-3 Introduction to Computer Design
- CMPT 201-4 Data and Program Abstraction
- CMPT 250-3 Introduction to Computer Architecture
- CMPT 275-4 Software Engineering I
- MACM 101-3 Discrete Mathematics I
- MACM 201-3 Discrete Mathematics II
- MATH 151-3 Calculus I
- MATH 152-3 Calculus II
- MATH 232-3 Elementary Linear Algebra
- PHIL 001-3 Critical Thinking

and one of
- BUEC 232-3 Elementary Economic and Business Statistics I
- STAT 270-3 Introduction to Probability and Statistics I

plus completion of at least two courses satisfying the School of Computing Science external breadth requirement (43-45 credit hours)

Notes

After completion of CMPT 150, students may also take ENSC 151 as an option.

Approval of calculus courses in place of MATH 151 or 152 will be based on corresponding approval within the Department of Mathematics and Statistics.

Any 100 level English course may alternatively be used to satisfy the requirement for PHIL 001. A grade of C- or better is required in PHIL 001 or its alternative.

It is recommended that students with normal entry complete the above courses within the first four semesters.

Upper Division Requirements

Major and honors students are required to consult an advisor before commencing their upper division course requirements.

The primary upper division requirements for a major or honors are structured according to the areas of concentration shown in table I. Elective courses that may be used to fulfill further requirements are shown in tables II and III.

Table I – Computing Science Concentrations

<table>
<thead>
<tr>
<th>Artificial Intelligence</th>
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<tbody>
<tr>
<td>CMPT 310-3 Artificial Intelligence Survey</td>
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<td>CMPT 411-3 Knowledge Representation</td>
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<td>CMPT 412-3 Computational Vision</td>
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<td>CMPT 413-3 Computational Linguistics</td>
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<td>CMPT 414-3 Mobile-Based Computer Vision</td>
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<td>CMPT 417-3 Intelligent Systems</td>
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<td>CMPT 419-3 Special Topics in Artificial Intelligence</td>
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<td>CMPT 363-3 User Interface Design</td>
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<td>CMPT 365-3 Multimedia Systems</td>
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<td>CMPT 461-3 Advanced Computer Graphics</td>
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<td>CMPT 466-3 Animation</td>
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<td>CMPT 469-3 Special Topics in Computer Graphics</td>
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<td>Computing Systems</td>
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<td>CMPT 300-3 Operating Systems I</td>
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<td>CMPT 371-3 Data Communications and Networking</td>
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<td>CMPT 379-3 Principles of Compiler Design</td>
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<td>CMPT 400-3 High-Performance Computer Architecture</td>
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<td>CMPT 401-3 Operating Systems II</td>
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<td>CMPT 471-3 Networking II</td>
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<td>CMPT 479-3 Special Topics in Computing Systems</td>
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<td>CMPT 499-3 Special Topics in Computer Hardware</td>
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<td>Information Systems</td>
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<td>CMPT 301-3 Information Systems Management</td>
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<td>CMPT 354-3 Database Systems I</td>
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<td>CMPT 370-3 Information System Design</td>
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<td>CMPT 454-3 Database Systems II</td>
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<td>CMPT 459-3 Special Topics in Database Systems</td>
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<td>CMPT 470-3 Web-based Information Systems</td>
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<td>CMPT 475-3 Software Engineering II</td>
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<td>Programming Languages and Software</td>
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<td>CMPT 383-3 Comparative Programming Languages</td>
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<td>CMPT 384-3 Symbolic Computing</td>
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<td>CMPT 480-3 Foundations of Programming Languages</td>
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<td>CMPT 481-3 Functional Programming</td>
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<td>CMPT 487-3 Software Engineering Tools and Environments</td>
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<td>CMPT 489-3 Special Topics in Programming Languages</td>
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<tr>
<td>Theoretical Computing Science</td>
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<tr>
<td>CMPT 307-3 Data Structures and Algorithms</td>
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<td>CMPT 308-3 Computability and Complexity</td>
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<td>CMPT 405-3 Design and Analysis of Computing Algorithms</td>
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<td>CMPT 406-3 Computational Geometry</td>
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<td>CMPT 407-3 Computational Complexity</td>
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<td>CMPT 408-3 Theory of Computer Networks/Communications</td>
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<td>CMPT 409-3 Special Topics in Theoretical Computing Science</td>
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<tr>
<td>MACM 200-3 Introduction to Formal Languages and Automata with Applications</td>
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</tbody>
</table>

Table II – Intensive Application Courses

| CMPT 305-3 Computer Simulation and Modelling |
| CMPT 340-3 Computers in Biomedicine |

Table III – Computing Mathematics Courses

| MACM 316-3 Numerical Analysis I |
| MACM 401-3 Symbolic Computation |
| MATH 308-3 Linear Programming |
| MATH 343-3 Combinatorial Aspects of Computing |
| MATH 408-3 Discrete Optimization |
| MATH 416-3 Numerical Analysis II |

Upper Division Requirements for a Major

For a major, students must satisfy the following requirements.
Breadth Requirement
One course each in five areas of table I must be completed. These courses must include CMPT 300 and 307. CMPT 354 is recommended.

(15 credit hours)

Depth Requirement
Four additional courses from table I must be completed in the five areas chosen to satisfy breadth requirements. At least two of these courses must be numbered CMPT 400 or above.

(12 credit hours)

Further course requirements for a major in computing science depend on the degree sought, as follows.

For a major in computing science in conjunction with a BEd program as offered by the Faculty of Education, one additional CMPT course chosen from table I or table II must be completed, bringing the total upper division credit hours in CMPT courses to at least 30.

For a BA degree with a major in computing science, the following additional requirements must be met.

• one additional CMPT course chosen from table I or table II must be completed bringing the total upper division credit hours in CMPT courses to at least 30.

• a concentration of 15 credit hours in a discipline (department) within the Faculty of Arts must be completed. This concentration must include at least six credit hours of upper division credit.

For a BSc degree with a major in computing science, the following additional requirements must be met.

• three additional courses chosen from tables I, II or III must be completed. These courses must include MACM 316.

(9 credit hours)

Social Aspects of Computing Requirement
Students must complete an approved course dealing with computing from a social perspective. Any of the following courses may be used to meet this requirement.
CMPT 320-3 Social Implications of a Computerized Society
CMNT 353-4 Social Contexts of Information Technology

Other courses may be approved on submission of a detailed course outline to the school.

External Breadth Requirement
The School of Computing Science requires its honors and major students to acquire effective writing and discussion skills and to develop knowledge in diverse areas. Toward this end, students must complete at least nine credit hours (at any level) of external breadth courses. These courses must be from more than one department. Students are expected to take at least one external breadth course in each of their first three years. A list of courses approved for this requirement is published annually and is available from the office of the School of Computing Science.

For all major programs in computing science, a grade point average of 2.0 must be obtained on the 30 to 40 credit hours of upper division CMPT/MACM/MATH courses used to fulfill the above requirements.

For all major programs in the School of Computing Science, at least 24 credit hours of the required CMPT courses must be taken at Simon Fraser University.

For a major in computing science, 120 credit hours must be completed, with an overall minimum of 45 credit hours of upper division credit.

For all computing science majors, at least 30 hours of upper division CMPT courses must be counted towards the major and cannot at the same time be counted towards the credit hour requirements of any other program. Those hours beyond 30 can be applied to other major or minor programs.

Students are advised to consult the General Information section of this calendar governing university graduation requirements.

Upper Division Requirements for Honors
For a BA or BSc degree with honors in computing science, students must fulfill the corresponding requirements for a BA or BSc major in computing science, with the following modifications and additions.

Breadth Requirement
One course each in the six areas of table I is required. These courses must include CMPT 300, 307 and 354.

Depth Requirement
Six additional courses from table I are required. These courses must include CMPT 405 and at least one other course in the theoretical computing science concentration. At least four of the courses must be numbered 400 or above.

Credit Hour Requirement
Additional computing science courses must be completed to bring the total upper division credit hours in CMPT/MACM to at least 50.

In addition, a minimum of 60 upper division hours and an overall total of 132 hours are required for the degree, together with a graduation grade point average of at least 3.00 as described in the General Information section.

Specialist Programs
Students must consult an advisor before commencing a specialist program, preferably early in their second year.

All students in specialist programs must satisfy the external breadth requirement as specified above under Upper Division Requirements for a Major.

Specialist Program in Multimedia Computing
Lower Division Requirements
Students must complete all lower division requirements for the computing science major program (40-42 credit hours) plus

CMPT 111-3 Issues in the Fine and Performing Arts
plus at least two of
CMPT 259-3 Acoustic Dimensions of Communication I
CMPT 147-3 Introduction to Electroacoustic Music
CMPT 247-3 Electroacoustic Music I
CMPT 279-3 Special Topics in the Fine and Performing Arts I
CMPT 290-3 Video Production I

Upper Division Requirements
Students must complete at least 39 credit hours of computing science upper division courses, which should include CMPT courses in the following required and elective courses.

Students must complete all of
CMPT 300-3 Operating Systems I
CMPT 307-3 Data Structures and Algorithms
CMPT 320-3 Social Implications of a Computerized Society
CMPT 361-3 Introduction to Computer Graphics
CMPT 363-3 User Interface Design
CMPT 365-3 Multimedia Systems

At least six of the following are required, three of which must be at the 400 level, three must be designated CMPT and at least two must be a non-CMPT course.

CMPT 305-4 Sound Tape Recording: Theory and Uses
CMPT 358-4 Acoustic Dimensions of Communication II
CMPT 310-3 Artificial Intelligence Survey
CMPT 354-3 Database Systems and Structures
CMPT 371-3 Data Communications and Networking
CMPT 412-3 Computational Vision
CMPT 414-3 Model-Based Computer Vision
CMPT 461-3 Advanced Computer Graphics
CMPT 466-3 Animation
CMPT 469-3 Special Topics in Computer Graphics
FPA 311-5 The Arts in Context: Selected Topics
FPA 330-3 Film Sound
FPA 353-3 Playmaking IV
FPA 390-3 Video Production II

Relevant FPA lower and upper division special topics courses may be applied to the above requirement with the approval of the director of undergraduate studies in the School of Computing Science.

Some CMPT courses listed above require prerequisites that are not included here. Where possible, prerequisites for CMPT courses will be waived or adjusted so that computing science students in this specialist program can gain access.

Eligible CMPT courses taken to satisfy the upper division requirements may also be used to satisfy the external breadth requirement.

Specialist Program in Software Engineering
Note: The bachelor of science degree in computing science with the completion of a specialist program in software engineering is not a professional engineering degree. The program is not certified by professional engineering societies. Instead, it is an area of study recognized by computing science.

Lower Division Requirements
These requirements are identical to those of the major and honors program listed above.

Upper Division Requirements
Required Courses
Students must complete all seven of the following courses.

CMPT 300-3 Operating Systems I
CMPT 307-3 Data Structures and Algorithms
CMPT 320-3 Social Implications of a Computerized Society
CMPT 354-3 Database Systems I
CMPT 363-3 User Interface Design
CMPT 371-3 Data Communications and Networking
CMPT 475-3 Software Engineering II

(21 credit hours)

Elective Courses
Students must complete five or more courses chosen from the following list, at least three of which are at the 400 level.

CMPT 301-3 Information Systems Management
CMPT 370-3 Information System Design
CMPT 379-3 Principles of Compiler Design
CMPT 383-3 Comparative Programming Languages
CMPT 401-3 Operating Systems II
CMPT 454-3 Database Systems II
CMPT 470-3 Web-based Information Systems
CMPT 471-3 Networking II
CMPT 487-3 Software Engineering Tools and Environments
ENSC 351-4 Real Time and Embedded Systems

Additional upper CMPT courses are required to bring the total CMPT credits to 45 or more (ENSC 351 is treated as CMPT credit for this purpose).

Minor Program
Lower Division Requirements
Students who plan to undertake a minor in computing science should normally obtain credit for the following lower division courses.
one of
CMPT 101-4 Introduction to Computer Programming
CMPT 104-2 Computer Programming
one of
CMPT 275-4 Software Engineering I
CMPT 250-3 Introduction to Computer Architecture
plus all of
CMPT 150-3 Introduction to Computer Design
CMPT 201-4 Data and Program Abstraction
MACM 101-3 Discrete Mathematics I
MATH 151-3 Calculus I
PHIL 001-3 Critical Thinking (24 credit hours)

**Notes**
Approval of a calculus course in place of MATH 151 will be based on corresponding approval within the Department of Mathematics and Statistics. Any 100 level English course may alternatively be used to satisfy the requirement for PHIL 001. A grade of C- or better is required in PHIL 001 or its alternative.

### Upper Division Requirements
For a minor, students must complete fifteen credit hours of upper division CMPT or MACM courses. At least 12 credit hours of these courses must be completed at Simon Fraser University.

### Joint Major in Information Systems in Business Administration and Computing Science
In co-operation with the Faculty of Business Administration, the school offers a joint major in information systems in business administration and computing science. See “Joint Major in Information Systems in Business Administration and Computing Science” on page 106 for course requirements. Upon completion of the requirements, students may choose either a BBA degree as offered by the Faculty of Business Administration or a BA degree offered by the School of Computing Science.

A BSc degree is also available in the joint major with the completion of the following requirements in addition to those listed in the Business Administration section. Three additional courses chosen from tables I, II or III must be completed. These courses must include MACM 316.

### Mathematics and Computing Science Honors Program
This program is offered jointly with the Department of Mathematics and Statistics. Entry requires permission of both the department and the school. See “Mathematics and Computing Science Program” on page 190.

### Cognitive Science Program
In co-operation with the Departments of Linguistics, Philosophy and Psychology, the School of Computing Science contributes to the undergraduate degree program in cognitive science, leading to a BA degree. See “Cognitive Science Program” on page 122 for more details about the requirements.

### Management and Systems Science Program
In co-operation with the Department of Mathematics and Statistics, the Department of Economics and the Faculty of Business Administration, the school contributes to this program in management and systems science, leading to a BSc degree. See “Management and Systems Science Program” on page 189 for more details about the requirements.

### Post Baccalaureate Diploma in Computing Science
At present, admission to this program is available through the Alternate Routes to Computing program, a joint program with the University of British Columbia. For more information on this program, please see www.arc.cs.ubc.ca

Admission to a post baccalaureate diploma in computing science is available to students who have a bachelor's degree or an average computed over a set of courses chosen by the school to most closely match the breadth constraints for its general admission requirements. For information about the program's general regulations, refer to Continuing Studies.

#### Requirements
All students must complete an approved program consisting of at least 30 credit hours which include the following.

- CMPT 300-3 Operating Systems I
- CMPT 307-3 Data Structures and Algorithms
- CMPT 354-3 Database System and Structures
- additional upper division computing science courses and/or computing science graduate courses (with instructor's consent) totalling at least 12 credit hours
- any other upper division courses listed in the Simon Fraser University Calendar to bring the total to at least 30 credit hours

Courses must be selected in consultation with a program advisor so that the student achieves a coherent program of study. The student is responsible for satisfying the prerequisites of courses in the program. This may entail taking more or all courses listed in the lower division requirements of the major in computing science (depending upon the student's prior transcript).

### Certificate in Computing Studies
This program provides both part time and full time students with an opportunity to understand the fundamentals of computers and programming without necessarily specializing in computing science. Admission is governed by Simon Fraser University admission regulations.

#### Program Requirements
This certificate requires completion of from 25 to 27 credit hours of required course work and electives, as follows.

- **Required Courses**
  - CMPT 150-3 Introduction to Computer Design
  - CMPT 201-4 Data and Program Abstraction
  - CMPT 275-4 Software Engineering I
  - MACM 101-3 Discrete Mathematics I
  - and one of CMPT 101-4 Introduction to Computer Programming
  - CMPT 104-2 Computer Programming

- **Elective Courses**
  - and two of CMPT 110-3 Event-Driven Programming in Visual Basic
  - CMPT 116-3 Introduction to Object-Oriented Programming in SmallTalk

### School of Engineering Science

**Director**
J.D. Jones BSc (Sus), PhD (Reading), PEng
Professors Emeriti
V. Cuperman MSc (TI Bucharest), SB, MS, PhD (Calif), PEng
D.A. George BEng (McG), MS (Stan), ScD (MIT), PEng
Professors
J.S. Bird BASc (Br Col), PhD (Car), PEng
J.K. Cavers BASc, PhD (Br Col), PEng
G.H. Chapman BSc, MSc (Qu), PhD (McM), PEng
M.J. Deen BSc (Guy), MS, PhD (Case W Reserve), PEng
J.C. Dill BASc (Br Col), MS (N Carolina), PhD (Cal Tech), PEng
W.A. Gruver BSEE (Penn), DIC (Lond), MSEE, PhD (Penn)
R.H.S. Hardy BSc(Eng), PhD (Alta), PEng
P.K.M. Ho BSc, BE (Sask), PhD (Qu), PEng
R.F. Hobson BSc (Br Col), PhD (Wat)*
A.M. Leung BS, MS, PhD (Case W Reserve), PEng
D.S. Rawicz MSc (Cracow), PhD (Gliwice)
M. Sail BSc, MSc, PhD (Cleveland), PEng
S.P. Stapleton BEng, MEng, PhD (Carleton), PEng
M. Syrzycki MSc, PhD (Warsaw)

**Associate Professors**
C.R. Bolognesi BEng (McG), MEng (Car), PhD (Calif)**
K.K. Gupta BTech (IIT Delhi), MEng, PhD (McG), PEng
J.D. Jones BSc (Sus), PhD (Reading), PEng
M. Parameswaran BE (Madr), MSc, PhD (Alta)
S. Payandeh BSc, MS (Akron), MASC, PhD (Tor), PEng
L. Trajkovic Dipl (Pristina, Yugoslavia), MS & MS (Syraucse), PhD (Calif)
J. Vaisey BSc (Manit), MSc (Cu), PhD (Calif), PEng

Adjunct Professors
D. Connor BASc, MASc, PhD (Br Col)
P.A. Fox BSc (Pretoria), Grad Dip Eng, PhD (Cape Town)
D. Gelbart BSc, MSc (Technion, Israel)
M. Hope BPE (Calg), MEd (S Fraser)
A.B.S. Hussain BSc (Eng) (Bangladesh), PhD (Br Col)
B. Keefer BER (RMC), PhD (Br Col), PEng
D. Kiel BS (Cape), MSc (Alta), PhD (Camb)
E. Kim BSc (Tyukon), MSc, PhD (Manit)
J.S. MacDonald BASc, BS, PhD (MIT), PEng
J.A. McEwen BASc, PhD (Br Col), PEng
J.B. Peters BASc, PhD (Br Col), PEng
P. Rai-Choudhury BSc (Gauhati, India), DipGradStudies (Birm), MASc (Br Col), PhD (Pitt)
T.C. Routledge BEng (McG), PEng
K.A. Spencer BASc (Br Col), PhD (Br Col), MBA (S Fraser)
S.A. Wessel BSc, PhD (S Fraser)

Associate Members
P.N. S. Bawa, Kinesiology
R.F. Frindt, Physics
J.A. Hoffer, Kinesiology

Senior Lecturers
S.A. Stevenson BA, MA (Br Col)
S. Whitmore BA (Nelson), MA (S Fraser)

Laboratory Instructors
P. Leung BSEE (Texas Tech), PEng
L. One BSc (S Fraser)

Advisors
Ms. T. Behrisch, co-op co-ordinator, 9825 Applied Sciences Building, (604) 291-5806, behrisch@sfu.ca
Ms. H. Matsui, co-op co-ordinator, 9827 Applied Sciences Building, (604) 291-5806, behrisch@sfu.ca
Ms. A. Radisic, 9847 Applied Sciences Building, (604) 291-4295, radisic@sfu.ca

Programs Offered

Engineering Science Program
This program leads to the degree of bachelor of applied science (BASc).

Transfer to Engineering Science
A limited number of places are available for students who wish to transfer into engineering science from other departments and institutions. Successful applicants have usually attained a CGPA of 3.5 or equivalent in a full course load of relevant courses prior to entry.

Minor in Computer and Electronics Design
This program is available to all non-engineering science majors at Simon Fraser University who have high academic standing. This program does not lead to an accredited engineering degree.

Admission
Students who wish to study engineering science must be eligible for admission to the University and must submit applications as described in the Admission and Readmission section. Concurrent to the SFU admission application, students must also submit a separate application to the admissions committee, School of Engineering Science, which includes an 'open' application letter explaining the applicant’s interest in engineering, a resume, a copy of the most recent report card and a reference letter from a math/physics teacher.

Admission is limited to 80 students. An ‘A’ standing in mathematics 12, physics 12, chemistry 12 and at least a ‘B’ standing in English 12 is expected. The School of Engineering Science makes the final decision on all applications.

Engineering admission inquiries may be sent by e-mail to ensr-adm@sfu.ca More detailed admission information is on the World Wide Web at www.ensc.sfu.ca.

Interested students should apply as early as possible since the program usually fills early. In special circumstances, students may enter in spring or summer semesters.

Transfer Credit
Normal university regulations state that 60 transfer credit hours may count toward a Simon Fraser University degree. In addition, a further 20 credit hours in engineering science may be credited toward the BASc degree.

BASc Program
Engineering science students develop skills in systems design along with a high level of scientific knowledge. The program is demanding and is aimed at the superior student. The goal of the program is to produce well educated, innovative engineer/scientists who have entrepreneurial skills and attitudes and who are oriented to the new technologies. Entry to the program is on a competitive basis. Students admitted to the first year of engineering science must achieve a cumulative grade point average of at least 2.75 (first year) to remain in the program. Students completing their second or subsequent year must maintain a cumulative grade point average of at least 3.0 (B) to remain in the program. Note that a first year CGPA below 3.0 is not included in the calculation.

The program may be completed in four and two thirds academic years which includes eight semesters of course work, and two semesters for thesis completion. Some courses may also be taken in these final two semesters if required. Students undertake a basic core of pure, applied and engineering sciences followed by studies in a specialized option.

The school began offering courses in September, 1983. There are four major areas of concentration where the faculty members’ research strengths are integrated with the undergraduate curriculum. Students should select one of the following options: electronics engineering option, computer engineering option, engineering physics option, systems option.

A biomedical engineering stream prepares students to pursue either graduate training or work in the interdisciplinary field of engineering as applied to the medical sciences. This stream is combined with one of the other four areas of concentration.

In all ENSC courses, computers emphasize learning, conceptualization, design and analysis. Built into the program are courses on social impacts of technology, finance, management, design methods and entrepreneurship intended to complement scientific studies. A special communications course taken throughout the eight academic semesters ensures that all engineering science graduates have the communication skills necessary to be effective engineers.

Industrial Experience
Every student must complete a co-operative education program of at least three work semesters (not including ENSC 194) and a thesis project. After the first year, students typically alternate between academic and work semesters. This results in a combination of work in an industrial or research setting with study in one of the four engineering options. Toward the end of the academic studies and under the direction of a practising engineer or scientist, students work on a major project in an industry or research setting. This forms the basis for thesis work. A thesis proposal is typically submitted in the ninth semester and all thesis requirements are completed by the end of the tenth semester.

Students may also participate in additional work semesters for further valuable experience and the chance to investigate career choices. The engineering science co-operative education program is administered through the School of Engineering Science by the school’s co-op co-ordinators whose responsibility it is to find and maintain appropriate work placements.

BASc Requirements
All requirements of one of the four options (a minimum of 156-157 credit hours) must be completed. Each option provides a mix of basic science, general studies, engineering science, specialized engineering and science, plus project and laboratory work.

A graduation GPA of at least 3.0 calculated either on all the required courses taken, or on the upper division credits only, is required.

Students must complete a three semester co-operative program of practical experience in an appropriate industrial or research setting leading to a project under the technical direction of a practising engineer or scientist. The internship may take place within the University but in most cases the work site is off campus. A member of the external organization and a faculty member from the school jointly supervise the project.

ENSC 498, taken in the ninth semester, provides supervised study and practical work in research, development or advanced engineering. A project thesis based on this activity is submitted, and the thesis work presented, to at least the industrial and academic supervisory committee for approval.

Specialized study is completed in one of four options: systems, electronics engineering, computer engineering and engineering physics (see below).

Although there is no strict requirement to follow these course sequences, those taking less than the designated load must be careful about scheduling and prerequisite problems in subsequent semesters. Failure to take those courses identified with an asterisk in the designated semester will almost certainly lead to such problems. Any semester taken with fewer than 15 credit hours requires prior approval by the director.

The general studies section of the program consists of non-technical courses which broaden education and develop awareness of social, economic and managerial factors affecting engineering and scientific work. All units of the engineering communication course must be completed. In complementary studies, at least one course must deal with science and technology within society and one must deal with central issues, methodologies and thought processes of humanities and social sciences. Other complementary studies courses may deal with these subjects or may be chosen from business, arts, humanities and social sciences. Permission may be required from the appropriate department, school or faculty to register in some of these courses. A pre-approved list of complementary studies courses is available from the school. Other courses may be acceptable with the approval of the undergraduate curriculum committee chair.
Engineering Science Common Core

Courses and Typical Schedule

Semester One (Fall)
CHEM 121-4 General Chemistry and Laboratory I
ENSC 100-3 Engineering Technology and Society
ENSC 101-1 Writing Process, Persuasion and Presentations
ENSC 150-3 Introduction to Computer Design
MATH 151-3 Calculus I
PHYS 120-3 Modern Physics and Mechanics

Semester Two (Spring)
CMPT 101-4 Introduction to Computer Programming
ENSC 102-1 Form, Style and Professional Genres
ENSC 151-2 Digital and Computer Design Laboratory
ENSC 250-3 Introduction to Computer Architecture
MATH 152-3 Calculus II
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 131-2 General Physics Laboratory B

Semester Three (Fall)
ECON 103-3 Principles of Microeconomics
ENSC 220-3 Electric Circuits I
ENSC 350-3 Introduction to Computer Architecture
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III (P,E,S)
MATH 310-3 Introduction to Ordinary Differential Equations
PHYS 211-3 Intermediate Mechanics (P)

Semester Four (Summer)
CMPT 201-4 Data and Program Abstraction (C,S)
ENSC 204-1 Graphical Communication for Engineering
ENSC 201-3 The Business of Engineering
ENSC 225-4 Microelectronics I
MATH 251-3 Calculus III (C)
MATH 252-3 Vector Calculus (P,E)
PHYS 221-3 Intermediate Electricity and Magnetism (P,E,S)
STAT 270-3 Introduction to Probability and Statistics

Electronics Engineering Option

This specialization within electrical engineering directly relates to microelectronics and its applications in communications, control and computing. Engineers in this field are involved with the design and fabrication of systems utilizing electronic components and subsystems.

Courses and Typical Schedule

Semester Five (Spring)
ENSC 304-1 Human Factors and Usability Engineering
ENSC 320-3 Electric Circuits II
ENSC 330-4 Engineering Materials
ENSC 351-4 Real Time and Embedded Systems
ENSC 380-3 Linear Systems
PHYS 324-3 Electromagnetics

Semester Six (Fall)
CMPT 275-4 Software Engineering
MACM 201-3 Discrete Mathematics II
ENSC 304-1 Human Factors and Usability Engineering
ENSC 320-3 Electric Circuits II

Semester Seven (Spring)
CMPT I-3 first complementary elective
ENSC 408-2 Social Responsibility and Professional Practice
MACM 316-3 Numerical Analysis I
Scie I-3 first science elective
Tech I-3 first technical (computing science, science or math) elective
Tech II-3 second technical (computing science, science or math) elective

Semester Eight (Fall)
CMPT II-3 second complementary studies elective
Scie II-3 second science elective
ENSC II-4 second Engineering Science elective
ENSC 450-4 VLSI Systems Design
SCI IV-3 fourth science elective

Other Requirements
ENSC 497-4 Engineering Science Thesis Proposal
ENSC 499-9 Engineering Science Undergraduate Thesis

1 must be an approved course; a pre-approved list of complementary studies courses is available from the School of Engineering Science.
1 must be an approved course. A pre-approved list of complementary studies courses is available from the School of Engineering Science.
2 chosen from ENSC 424, 425, 426, 427, 428, 429, 481, 483, 488, 489, 495. With permission of the undergraduate curriculum committee chair, students may replace one of their engineering science electives by either a directed study or a special project laboratory course. Special Topics courses that have been approved by the undergraduate curriculum committee chair and the director may be counted here.

Software and hardware, as well as a solid engineering sound knowledge of physics in addition to engineering fundamentals.

Computer Engineering Option

The dynamic, on-going development and application of computer and digital systems requires computer systems engineers to have a balanced capability in software and hardware, as well as a solid engineering base.

Courses and Typical Schedule

Semester Five (Spring)
CMPT 275-4 Software Engineering
MACM 201-3 Discrete Mathematics II
ENSC 304-1 Human Factors and Usability Engineering
ENSC 320-3 Electric Circuits II

Semester Six (Fall)
ENSC 305-1 Project Documentation and Team Dynamics
ENSC 325-4 Microelectronics II
ENSC 327-4 Communication Systems
ENSC 340-3 Engineering Science Project
ENSC 383-4 Feedback Control Systems

Semester Seven (Spring)
CMPT I-3 first complementary elective
CMPT 300-3 Operating Systems I
ENSC I-4 first Engineering Science elective
ENSC 406-2 Social Responsibility and Professional Practice
ENSC 407-2 Professional Ethics

Semester Eight (Fall)
CMPT II-3 second complementary studies elective
Scie II-3 second science elective
ENSC II-4 second Engineering Science elective

This option prepares students for work in engineering and applied sciences that is strongly dependent on a sound knowledge of physics in addition to engineering fundamentals.

Courses and Typical Schedule

Semester Five (Spring)
ENSC 304-1 Human Factors and Usability Engineering
ENSC 320-3 Electric Circuits II
ENSC 351-4 Real Time and Embedded Systems
ENSC 390-3 Linear Systems
PHYS 233-2 Introductory Physics Laboratory A
PHYS 324-3 Electromagnetics

*(computer engineering option), (electronics engineering option), (P) (engineering physics option), and (S) (systems option). As an example, a student in the systems option in his/her third semester would be expected to carry 18 credit hours and should take MACM 101, and MATH 251 from the courses that appear in italic type.

* should be taken in the designated semester; consequences of deviating from this schedule are the responsibility of the student.

# must be an approved course. A pre-approved list of complementary studies courses is available from the School of Engineering Science.

* should be at this point in the program; consequences of deviations from this schedule are the responsibility of the student.

* must be an approved course. A pre-approved list of complementary studies courses is available from the School of Engineering Science.

* must be an approved course; consult pre-approved electives list available from the school. Under special circumstances, approval for other courses from the undergraduate curriculum committee chair and the director may be granted here.

* must be an approved course; consult pre-approved electives list available from the school. Under special circumstances, approval for other courses from the undergraduate curriculum committee chair may be granted here.

Note: In the typical schedule shown above, students will start their thesis work (ENSC 498 and 499) between semesters seven and eight. Theses can be done on or off campus, either integrated with an optional (or mandatory) work term or as independent work with appropriate supervision.
Semester Six (Fall)
- Cmpl II-3 second complementary elective¹
- ENSC 305-1 Project Documentation and Team Dynamics* 19 credit hours
- ENSC 325-4 Microelectronics II* 19 credit hours
- ENSC 327-4 Communication Systems* 19 credit hours
- ENSC 340-3 Engineering Science Project* 19 credit hours
- ENSC 383-4 Feedback Control Systems* 19 credit hours

Semester Seven (Spring)
- ENSC I-4 first Engineering Science elective²
- ENSC 406-2 Social Responsibility and Professional Practice* 19 credit hours
- PHYS 344-3 Thermal Physics 18 credit hours
- PHYS 385-3 Semiconductor Device Physics 18 credit hours
- PHYS 388-3 Methods of Theoretical Physics 18 credit hours
- PHYS 385-3 Quantum Physics 18 credit hours

Semester Eight (Fall)
- Ensc II-4 second Engineering Science elective²
- Ensc III-3 third Engineering Science elective² 18 credit hours
- PHYS 332-3 Intermediate Laboratory 17 credit hours
- PHYS 445-3 Statistical Physics 17 credit hours
- PHYS 355-3 Optics 17 credit hours

Other Requirements
- ENSC 499-3 Engineering Science Thesis Proposal 12 credit hours
- ENSC 499-9 Engineering Science Undergraduate Thesis 12 credit hours
- Total 155 credit hours

¹ must be an approved course. A pre-approved list of complementary studies courses is available from the School of Engineering Science.
² chosen from ENSC 424, 425, 426, 427, 428, 429, 430, 481, 483, 488, 489, 495. With permission of the undergraduate curriculum committee chair, students may replace one of their engineering science electives by either a directed study or a special project laboratory course. Special Topics courses that have been approved by the undergraduate curriculum committee chair and the director may be counted here.
³ must be an approved course; consult pre-approved electives list available from the school. Under special circumstances, approval for other courses from the undergraduate curriculum committee chair may be granted.

Note: In the typical schedule shown above, students will start their thesis work (ENSC 498 and 499) between semesters seven and eight. Theses can be done on or off campus, either integrated with an optional (or mandatory) work term or as independent work with appropriate supervision.

Systems Option
This option prepares for careers in the design and integration of computer-controlled machines and devices, and provides for graduate study in robotics, control and mechatronic systems. Students integrate knowledge from electronic engineering, mechanical engineering, and computer engineering into the fundamental design process. This focused program includes study of mechanical structures and mechanisms, electro-mechanical sensors and actuators, control engineering, and real-time systems. Electives may be used to tailor curriculum to specific interests.

Courses and Typical Schedule

Semester Five (Spring)
- ENSC 230-4 Introduction to Mechanical Design* 18 credit hours
- ENSC 304-1 Human Factors and Usability Engineering* 18 credit hours
- ENSC 320-3 Electric Circuits II* 18 credit hours

Semester Six (Fall)
- ENSC 305-1 Project Documentation and Team Dynamics* 19 credit hours
- ENSC 325-4 Microelectronics II* 19 credit hours
- ENSC 327-4 Communication Systems* 19 credit hours
- ENSC 340-3 Engineering Science Project* 19 credit hours
- ENSC 383-4 Feedback Control Systems* 19 credit hours

Semester Seven (Spring)
- ENSC I-4 first Engineering Science elective² 19 credit hours
- ENSC 406-2 Social Responsibility and Professional Practice* 19 credit hours
- ENSC 489-3 Advanced Engineering Science elective³ 19 credit hours
- ENSC 499-9 Engineering Science Undergraduate Thesis 19 credit hours
- Total 155 credit hours

¹ must be an approved course. A pre-approved list of complementary studies courses is available from the School of Engineering Science.
² chosen from ENSC 424, 425, 426, 427, 428, 429, 430, 481, 483, 488, 489, 495. With permission of the undergraduate curriculum committee chair, students may replace one of their engineering science electives by either a directed study or a special project laboratory course. Special Topics courses that have been approved by the undergraduate curriculum committee chair and the director may be counted here.
³ must be an approved course; consult pre-approved electives list available from the school. Under special circumstances, approval for other courses from the undergraduate curriculum committee chair may be granted.

Note: In the typical schedule shown above, students will start their thesis work (ENSC 498 and 499) between semesters seven and eight. Theses can be done on or off campus, either integrated with an optional (or mandatory) work term or as independent work with appropriate supervision.

Biomedical Engineering Stream
This stream concerns engineering problems encountered in medical and surgical treatment, in human interactions in a variety of environments, in medical instrumentation, and in biomechanics. Being interdisciplinary, the stream consists of a basic undergraduate Engineering degree in one of the existing options, plus additional undergraduate biomedical-related courses. These requirements enhance the student's background before pursuing graduate training in biomedical engineering.

Students should fulfill course requirements for one of these options: electronics engineering, engineering physics, systems, or computer engineering. As well, the following courses are required.

General Studies Program
Advisors
R. D. Cameron BASc, PhD (Br Col), 9861 Applied Sciences Building, (604) 291-4724 Tel
J. Van Snellenberg BA (S Fraser), 9861 Applied Sciences Building, (604) 291-4884 Tel
This is a non-specialist bachelor's degree program that offers students a broad education with an applied orientation. This program may be satisfied either through the general applied sciences option or through the double minor option.

**General Applied Sciences Option**

Students must complete 30 credit hours of upper division Faculty of Science and Faculty of Applied Sciences courses subject to the following:

- no more than nine credit hours of these courses may be from the Faculty of Science
- no more than 12 credit hours of these courses may be taken from any one school in the Faculty of Applied Sciences
- no more than nine of these 30 credit hours may be satisfied by transfer credit
- a grade point average of 2.00 is required on the courses used for the general applied sciences option.

For the purposes of this requirement, MACM courses are counted as courses of the School of Computing Science.

**Double Minor Option**

Students may satisfy the double minor option by taking two minors (or extended minors), at least one of which must be in the Faculty of applied Sciences. If the only minor from applied sciences is in communication, the second minor must be from the Faculty of Science.

**Overall Degree Requirements**

Students must complete 120 credit hours overall for the degree, including 45 upper division credit hours. A 2.00 graduation GPA is required as described under *Graduation Requirements* in the *General Information* section of this Calendar.

**Admission**

Students in the Faculty of Applied Sciences may apply for admission to either the general applied sciences option of the double minor option at any time. Students in faculties other than applied sciences may apply for admission to the double minor option upon acceptance into two qualifying minor programs by the schools or departments concerned.

In addition, a limited number of spaces are available each year for students transferring to the general applied sciences option from other faculties. Admission is competitive, based on a GPA in upper division applied sciences courses. To be considered for admission, students must have successfully completed at least nine credit hours of upper division applied sciences courses with a GPA of 2.25.

Enrolment in the upper division courses of a particular school may be limited to those bachelor of general studies students who also meet the admission standards of that school. Admission to the BGS program may not be used to bypass the enrolment limitations of any other applied sciences program.

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**School of Kinesiology**

K9625 Shrum Science Centre, (604) 291-3573 Tel, (604) 291-3040 Fax, www.sfu.ca/kinesiology

**Director**

J.B. Morrison BSc, ARCST (Glas), PhD (Strath)

**Professors Emeriti**

E.W. Banister BSc (Manc), MPE (Br Col), PhD (Ill), FASCMP
N.M.G. Bhakthan BSc (Kerala), MSc, PhD (Bda)
A.E. Chapman Dip Phys Ed (Lough), MA (Ohio), MPhil, PhD (Lond)

W.D. Ross BPE (Br Col), MA, MS, PhD (Ore), FASCMP
H. Weinberg BSc, MSc, PhD (Washington)

**Professors**

P.N.S. Bawa BSc, MSc (Panjab), MSc, PhD (Alta)
T.W. Calvert BScEng (Lond), MSEE (Wayne), PhD (Carnegie Tech), PEng
A.J. Davison BSc (Cape Town), MSc, PhD (Rutgers)
J. Dickinson BA (Birm), PhD (Nott)
D.T. Finegood BScE (Mich), MS (Northwestern), PhD (Calif)
D. Goodman BPE, MPE (Br Col), PhD (Iowa)
J.A. Hoffer BS (H Mudd College), PhD (J Hopkins)
C.L. MacKenzie BSc, MSc, PhD (Wat)
R.G. Martenik BPE, MA (Alta), EdD (Calif), Dean of Applied Sciences
J.B. Morrison BSc, ARCST (Glas), PhD (Strath)
M.F. Rosin BSc (Saask), PhD (Tor)
J.F. Tibbitts BEd (McG), MS, PhD (Calif)

**Associate Professors**

C. Krieger MD (Tor), MSc (Montr), PhD (London)
T.E. Milner BSc, MSc, PhD (Alta)
W.S. Parkhouse BPE (Alta), MPE, PhD (Br Col)
D. Weeks BA (Windsor), MSc (McM), PhD (Auburn)

**Assistant Professors**

E.A. Accili BSc, MSc, PhD (Br Col)
A.P. Biaber BSc (Guelph), BEd (W Ont)
S.N. Robinovitch BSc (Br Col), MSc (MIT), PhD (Harvard/MIT)
A.V. Vieira BSc (Calg), PhD (Alta)

**Adjunct Professors**

J.M. Berry BSc (Wis), PhD (Br Col)
D.O Cheyne BSc, MA (S Fraser), PhD (Wat)
D.J. Darvill BA (Car), MA, PhD (Wat)
A.A. Eisen, MD (Leeds), FRCP (Ott)
B.D. Fisher BA (Hiram Coll), PhD (Calif)
K.M. Hamilton BA (PEI), MSc, PhD (York, Can)
G.G. Korienek BA, BS, MS (S Ill), PhD (Florida State)
M. Lepawsky BA (Lawrence Coll, Wisc), MD (Chic)
A.J. Lomax MBChB (Manc), DObst (Royal College of Obstetrics and Gynaecology), FRCS
G.I. Morariu Dipl. Eng. (Traian Viana), PEng
P. Pretorius BSc, MSc (Potchefstroom), DSc
(London)
L.C. Schwartz BSc (Winnipeg), MSc (Manit), PhD (Tor)
T.J. Smith BA (Wisc), MSc (Calg), PhD (Wisc)
L Zhang BDS (Western China), PhD (Tor)

**Laboratory Instructors**

J. Anthony BSc, MSc (Madras), PhD (AIIMS, New Delhi)
R.C. Asmundson BSc, MSc (S Fraser)
S. Brown BSc, MSc (S Fraser)
A.J. Leyland BEd (Exe), MSc (S Fraser)
R. Ward BSc (Lough), MSc, PhD (S Fraser)

**Advisors**

Ms. S. Dunbar BA (S Fraser), co-ordinator, academic programs and services, (604) 291-3185
Ms. N. Davidge-Johnston BSc (Wat), MSc (S Fraser), co-op education co-ordinator and career advisor, K9620 Shrum Science Centre, (604) 291-4541
Ms. D. Heisler BSc (S Fraser), co-op education co-ordinator, K9620 Shrum Science Centre, (604) 291-4541

*joint appointment with computing science
*joint appointment with engineering science

**Mission**

Our mission is to study human structure and function and their relation to health and movement. We seek to advance, apply and disseminate relevant knowledge and expertise.

The school builds on the basic sciences to link the study of movement, physiology and health with the broad scope of human endeavour. Our faculty comprises anatomists, biochemists, biologists, biomechanists, biophysicists, engineers, ergonomists, kinesiologists, physicians, physiologists and psychologists. We apply our knowledge to study human movement, structure and function throughout the life cycle, in health and illness, in benign and extreme environments, at work, at home, at sports and at play. Our educational goals are to impart a sound knowledge base and to promote critical thinking, problem solving, research, technical and communication skills appropriate to the field, through our undergraduate, graduate and continuing studies programs.

To this end, we strive for excellence in teaching, research and service programs focused on the following aspects of the human condition:

- **movement and its control**
- **regulation and adaptation of physiological systems**
- **growth, development and aging**
- on the following applied disciplines:
  - **health promotion**
  - **prevention of injury and disease**
  - **functional evaluation and rehabilitation**
  - **ergonomics/human factors**
  - **environmental, exercise and work physiology**

**Programs**

The School of Kinesiology offers programs leading to a BSc (Kinesiology), BSc honors (Kinesiology), minor in kinesiology, post baccalaureate diploma in kinesiology, certificate in applied human nutrition, and certificate in health and fitness studies. The co-operative education program helps kinesiology majors gain valuable work experience during their undergraduate studies.

Areas of concentration have been established to offer cross-disciplinary undergraduate programs specializing in the following complementary areas.

- **active health**
- **health and physiological sciences**
- **human factors/ergonomics**
- **human movement sciences**

Choosing an area of concentration is not necessary to receive a BSc (Kinesiology). A general kinesiology option is still available. The general option and the four areas of concentration include a common core covering basic anatomy, physiology, and prerequisite knowledge from the biological, chemical, physical and mathematical sciences fundamental to understanding human structure and function. The 'core' refers to those aspects that are required for the degree, regardless of concentration.

**Teaching Certification**

Kinesiology students with an appropriate selection of courses can apply to the British Columbia College of Teachers (BCCT) to have their degree accepted for professional certification. BCCT will review each application on an individual basis. Please contact the School of Kinesiology for more information.

**Major Program**

**Admission Requirements**

Entry to the bachelor of science (kinesiology) program is possible via:

- direct admission from high school
- transfer from a recognized post-secondary institution
- internal transfer from within Simon Fraser University

Admission is competitive. A separate admission average for each of the three entry routes is established each semester, depending on the number of spaces available and subject to the approval of the Dean of Applied Sciences. Admission averages are calculated over four required courses from high
The basic credit hour requirements underlying the Program Requirements approval, November 1 for spring semester approval, available at the kinesiology general office and submit. Students should complete a program approval form.

Application Procedure
Students should complete a program approval form available at the kinesiology general office and submit it to the kinesiology advisor by July 1 for fall semester approval, November 1 for spring semester approval, or March 1 for summer semester approval.

Program Requirements
All required courses must be completed at a grade of C- or higher. The basic credit hour requirements underlying the major are as follows.

Kinesiology (lower division specified) – 15 credit hours
Faculty of Science (lower division specified) – 31 credit hours
Kinesiology (upper division specified) – 13 credit hours
Statistics (upper division specified) – 3 credit hours
Kinesiology (upper division unspecified) – 26 credit hours
Electives (lower division partly specified) – 6 credit hours
Electives (upper division unspecified) – 3 credit hours
Free electives (upper or lower division unspecified) – 23 credit hours (Total 120 credit hours)

Areas of Concentration
The School of Kinesiology has defined four areas of concentration for those wishing to take a more specialized approach to their studies in the field of kinesiology. They are as follows:
- active health
- health and physiological sciences
- human factors/ergonomics
- human movement sciences

Each area of concentration has a set of recommended courses outside the core. Core refers to those program aspects that are required, regardless of concentration area. Choosing an area of concentration is not necessary to receive a bachelor of science (kinesiology). A general option is available and is outlined below. For more information on areas of concentration and their recommended courses, contact the general office.

Lower Division Requirements
Lower Division Core
The following courses are specified for all areas of concentration.

Biochemistry
MBB 221-3 Cellular Biology and Biochemistry (3 credit hours)

Biological Sciences
BISC 101-4 General Biology I (4 credit hours)
Chemistry
CHEM 122-2 General Chemistry II (10 credit hours)
Kinesiology
KIN 412-3 Molecular and Cellular Cardiology (15 credit hours)
MATH 153-3 Calculus II (15 credit hours)

Mathematics
one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences

Physics
one of
PHYS 101-3 General Physics I
PHYS 102-3 General Physics II
PHYS 121-3 Modern Physics and Mechanics

Upper Division Electives
Each area of concentration has its own set of recommended courses within the following framework.

The following courses are specified for all areas of concentration.

Kinesiology
KIN 305-3 Human Physiology I
KIN 306-3 Human Physiology II
KIN 326-4 Functional Anatomy
KIN 407-3 Human Physiology Laboratory (13 credit hours)

Statistics
STAT 301-3 Statistics for the Life Sciences (3 credit hours)
(16 credit hours)

Faculty of Applied Sciences – 111
*students may substitute MBB 321 to help satisfy this requirement (26 credit hours)

Students must also take three credit hours of upper division courses offered in any discipline within the University. (3 credit hours) (Total 45 credit hours)

**Free Electives**

A further 23 credit hours of free electives may be taken from any discipline within the University at either the lower or upper division level. (23 credit hours) (Total 120 credit hours)

**Requirements to Transfer to Professional Schools**

Students are eligible to receive a BSc (Kinesiology) degree after completion of the second year of professional study. Students must have completed at least 90 credit hours of Simon Fraser credit comprising the following:

- all lower division requirements
- 27 upper division credit hours in kinesiology (including KIN 305, 306, 326, and 407) and STAT 301
- acceptance into an accredited professional program in dentistry, medicine, chiropractic, or veterinary medicine

Courses taken in the professional program must not duplicate courses already taken at Simon Fraser University and must be acceptable for transfer credit to the University. Candidates must apply for transfer credit and for receipt of the degree through the Office of the Registrar.

**Suggested Course Pathways**

Suggested course selections for majors and any of the four areas of concentration are available from the kinesiology general office.

**Typical First Year Course Schedule**

**Semester 1**

- KIN 142-3 Introduction to Kinesiology
- BISC 101-4 General Biology
- CHEM 121-4 General Chemistry and Laboratory I
- MATH 155-3 Calculus II for the Biological Sciences

**Semester 2**

- CHEM 122-2 General Chemistry II
- CHEM 281-4 Organic Chemistry I
- PHYS 101-3 General Physics I
- elective (KIN 143 recommended)

**Honors Program**

The honors program is designed for approved kinesiology major students who wish to pursue an advanced degree in kinesiology.

**Application Requirements**

Honors program application requires the following:

- completion of a minimum of 60 credit hours
- a minimum CGPA of 3.00
- submission of a completed program approval form, along with the student’s most recent unofficial record, to the undergraduate advisor.

**Graduation Requirements**

To graduate with honors, the student must successfully complete:

- a minimum of 132 credit hours, with a minimum of 60 upper division credits of which at least 54 must be in kinesiology
- completion of all kinesiology major program requirements
- KIN 497-3 and KIN 499-12
- a minimum CGPA of 3.00

**Physics and Physiology Honors Program**

See “Physics and Physiology Honors Program” on page 196 for requirements.

**Minor Program**

**Application Requirements**

Application for a minor in kinesiology requires the following.

- completion of KIN 105 (or 205) and KIN 142 with a minimum grade of C-
- submission of a program approval form to the undergraduate advisor.

**Program Requirements**

Students must complete the following for a minor in kinesiology.

- KIN 142 and 105 (or 205)
- 15 credit hours of upper division kinesiology
- 3 credit hours of other kinesiology work (upper or lower division)
- a minimum GPA of 2.00 calculated over all kinesiology courses used to satisfy the requirements
- a minimum GPA of 2.00 calculated from those upper division kinesiology courses used to satisfy the requirements
- At least seven credit hours of upper division kinesiology courses used toward the minor must have been completed at Simon Fraser University.

**Co-operative Education Program**

Co-operative education combines work experience with academic studies. Students spend alternate semesters on campus and in paid, study-related jobs. Co-op programs are available in kinesiology and biomedical sciences.

Arrangements for work experiences are made through the school’s co-op co-ordinator and the University’s Office of Co-operative Education. Further details on the co-op system, refer to Co-operative Education.

**Post Baccalaureate Diploma in Kinesiology**

This program is available for students who have already completed a degree. For information, refer to Continuing Studies.

**Requirements**

Successful completion of an approved program comprised of 30 credit hours of upper division or graduate level courses, including the following core courses.

- KIN 305-3 Human Physiology I
- KIN 306-3 Human Physiology II
- KIN 326-4 Functional Anatomy
- KIN 407-3 Human Physiology Laboratory
- STAT 301-3 Statistics for the Life Sciences

A minimum grade point average of 2.5 is required for courses that are applied toward the diploma. Courses must be selected from an approved listing in consultation with a program advisor.

Students interested in this program normally hold a BSc or equivalent. Students are responsible for satisfying the necessary prerequisites.

**Certificate in Applied Human Nutrition**

This certificate is intended for professionals who are not dietitians or nutritionists, but are concerned with promotion of health and wellness, such as nurses, kinesiologists, professional coaches and personal trainers, teachers, trained food service supervisors, dietary technicians, pharmacists and clinical psychologists. The purpose is to provide these professionals with an enhanced understanding of the relationships among food, body composition, health, and human performance.

Please note that this certificate does not qualify the individual as a registered dietitian.

Admission is governed by the University’s admissions regulations. See “Faculty of Applied Sciences” on page 101. Please note that a maximum of nine credit hours are transferable to the certificate from any other institution, including the Open Learning Agency. After being admitted to Simon Fraser University, submission of a completed program approval form to the kinesiology undergraduate advisor is required for formal acceptance in the program.

**Requirements**

Students must complete one of KIN 105-3 Fundamentals of Human Structure and Function

- KIN 205-3 Introduction to Human Physiology
- and all of

- KIN 110-3 Human Nutrition: Current Issues
- KIN 111-3 Food and Food Safety
- KIN 121-3 Food and Society
- KIN 311-3 Applied Human Nutrition
- and three of

- GERO 302-3 Health Promotion and Aging
- GERO 407-3 Nutrition and Aging
- KIN 303-3 Kinanthropometry
- KIN 312-3 Nutrition in Fitness and Sport
- KIN 375-3 Human Growth and Development
- KIN 430-3 Human Energy Metabolism
- KIN 431-3 Environmental Carcinogenesis

Students must have a minimum 2.00 GPA calculated on all required courses. The certificate is normally completed within five years of admission to the certificate program.

Permission is required from the kinesiology undergraduate advisor to complete this certificate and the certificate in health and fitness studies.

**Certificate in Health and Fitness Studies**

This program provides adults with the opportunity to complete a co-ordinated program of university study on a full or part time basis in the areas of health, fitness, and nutrition and provides basic knowledge in the functions of the healthy human body at rest and during physical exertion. The program is useful to those supervising training and/or fitness programs, to sport coaches, and to the general public.

Admission is governed by the University admissions regulations. See “Admission and Readmission” on page 25. Please note that a maximum of nine credit hours are transferable to the certificate from any other institution, including the Open Learning Agency.

After being admitted to Simon Fraser University, submission of a completed program approval form to the kinesiology undergraduate advisor is required for formal acceptance in the program.

**Requirements**

Students must complete all of the following specified courses.
Students must also complete nine credit hours (three courses) of electives, including at least three credit hours (one course) in kinesiology, chosen from the following.

- any other kinesiology not listed above (prerequisites may apply)

KIN 105-3 Fundamentals of Human Structure and Function
KIN 110-3 Current Topics in Nutrition
KIN 140-3 Contemporary Health Issues
KIN 142-3 Introduction to Kinesiology
KIN 143-3 Exercise Management

PSYC 250-3 Child Psychology
PSYC 280-3 Biological Bases of Behaviour
SA 216-4 Sociology of Leisure

- a minimum 2.00 GPA calculated on courses counting toward the certificate
- a current cardiopulmonary resuscitation (CPR) certificate at time of completion
- program completion normally within five years of admission to the certificate program
- elective courses (prerequisites may apply) commonly taken for credit toward the certificate include

KIN 241-3 Sports Injuries – Prevention and Rehabilitation
KIN 303-3 Kinanthropometry
KIN 311-3 Applied Human Nutrition
KIN 320-3 Cultural Aspects of Human Movement
KIN 325-3 Basic Human Anatomy
KIN 367-3 Psychology of Motor Skill Acquisition
KIN 370-3 Biomechanics in Physical Activity
KIN 375-3 Physiological Basis of Growth and Development
Faculty of Arts

6168 Academic Quadrangle, (604) 291-4414 Tel,
(604) 291-3033 Fax, www.sfu.ca/arts

Dean
J.T. Pierce BA (Tor), MA (Wat), PhD (Lond)

Associate Deans
T.A. Perry BA (Wabash), MA, PhD (Indiana)
A.R. Blackman BSc (Lond), BSc (Edin), MSc, PhD (McG)

Advisor
Ms. M. Caufield, BA (S Fraser), 6170 Academic Quadrangle, (604) 291-5921

Undergraduate Degrees Offered
Bachelor of Arts (Honors)
Bachelor of Arts (Joint Honors)
Bachelor of Arts
Bachelor of Fine Arts
Bachelor of General Studies

Diplomas and Certificates Offered
Certificate in Chinese Studies
Certificate in Criminology (General)
Certificate in Criminology (Advanced)
Certificate in Family Studies
Certificate in Native Studies Research
Certificate in Public History
Certificate for Senior Citizens
Certificate in Spanish Language Proficiency
Certificate in Spatial Information Systems
Certificate in Teaching ESL Linguistics
Certificate in Urban Studies
Certificate in Women’s Studies
Post Baccalaureate Diploma
Post Baccalaureate Diploma in Community Economic Development
Post Baccalaureate Diploma in Criminology
Post Baccalaureate Diploma in Ethnic and Intercultural Relations
Post Baccalaureate Diploma in French and Education
Post Baccalaureate Diploma in Gerontology
Post Baccalaureate Diploma in Humanities
Post Baccalaureate Diploma in Library Science
Post Baccalaureate Diploma in Social Policy Issues
Post Baccalaureate Diploma in Teaching English as a Second Language
Post Baccalaureate Diploma in Urban Studies

Student Responsibility
It is the responsibility of each student to be aware of faculty regulations as stated in this Calendar. Departmental and faculty advisors and staff are available to give advice and guidance. However, the ultimate responsibility for completeness and correctness of course selection, for compliance with and completion of program and degree requirements and for observance of regulations and deadlines rests with the student.

Academic Advice
Each of the Faculty of Arts departments provides an advisory service for assisting students to choose courses to satisfy degree requirements. Students who have made a formal program declaration should avail themselves of these services. Those who have not, but have completed 60 credit hours, will be advised by the faculty advisor in the Office of the Dean. Where specified, students should also consult the Office of the Dean of Arts regarding Arts regulations.

Students in all programs leading to bachelor’s degrees in the Faculty of Arts must consult an advisor at the following times in their academic programs:
• prior to first registration at the University, and
• during that semester when they are taking their 45th credit hour, and
• during that semester when they are taking their 90th credit hour

Students in other programs such as certificate and post baccalaureate diploma programs are governed by the requirements of the specific programs.

Important Note
Students may count any Simon Fraser University course for which credit is received toward the bachelor of arts degree with the exceptions of EDUC 401, 402, 405 and 406; ATHL, 201, 202, 203 and 204.

Only the first five duplications taken in a student’s program will count toward a BA degree. A maximum of five duplications will count toward all programs taken in the Faculty of Arts at Simon Fraser University.

There are specific restrictions regarding counting GS 498 and 499.
The maximum number of credit hours offered through the Tri-Education Summer Institute that can count toward a degree or post baccalaureate program in the Faculty of Arts is nine.

Load Levels
Students who have not yet completed 60 credit hours require written consent of the dean’s designate to register in more than 16 hours in one semester.

Students who have completed 60 credit hours require the written consent of the dean’s designate to register in more than 18 credit hours in one semester.

Co-operative Education Program in Liberal Arts
6176 Academic Quadrangle, (604) 291-3041/5751/3776/5839 Tel

Co-ordinators
P. Johnston BA (S Fraser)
C. Rose BA (S Fraser)
E. Therkelsen BA (S Fraser)

The co-operative education program is available for students who wish to acquire practical experience in conjunction with their studies in departments or programs in the Faculty of Arts. The student normally spends alternate semesters on campus and in paid, study-related jobs.

Refer also to Archaeology, Criminology, Economics, English, First Nations, Geography, History, Latin American Studies, Political Science, Psychology, Sociology, and Women's Studies as well as the Co-operative Education sections of this Calendar.

Requirements
To be admitted, students must have completed a minimum of 30 credit hours with a minimum CGPA of 2.75. Prior to admission, all students must complete ENGL 199-3 University Writing (or any two 100 division English courses)
PHIL 001-3 Critical Thinking

A quantitative research course in your area of interest is strongly recommended. Computer literacy is a requirement. See the Faculty of Arts co-op co-ordinators for further information.

Major Program
The following are recommended prior to entry in the co-op education program: one course from either set 2 or set 8 as listed under the certificate in liberal arts, and at least 12 hours of required lower division courses in the major program.

Undeclared Majors or Students Without Majors (BGS/BED)
The following requirements are from the liberal arts certificate:
• a course from set 2
• a course from set 4 or 5
• a course from set 6 or 7
• a course from set 8 or 9
• a course from set 10 or 11
• a course from set 12

Note: Enrollment in the certificate in liberal arts program is not required for participation in the liberal arts co-op program. However, students are encouraged to complete the certificate in conjunction with the co-op program.

Transfer Students
Transfer students should contact the co-ordinators in the first week of their first semester at Simon Fraser University. College transfer students who have participated in co-op programs elsewhere may be credited with the semesters already taken. Those students contemplating transfer to the Faculty of Arts co-op program at Simon Fraser University should make early contact with an admissions advisor in the Office of the Registrar.

To obtain co-op accreditation on the bachelor of arts degree, the following courses must be completed.

LBRL 101-0 Practicum I
LBRL 201-0 Practicum II
LBRL 301-0 Practicum III
LBRL 401-0 Practicum IV
LBRL 402-0 Practicum V (optional)

Bachelor of Arts Degree
Students can meet the requirements for a bachelor of arts degree in any one of five ways: either through a major program; or through a joint major program; or through two extended minors; or through an honors program; or through a joint honors program. The requirements for earning a bachelor of arts degree in any of these ways are set out below.

In addition to degree requirements, students may also fulfill the requirements for an extended minor or a minor as noted under the Options headings.

Major Program
Students wishing to concentrate in a subject area may take a major, consisting of at least 30 upper division credit hours in that subject area. This program, which is the most common option chosen by students pursuing a bachelor of arts provides students with a strong background in a subject and is preparation for a range of occupations or for further study following graduation.

At least 120 credit hours are required which include the following:
• at least 65 credit hours in arts subjects
• at least 45 credit hours in upper division courses, including at least 30 upper division credit hours in an arts major program. No more than 15 upper division hours transferred from another institution may be used toward the requirements for a major.
• lower division requirements for at least one arts major
• satisfaction of the Faculty of Arts breadth requirements (see below)

**Note:** A department may designate up to eight credit hours of program-related upper division courses offered by other departments as being acceptable in fulfilling part of the required hours in a major program.

### Joint Major Program

At least 120 credit hours of credit are required which include the following,

- at least 65 credit hours of credit in Department of Arts subjects
- at least 45 credit hours in upper division courses which must include at least 20 credit hours in upper division courses in each of two joint major subjects. No more than 15 upper division credit hours of credit transferred from another institution can be used toward this requirement.
- lower division prerequisites for both joint major programs
- satisfaction of the Faculty of Arts breadth requirements (see below)

### Extended Minor Program

An extended minor consists of the lower division requirements for a major program, plus the upper division requirements for a minor program. At least seven upper division hours counted towards this requirement must be taken at Simon Fraser University.

Students wishing to prepare themselves in two subject areas and not desiring to undertake a major program may take an extended minor program consisting of the completion of two extended minors in the bachelor of arts degree.

At least 120 credit hours are required which include the following,

- at least 65 credit hours in Arts subjects
- at least 45 upper division credit hours, including 30 in two extended minor programs (at least 15 upper division credit hours in each of two extended minor programs). No more than 8 upper division hours transferred from another institution may count toward an extended minor.
- lower division requirements for at least two extended minor programs. The lower division requirements for an extended minor program are the same as lower division requirements for a major program.
- satisfaction of the Faculty of Arts breadth requirements (see below).

**Note:** There are programs in the School for the Contemporary Arts which have individually defined extended minors but which do not have majors.

Students declaring this degree option must get approval from the advisors in their two extended minor departments as well as the approval of the degree advisor. Ms. M. Caufield, 6171 Academic Quadrangle, (604) 291-5921.

### Minor Program

All Faculty of Arts minor programs require at least 15 upper division credit hours taken within a single discipline unless otherwise specified in the Calendar. At least seven upper division credit hours counted towards this requirement must be taken at Simon Fraser University.

### Honors Program

At least 132 credit hours of credit which include the following.

- at least 65 credit hours in Arts subjects
- at least 60 credit hours in upper division courses which must include at least 50 credit hours in upper division courses in an Arts honors program. No more than 15 upper division credit hours of credit transferred from another institution can be used toward this requirement.
- lower division prerequisites for at least one Arts honors program
- satisfaction of the Faculty of Arts breadth requirements (see below)

**Note:** A department may designate up to 12 credit hours of program related upper division courses offered by other departments, as being acceptable in fulfilling part of the required upper division credit hours in the honors program.

### Joint Honors Program

At least 132 credit hours of credit which include the following.

- at least 65 credit hours of credit in Arts subjects
- at least 60 credit hours in upper division courses which must include at least 28 credit hours in upper division courses in each of the two honors subjects. No more than 15 upper division credit hours of credit transferred from another institution can be used toward this requirement.
- lower division prerequisites for both honors programs
- satisfaction of the Faculty of Arts breadth requirements (see below)
- satisfactory completion of an honors essay jointly supervised by and acceptable to both honors departments

Students are required to maintain a GPA of 3.0 in the upper division courses in each of the subjects of the joint honors program.

### Breadth Requirements

In addition to completing the courses within a department or program required for any degree in the Faculty of Arts, students must complete breadth requirements that acquaint them with areas of knowledge and modes of thought outside their discipline of specialization. These faculty breadth requirements may be met in a variety of ways. In completing them, students are encouraged to earn a certificate in liberal arts, a program specifically tailored for breadth of learning. The requirements follow.

- a minimum of 30 credit hours outside the Arts honors, major or extended minor department (for the purpose of this requirement, read ‘school’ as department)
- no fewer than five departments (other than the Arts honors, major or extended minor department) from the list below
- no more than nine credit hours from any one department may be counted toward the total of 30 required credit hours
- up to six credit hours of the 30 credit hours may be from GS courses.

For the purpose of this last requirement the following academic units will count as separate ‘departments.’

- Archaeology (ARCH)
- Asia-Canada (ASC)
- Biological Sciences (BISC)
- Business Administration (BUS)
- Canadian Studies (CNS)
- Contemporary Arts (FP A)
- Chemistry (CHEM)
- Communication (CMNS)
- Community Economic Development (CED)
- Computing Science (CMPT)
- Criminology (CRIM)
- Earth Sciences (EASC)
- Economics (ECON and BUEC)
- Education (EDUC, except EDUC 401, 402, 405, and 406)
- Engineering Science (ENSC)

- English (ENGL)
- Environmental Studies: Environmental Science (ENVS), Resource and Environmental Management (REM), Environmental Planning (ENPL)
- First Nations (FNST)
- French (FREN)
- Geography (GEOG)
- Gerontology (GERO)
- History (HIST)
- Humanities (HUM)
- Kinesiology (KIN)
- Languages: Chinese (CHIN), German (GERM), Italian (ITAL), Japanese (JAPN), Language (LANG), Spanish (SPAN)
- Latin American Studies (LAS)
- Linguistics (LING)
- Mathematics and Statistics (MATH and STAT)
- Philosophy (PHIL)
- Physics (PHYS)
- Political Science (POL)
- Psychology (PSYC)
- Science (SCI)
- Sociology and Anthropology (SA)
- Women’s Studies (WS)

Course enrolment in some of these may be limited to those with approved programs in these subjects. Courses that are not clearly within the above departments, or courses transferred from other institutions in subjects without direct equivalence at Simon Fraser may count toward these requirements on an individual basis and upon application to the Dean of Arts Office (AQ 6168).

Whether or not students complete the certificate program, they may take the faculty breadth requirements as an opportunity for exploratory study in advance of choosing a major discipline. Some departments will advise students as to subject areas and specific courses they recommend to prepare for a major program. A substantial proportion of these requirements may be applied to a number of cross-disciplinary major, extended minor or minor programs within the faculty. In planning the most effective way to fulfill the breadth requirements, students should seek advice in the Student Academic Resources office and in any departments in which they may be planning to major.

### Program Declaration

Prior to or upon registering for the semester in which the 61st credit is taken, students must formally declare and be accepted into a major program or two extended minor programs, and may, subject to the regulations below, apply for an honors program. The formal declaration establishes the exact major, or extended minor requirements for graduation as they appear in the Calendar in effect at the time of declaration. Students are urged to keep a copy of this Calendar, known as the Graduating Calendar, for reference.

Students may change their degree programs at any time prior to graduation. A new formal declaration to must be approved by the department of the new major and by the Dean of Arts office if a change of faculty is involved. At that time, the Calendar then in effect becomes the new Graduating Calendar, and the requirements which it specifies for the major or extended minor program must be fulfilled.

### Honors Program

Acceptance to this program is contingent upon satisfying the entrance requirements of the department concerned. Applicants normally will have received a GPA of 3.0 in subject(s) of the honors field. When admission has been granted, the student then registers as an honors student. To continue in the program, this 3.0 GPA must be maintained. Failure to do so will place the student in the corresponding
general degree program. Students will still be subject to the regulations of the original graduating Calendar. If a student is subsequently reinstalled into the honors program, the graduating Calendar is the Calendar which was in effect at the time of the original acceptance into the program.

Graduation Requirements
The graduation GPA is different from the cumulative GPA. Please refer to the graduation requirements which appear in the General Information section for both the general and honors program.

General Program
In addition to the general requirements, please note that the Faculty of Arts has the following requirements for the general program.

The minimum requirement for graduation is a graduation GPA of 2.0 and a GPA of 2.0 in all upper and lower division courses taken in the major, extended minor or minor department(s) with the exception that duplicate courses are counted only once. It should be noted that the university regulations governing the duplication of courses are rigorously applied in the Faculty of Arts. Students who do not obtain the minimum GPA in their programs within the limits of five duplications will not be able to complete a major, extended minor or minor degree within the Faculty of Arts.

University College of the Fraser Valley Program
University College of the Fraser Valley in Abbotsford, BC offers a program leading to a bachelor of arts degree, in association with the Faculty of Arts and is issued by Simon Fraser University.

Bachelor of General Studies Degree
6170 Academic Quadrangle, (604) 291-5426 Tel, (604) 291-3033 Fax
Advisors
Ms. R. Lepp, (604) 291-5426
Ms. M. Caufield, BA (S Fraser), (604) 291-5426
This non-specialist degree program, administered within the Faculty of Arts, is designed for students whose educational goals are not met by other, more structured, undergraduate degree programs. Students may complete one or more minors or extended minors (but no major), in any academic area(s) as part of the BGS degree. Students considering this program are strongly urged to consult the advisor before declaring the BGS as the goal.

The BGS program may not be used as a second or subsequent bachelor's degree except by written approval of the Deans of Arts prior to admission. Students who hold a first degree and are interested in a program of general studies may wish to consider a post-baccalaureate diploma program.

Requirements
Students must complete 120 credit hours, including at least 45 upper division credit hours. The graduation minimum is a graduation GPA of 2.0 and a cumulative GPA of 2.0 calculated on all upper division courses taken, except duplicate courses.

With the exception of EDUC 401, 402, 405 and 406, courses taken from any faculty may be used to satisfy the degree requirements, but admission to courses is subject to the prerequisite requirements of the various departments. The maximum credit hours offered through the Tri-Education Summer Institute that count towards the BGS is limited to nine.

Transfer
Special transfer regulations for the BGS degree provide broadened opportunities for degree completion for students who may have difficulty in availing themselves of courses.

In accordance with normal University regulations, 60 credit hours of transfer and/or course challenge credit may count towards a Simon Fraser University degree. In addition, a further 30 credit hours of transferable credit from a degree granting institution recognized and accepted by Simon Fraser University may be credited toward the BGS degree, provided that the student also completes at least 30 of the required 45 credit hours of upper division credit in Simon Fraser University courses.

Even within these special transfer regulations, students must complete a total of 45 upper division credit hours. Any minor program within the BGS must include at least seven upper division credit hours earned at Simon Fraser University. See "Admission and Readmission" on page 25 for regulations.

Integrated Studies Program
Information is available from the director of extension credit, Continuing Studies, at Harbour Centre. Integrated Studies programs within the bachelor of general studies degree are highly structured cohort based programs designed to meet the educational needs of specific student groups. Such programs integrate liberal studies with knowledge and skills associated with a particular field of practice, or with a background common to its students. Students may undertake this degree option only through special admission to an individual program. Integrated studies programs will typically be signed and structured in consultation with external agencies or employers and may therefore have special locations, admission requirements and fee structures.

Because these programs may require and build upon varying levels of previous post-secondary education, related employment experience, and demonstrated intellectual maturity, the credit hours required to earn a degree may in some instances be less than the normal 120 credit hours. All such programs will require a minimum of 60 in designated Simon Fraser University courses offered within the program, to include at least 45 upper division credit hours.

Each integrated studies program will be governed by an academic steering committee. The curriculum, including both designated courses and total credit hour requirements, admission criteria, and any other special conditions for each individual integrated studies program will be approved in advance by the Faculty of Arts curriculum committee.

Post Baccalaureate Diploma Programs
The Faculty of Arts offers disciplinary and interdisciplinary post-baccalaureate diplomas. See "Post Baccalaureate Diploma Program" on page 22 for further information.

Post Baccalaureate Diploma in Community Economic Development
Director
M.L. Roseland, MA (Wesleyan), PhD (Br Col)
This program is for those with an undergraduate degree or equivalent. The diploma is applicable to a wide range of occupational, professional and academic fields. By combining courses from several different disciplines with a specially designed core program of study and opportunities for guided practice, the program provides unique perspectives on economic, social and cultural development within the context of communities.

Required Courses
Students must complete 30 upper division credit hours, including 16 hours in the following courses.

CED 301-4 Sustainable Community Development
CED 401-4 Concepts, Techniques and Principles for CED Practice
CED 403-4 Models and Cases in Community Economic Development
CED 404-4 Project
In addition to these required courses, students must complete at least 14 credits in elective courses.

Elective Courses
Select electives from the CED electives (CED 410, 412) and from a wide variety of departments, in consultation with the CED Centre's academic supervisor. A list of pre-approved electives is available each semester, but students may also propose courses for approval. Courses must meet the following requirements.
- the proposed course must be an upper division course (300-400 level) or higher.
- the elective proposal must be submitted to the CED Centre (CEDC) and approval obtained before the student registers. The request must be in writing and include a copy of the course description. We strongly advise students to complete their elective choices early in the registration period because of strong competition for these courses.
- the proposed course must meet the CEDC's content requirements for being thematically related to CED or applicable skills for CED field work. It must be sufficiently related by topic to CED (e.g. underdevelopment, regional planning, public planning processes) and/or provide research and other skills relevant to CED practice (e.g. business management, organizational behaviour, fieldwork methodologies, qualitative and quantitative analysis). Determination of relevance and applicability of the proposed course will be made by the CEDC academic supervisor or their designate.
- If the student proposes a directed studies course from another department, the proposed detailed study plan must be approved in advance by both the CEDC academic supervisor and the chosen faculty supervisor. The CEDC requires the final report of the project to be submitted to the centre as well as to the named faculty member.
- Some courses require prerequisites outside of the diploma program. Students take full responsibility for obtaining prerequisite clearance or other clearances that are required to gain entry into the course. Many departments waive some introductory courses for those with extensive experience in the area. However, other Simon Fraser University departments give course registration priority to their own students and will not necessarily permit CED students to register. Check all Calendar entries and consult both those departments and the CEDC advisor before attempting to register.

Other restrictions may apply.
Transfer credit for work done at other institutions, before or after admission to the program, may be approved toward fulfilment of the program provided it meets CED Centre requirements for relevance to community economic development, and further, provided that at least 18 of the total credit hours must be counted as Simon Fraser University credit. All other requirements for transfer credits under general post-baccalaureate programs regulations apply.

Applications for transfer credit must be initiated at the time of application for admission to SFU by requesting
Certificate Programs

The certificate programs below are administered by the Faculty of Arts.

Credits applied toward a certificate may not be applied toward any other Simon Fraser University certificate or diploma, but may also be applied toward major program or minor program requirements or toward a bachelor's degree under the normal regulations governing those programs.

Certificate in Community Economic Development

Community Economic Development is a process by which communities can initiate and generate their own solutions for their common economic problems and thereby build long term community capacity and foster the integration of economic, social and environmental objectives. The CED Centre is actively involved in community-based projects throughout the province and offers an undergraduate certificate and a post-baccalaureate diploma, both available by distance education now or in the near future.

This program offers recognition to those who seek basic accreditation in community-based social and economic development, or who seek an holistic, active, practical credential with an undergraduate degree. It offers a wide range of theoretical and practical perspectives on alternate economic strategies and ecologically sustainable communities, both rural and urban. Students may take this certificate program with or without registration in a bachelor's degree program. General certificate program regulations apply: courses taken toward this certificate may also be applied toward major or minor program requirements or toward a bachelor's degree under normal regulations governing those programs. This program may be taken by distance education.

Admission Requirements

General undergraduate admission to the university and formal application for program approval with the CED Centre. Students must normally complete 30 credit hours before applying for this program.

Program Requirements

Students must complete a minimum of 19 credit hours of required courses and approved elective courses, attain a grade of at least C+ in each of CED 201 and CED 301 for continuance in the program, and must maintain a CGPA of at least 2.5 over all CED courses in order to obtain the certificate.

Fifteen credit hours are earned by completed four core courses:
CED 201-3 Introduction to Community Economic Development
CED 301-4 Sustainable Community Development
CED 401-4 Concepts, Techniques and Principles for CED Practice
CED 403-4 Models and Cases in CED

The remaining minimum of four credit hours are selected from a list of multidisciplinary courses approved by the CED Centre or other electives approved by the director. These include CED 410 Special Topics, offered with a changing CED related topic annually. Under circumstances where fieldwork or work experience is not available as part of a student's major, minor or co-op program, the student may apply to take CED 404 Project as their elective. Note that a choice of a three credit elective means that more than one elective will be required to fulfill the minimum credit hours for completion of the certificate. Electives may be either upper or lower division courses, but must be approved by the CED Centre. Courses in other departments may have prerequisites not included in this certificate program.

Transfer Credits

Transfer credit for work done at other institutions, before or after admission to the program, may be approved toward fulfillment of the program provided they meet CED Centre requirements for relevance to community economic development, and further, provided that at least half of the total credit hour requirements are taken at Simon Fraser University. All other requirements for transfer credits under general undergraduate regulations apply.

Limits

Those who complete the undergraduate certificate will not be permitted to enrol in the post baccalaureate diploma program. Those who have taken the CED PBD may not enrol in this certificate program. Those who have taken CED 400 or CED 402 may not take CED 201 or CED 301 for credit toward the certificate.

More information on the centre and its programs is available at the CED Centre and its website www.sfu.ca/cedc/

Certificate in Liberal Arts

This program provides broad exposure to areas of knowledge and methods of inquiry that are essential to a liberal education. It is available to all undergraduate students who desire a program structured for breadth of learning. It may be taken in conjunction with a degree program, or it may be taken by students not currently seeking a degree. Those planning to obtain a BA within the Faculty of Arts may choose to complete the certificate in such a way that most or all of the Faculty of Arts breadth requirements are fulfilled by the same courses.

The certificate in liberal arts requires the completion of ten courses, comprising at least 30 credit hours, from among a list of designated courses. These courses, which include both lower division and some upper division courses, have been carefully chosen for their suitability in providing accessible and valuable material for the generally interested student.

Course Sets

Courses that can be applied toward the certificate are listed in 12 sets. Each set includes courses from various University departments. For a certificate student to be acquainted with various fields of inquiry and approaches to knowledge, the ten required courses must be distributed across these sets in the manner described below. See “Distribution Requirements” on page 117. The sets, with brief descriptions of the kinds of courses in each, are as follows:

Verbal Skills

These courses are designed to enhance the student's mastery of some basic tools of verbal reasoning and expression. They include courses on writing and critical thinking, and introductory language courses. Students who take an introductory course in a language other than English are strongly urged to complete a second course in that language as part of their certificate program.

The Study of Theory and Theory Building

These courses introduce students to the nature of explanatory systems in various fields of inquiry. They include courses from various disciplines that focus on the dynamics of theory construction and on the historical evolution of theory within that discipline. Courses in this set will provide appreciation for the ways in which the processes of reasoning, argument, observation and analysis are included within the development of disciplines.

The Analysis of Contemporary Issues

These courses examine some current social problems and controversies, emphasizing the application of appropriate conceptual and investigative methods to areas of public concern. Courses in this set will give students some appreciation for the ways in which careful reasoning and disciplinary knowledge can be applied in clarifying the discussion of public issues.

The Study of Literature

These courses introduce important literary works and to ways of understanding literary expression. They include courses on literature written in English and in other languages, as well as literature in translation.

Fine and Performing Arts

These courses familiarize students with non-literary modes of artistic expression and with important works of art. They include courses on the history and criticism of various arts forms.

Studies in Culture and Civilization

These courses introduce a wide study of cultures and civilizations. They include courses that consider the development of human values, and that take comparative and interdisciplinary approaches to culture, as well as historical studies that include substantial attention to cultural themes.

The Study of Period and Place

These courses study developments in human society with emphasis on historical or regional particularity, and introduce methods associated with such study. They include courses that focus on regions and regionalism, as well as on specific historical periods.

Foundations of Social Science

These courses introduce fundamental concepts and investigation methods in various social science disciplines.

Social and Behavioral Analysis

These courses articulate an approach to social structures or to individual or group behavior and apply that perspective to a particular area of social investigation.

Natural Science

These courses introduce students to methods basic to the natural sciences and to findings in at least one specific science.

The Impact of Science and Technology

These courses investigate the social impact of developments in science, technology, and computational and quantitative methods.

Quantitative Skills

These courses enhance the mastery of mathematical skills and tools for quantitative reasoning. They include basic level mathematics and computing, and statistics oriented research methods courses.

Distribution Requirements

Eight of the required 10 courses must be distributed among the above sets as follows. (See course lists for applicable courses.)

two courses drawn from any two of the sets 1-3
two courses drawn from any two of the sets 4-6
two courses drawn from any two of the sets 7-9
two courses drawn from any two of the sets 10-12

The two additional courses required may be selected from any two sets.

Within these distribution requirements, students select any listed courses, and may tailor choices
toward their academic needs and interests. Credits applied toward this certificate may not be applied to any other SFU certificate or diploma, but may be applied toward major or minor program requirements.

Course Lists
Courses within each set are published annually and are available at the Student Academic Resources office and the Office of the Dean of Arts. Lists include courses regularly approved by senate for program inclusion and occasional courses approved as certificate courses only for a single offering.

Some listed courses have prerequisites. In most such instances the specific course prerequisites may also be completed within the certificate program. Consult the Calendar and course outlines to understand the nature of courses and prerequisites. Some may be very demanding for those without adequate preparation. Advice is available through departmental advisors, the Office of the Dean of Arts, and Student Academic Resources.

Transfer Credit
Transfer credit is permitted to a maximum of 15 credit hours. Normally, only credit that is assigned as directly equivalent to a course regularly listed within the program may be transferred.

Relation to Faculty of Arts Breadth Requirements
The Faculty of Arts recommends that students planning to major within the Faculty complete the Faculty of Arts breadth requirements through the certificate program. Certificate completion does not ensure students have fulfilled faculty requirements, but it is readily possible to fill these requirements entirely within the certificate program.

Certificate for Senior Citizens
The program provides senior citizens with opportunities to participate in University life, to undertake study relevant to life goals, and to gain recognition for academic achievements. Each fall and spring the University offers courses for adults aged 60 and over at Harbour Centre. Courses may also be selected from regular University offerings.

Admission
Current admission regulations apply. Most will apply either as secondary school graduates or under the terms of mature student entry. See “Admission and Readmission” on page 25. Also, applicants shall consult a program advisor concerning the demands of the program and their educational objectives.

Program Requirements
Successful completion, after age 60, of 30 credit hours, approved by the program co-ordinator or other official appointed by the Dean of Arts is required.

Note: Normally, all courses for the certificate must be taken at Simon Fraser University and not more than six credit hours of approved transfer credit for university/college work may be applied toward certificate requirements.

Department of Archaeology
9635 Education Building, (604) 291-3135 Tel, (604) 291-5666 Fax, www.sfu.ca/archaeology
Chair
D.V. Burley BA, MA (New Br), PhD (S Fraser)

Professors Emeriti
R.L. Carlson BA, MA (Wash), PhD (Ariz)
R. Shutter, Jr. BA, MA (Calif), PhD (Ariz)

Professors
D.V. Burley BA, MA (New Br), PhD (S Fraser)
J.C. Driver MA (Camb), PhD (Calg)
R.R. Fieldmark BA (Br Col), PhD (Calg)
B.M.F. Galdikas BA (Br Col), MA, PhD (Calif)
B.D. Hayden BA (Colorado), MA, PhD (Tor)
J.D. Nance BA, MA (Calif), PhD (Calg)
D.E. Nelson BSc (Sask), PhD (McM)

Associate Professors
A.C. D'Andrea BSc (Tori), MSc (Lond), PhD (Tori)
P.M. Hobler BA (New Mexico), MA (Ariz)
M.F. Skinner BA (Alta), PhD (Camb)

Assistant Professors
D. Lepofsky BA (Mich), MA (Br Col), PhD (Calif)
G.P. Nicholas BA (Franklin Pierce Coll), MA (Missouri), PhD (Mass)

Adjunct Professors
A.D. McMillan BA (Sask), MA (Br Col), PhD (S Fraser)
A.D. Sutton BA, MA, PhD (Otago)

Lecturer
D. Lyons BA, MA (Calg), PhD (S Fraser)

Associate Members
J.M. D’Auria, Chemistry
D.J. Huntley, Physics
R.W. Mathewes, Biological Sciences

Advisor
Ms. A. Sullivan, 9633A Multi Purpose Complex, (604) 291-4687

The department offers various programs leading to the BA degree. Students must meet requirements for the degree (described in the Faculty of Arts section), should take courses in some complementary disciplines, and should seek departmental advice early in their university careers about their programs. PHYS 181 (prerequisite for ARCH 311 and 410) and STAT 203 (prerequisite for ARCH 376 which is recommended for majors and required for honors) are specifically recommended.

Upper division archaeology courses are divided into the following groups.

Group I – Core Program
ARCH 372-5 Material Culture Analysis
ARCH 373-5 Human Osteology
ARCH 376-5 Quantitative Methods in Archaeology
ARCH 471-5 Archaeological Theory

Group II – Laboratory Courses
ARCH 335-5 Special Laboratory Topics in Archaeology
ARCH 340-5 Zooarchaeology
ARCH 349-5 Management of Archaeological Collections
ARCH 377-5 Historical Archaeology
ARCH 385-5 Paleoanthropology
ARCH 390-5 Archeobotany
ARCH 432-5 Advanced Physical Anthropology
ARCH 442-5 Forensic Anthropology
ARCH 485-5 Lithic Technology

Group III – Regional Courses
ARCH 321-3 Archaeology of Britain
ARCH 330-3 Prehistory of Latin America
ARCH 360-5 Native Cultures of North America
ARCH 370-3 Western Pacific Prehistory
ARCH 374-3 Prehistory of South and East Asia
ARCH 378-3 Pacific Northwest North America
ARCH 379-3 American Southwest

Group IV – Topical Courses
ARCH 301-3 Prehistoric and Indigenous Art
ARCH 311-5 Archaeological Dating
ARCH 336-3 Special Topics in Prehistoric and Indigenous Art
ARCH 344-3 Primate Behavior
ARCH 365-3 Ecological Archaeology
ARCH 386-3 Archaeological Resource Management
ARCH 410-5 Advanced Archaeometry
ARCH 438-5 Geoaarcheology

Special topics and/or directed studies courses may substitute for group II, III or IV courses, provided the content of the special topics and/or directed studies course suggests a suitable substitution, and written department consent is obtained prior to registration.

Major Program
Archaeology majors must complete the following.

Lower Division Requirements
ARCH 131-3 Human Origins
ARCH 201-3 Introduction to Archaeology
ARCH 272-3 Archaeology of the Old World
ARCH 273-3 Archaeology of the New World

Upper Division Requirements
Students must complete at least 30 upper division archaeology credit hours which must include
• at least three group I courses (ARCH 372, 471, and either 373 or 376)

It is strongly recommended that majors, students interested in physical anthropology, and those contemplating graduate studies, complete all four group I courses.
• at least one group II course
• at least one group III course
• at least two group IV courses

If students take both ARCH 373 and 376, they may use both as group I requirements, or use ARCH 373 as a group II requirement, or ARCH 376 as a group IV requirement.

Honors Program
Archaeology majors who wish honors program admission must have a minimum 3.0 CGPA and obtain departmental permission. To remain in the program, students must maintain that CGPA and successfully complete 132 credit hours with 50 of those in upper division archaeology. As well as meeting group II, III, and IV requirements for the major, honors students complete all four group I courses, ARCH 498 and 499. See “Bachelor of Arts Degree” on page 114.

Minor Program
Students who minor in archaeology must fulfil the following requirements.

Lower Division Requirements
Students must complete both of ARCH 131-3 Human Origins
and one of ARCH 272-3 Archaeology of the Old World
ARCH 273-3 Archaeology of the New World

Upper Division Requirements
Students must complete at least 16 hours of upper division archaeology including at least one course from each of groups I, II, III and IV listed above.

Extended Minor Program
This program consists of the lower division requirements for a major and the upper division requirements for a minor in archaeology. Students must have their program approved by the Department of Archaeology advisor.
Languages Other Than English

Those contemplating graduate work are advised to acquire a reading knowledge of at least one language other than English.

Joint Major in Archaeology and Latin American Studies

For requirements, see “Joint Major Programs” on page 148.

Joint Major in Archaeology and Anthropology

Advisors
Ms. A. Sullivan, Department of Archaeology, 9633A Multi Purpose Complex, (604) 291-4687
Ms. K. Payne, Department of Sociology and Anthropology, 5056 Academic Quadrangle, (604) 291-3726

This program explores relationships between anthropology and archaeology. Students should plan their program in consultation with both advisors.

Lower Division Anthropology Requirements

Students must complete the following courses.
SA 101-4 Introduction to Anthropology
SA 201-4 Anthropology of Contemporary Life
SA 255-4 Introduction to Social Research
SA 286-4 Aboriginal Peoples and British Columbia: Introduction

Lower Division Archaeology Requirements

Students must complete the following courses.
ARCH 131-3 Human Origins
ARCH 201-3 Introduction to Archaeology
ARCH 272-3 Archaeology of the Old World
ARCH 273-3 Archaeology of the New World

Upper Division Anthropology Requirements

At least 20 credit hours of upper division anthropology are required including the following.
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods
SA 386-4 Native Peoples and Public Policy
plus one of
SA 401-4 The Politics of Culture in Contemporary Societies
SA 402-4 The Practice of Anthropology
plus one other upper division anthropology course. SA 486 is strongly recommended.

Upper Division Archaeology Requirements

Students are required to complete at least 23 credit hours of upper division archaeology including one of
ARCH 301-3 Prehistoric and Indigenous Art
ARCH 386-3 Archaeological Resource Management
and all of
ARCH 360-5 Native Cultures of North America
ARCH 372-5 Material Culture Analysis
ARCH 471-5 Archaeological Theory
plus one group II archaeology course
ARCH 378 and 385 are strongly recommended.

Co-operative Education Program

This program offers work experience in archaeology and physical anthropology and entails planned semesters of study and employment (term practicums) in an area of the student’s choice.

Requirements

To be admitted, a major must have been declared and the student must have at least 45 credit hours, with a minimum CGPA of 3.0. The following courses (or equivalent as approved by the department co-op education co-ordinator) are recommended.
both
ARCH 131-3 Human Origins
ARCH 201-3 Introduction to Archaeology
one of
ARCH 272-3 Archaeology of the Old World
ARCH 273-3 Archaeology of the New World
three of
ARCH 372-5 Material Culture Analysis
ARCH 373-5 Human Osteology
ARCH 376-5 Quantitative Methods in Archaeology
ARCH 377-5 Historical Archaeology
ARCH 386-3 Archaeological Resource Management
ARCH 442-5 Forensic Anthropology

To participate in co-op education, contact the co-op co-ordinator, undergraduate chair, and/or departmental assistant at least one semester before the first work semester. Please see “Co-operative Education” on page 201 regarding job competition, student employer responsibilities, student fees, pay rates and evaluation. During work semesters, co-op students are formally registered in a job practicum course and are assessed a fee.

Program continuation requires a minimum 3.0 CGPA in all courses. College transfer students must have completed at least 15 credit hours at Simon Fraser University before being eligible for co-operative education admission. Transfer students who have participated in co-operative education programs elsewhere may be credited with the semester(s) already taken pending evaluation and approval of the SFU co-operative education program.

Centre for Canadian Studies

6067 Academic Quadrangle, (604) 291-4293 Tel, (604) 291-4786 Fax
Director
A. Seager BA, MA (McG), PhD (York)
Associated Faculty
Faculty of Applied Sciences
School of Communication

Faculty of Arts
Department of Anthropology
D.V. Burley, J. Driver, K.R. Fladmark, P.M. Hobler, M.F. Skinner
School for the Contemporary Arts
C. Browne

School of Criminology

Department of Economics

Department of English
G. Bowering, S. Djwa, C. Gerson, A. Lebowitz, K. Mezei, R.A. Miki, D. Stouck, P.M. St. Pierre

Department of French

Department of Geography
N.K. Blomley, L.J. Evenden, A.M. Gill, M. Hayes, R. Hayter, P.M. Koroscill, J.T. Pierce, M. Roseland

Department of History

Department of Linguistics
N.J. Lincoln

Department of Political Science

Department of Sociology and Anthropology

Department of Women’s Studies
M.G. Cohen

Faculty of Business Administration
G.A. Mauser, J.G. Richards, W.C. Wedley, M. Wexler

Faculty of Education
J.D. Beynon, S.C. de Castell, J. Dawson, A.A. Obadia

Faculty of Science
Department of Biological Sciences
R.W. Mathewes

Library
J. Corse

Advisor
Ms. R. Jantzi, (604) 291-3588

The Centre for Canadian Studies promotes the study and understanding of Canada from a comprehensive cultural, social, political and economic perspective, emphasizing both historical context and contemporaneous development. The centre aims to fully utilize programs developed by other academic departments that contain relevant Canadian subject matter. The centre itself offers limited interdisciplinary courses that are designed to integrate knowledge from several relevant disciplines.

For those with a predominant interest in Canadian studies, a major and honors program is provided. However, the centre also accommodates students whose primary interest is in one of the regular disciplines. Such students may enrol in a joint major or honors program, combining specialization in the department of their choice with complementary work in Canadian studies.

A certificate in French Canadian studies is also offered. This may be taken concurrently with, and as part of, specialization in Canadian studies at the honors, major or minor level, or it may be taken independent of such specialization. Details are given at the end of this section.

Major Program

The particular requirements are as follows. Students should refer to the General Information section for additional information.

Lower Division Requirements

CNS 160-3 The Social Background of Canada
CNS 210-3 Foundations of Canadian Culture
CNS 280-3 Canadian Political Economy
HIST 102-3 Canada Since Confederation

Students must demonstrate a working knowledge of French determined by completing FREN 101, or the
Students must complete all requirements for a major in Canadian studies and the other subject. Any lower division course that counts toward the separate requirements for Canadian studies and for the other subject may be counted towards both. Up to 12 upper division credits in both Canadian studies and the other subject may be counted toward the upper division credit requirements of both. A joint major in Canadian studies and another subject that also specifies 30 upper division credit hours will therefore require a total of 48 upper division credit hours in the two subjects (30 Canadian studies plus 30 in the other subject minus 12 overlap).

Joint majors with Canadian studies are available in communication, archaeology, criminology, economics, English, geography, history, political science, sociology and anthropology, and business administration.

Joint major students are required to complete all the key courses listed for the department in which they are pursuing the other major. For a joint major with business administration and economics, there are three joint major combinations with Canadian studies; business administration, economics or business administration and economics combined. For the latter combination, a student must meet all of the requirements for the major in business administration and economics as well as those for the Canadian studies major.

The total upper division credit requirement for the joint major in Canadian studies and business administration and economics is 69 credit hours (30 Canadian studies plus 26 business administration plus 25 economics minus 12 overlap with Canadian studies).

There are three joint major combinations of Canadian studies with sociology and anthropology. The total upper division credit requirement for this is 58 credit hours (30 Canadian studies plus 20 sociology plus 20 anthropology minus 12 overlaps).

Joint Honors Program
Students complete all requirements for a Canadian studies major and honors in the other subject. Any lower division course that counts toward the separate Canadian studies requirements and the other subject may be counted towards both. Up to 15 upper division credit hours in both Canadian studies and the other subject may count towards the upper division requirements of both. Joint honors in Canadian studies and another subject that require 50 upper division credit hours will therefore require 65 upper division credit hours in the two subjects (30 CNS plus 50 in the other subject minus 15 overlap). For joint honors with business administration and economics, 75 upper division credit hours are required (30 CNS plus 30 ECON plus 30 BUS minus 15 overlap with CNS). For joint honors with sociology or anthropology, 75 upper division credit hours are required (30 CNS plus 28 sociology plus 28 anthropology plus four additional sociology or anthropology minus 15 overlap with Canadian studies).

Students must also complete the key overlap courses specified below for the Canadian studies joint major and the other subject, as well as the French language qualification specified above. To determine the level of entry in the French language program, students must take a Department of French placement test. Students may challenge FREN 151, 201, 202 and 206. Please see “Course Challenge” on page 36.

Extended Minor Program
This program consists of the lower division requirements for a major and the upper division requirements for a minor. Certain other criteria may be set by individual departments. Students must have their program approved by the advisor.
CRIM 330-3 Criminal Procedure and Evidence
CRIM 331-3 Advanced Criminal Law
CRIM 335-3 Human Rights and Civil Liberties
CRIM 419-3 Indigenous Peoples, Crime and Criminal Justice
Key courses for School of Criminology: CRIM 131, 135, 230, 231, 330, 335

School for the Contemporary Arts
FPA 236-3 Cinema in Canada
Key courses for the School for the Contemporary Arts: FPA 236

Department of Economics
BUEC 280-3 Introduction to Labor Economics
BUEC 384-3 Industrial Relations
BUEC 385-3 Collective Bargaining
BUEC 391-3 Law in the Economic Society
BUEC 396-3 The Structure of Industry
BUEC 397-5 Government and Business
BUEC 433-5 Forecasting in Business and Economics
BUEC 495-3 Legal Aspects of Economic Relationships
ECON 101-3 The Canadian Economy
ECON 261-3 Resources and the Economy of British Columbia
ECON 353-5 Economic History of Canada
ECON 362-4 Economics of Natural Resources
ECON 367-3 Transportation
ECON 368-3 Regional Economic Analysis
ECON 381-5 Labor Economics
ECON 390-3 Canadian Economic Policy
ECON 410-3 Seminar in Monetary Theory
ECON 468-3 Seminar in Regional Economic Development
ECON 480-3 Seminar in the Economics of Labor Market Policy
ECON 483-3 Selected Topics in Economics
ECON 484-3 Selected Topics in Economics
ECON 490-5 Seminar in Public Choice
ECON 496-3 Selected Topics in Economics
ECON 498-3 Directed Studies
Key courses for Economics: BUEC 391, ECON 353; any three of BUEC 391, ECON 390, BUEC 396, 397

Department of English
ENGL 354-4 Canadian Literature to 1920
ENGL 357-4 Canadian Literature Since 1920
ENGL 359-4 Literature of British Columbia
ENGL 360-4 Studies in Canadian Literature
Key courses for English: ENGL 354, 357, 359, 360

First Nations Studies Program
FNST 101-3 The Culture, Languages and Origins of Canada's First Peoples
FNST 201-3 Canadian Aboriginal People's Perspective on History
Key courses for First Nations Studies: FNST 101, 201

Department of French
FREN 230-3 Introduction to French-Canadian Literature
FREN 341-4 Literature in Translation from the Francophone World
FREN 422-3 Canadian French
FREN 430-3 The French-Canadian Novel and Theatre
FREN 480-2 Seminar
Key courses for French: FREN 230, 422, 430, 480

Department of Geography
GEOG 162-3 Canada
GEOG 264-3 Canadian Cities
GEOG 265-3 Geography of British Columbia
GEOG 322-4 World Resources
GEOG 323-4 The Dynamics of Industrial Location and Regional Development
GEOG 421-4 Geography of Resource Development
GEOG 426-4 Industrial Change and Local Development
GEOG 441-4 Geography of Urban Regions
GEOG 444-4 Regional Development and Planning II
GEOG 445-4 Resource Planning
GEOG 462-4 The Geography of the United States
GEOG 469-4 The Canadian North and Middle North
GEOG 470-4 The Geography of Western Canada
GEOG 475-4 Historical Geography II
Key courses for Geography: GEOG 162, 462; one of 469, 470

Department of History
HIST 101-3 Canada to Confederation
HIST 102-3 Canada Since Confederation
HIST 201-3 The History of Western Canada
HIST 204-3 The Social History of Canada
HIST 326-4 The History of Native People of Canada
HIST 327-4 Canadian Labour and Working Class History
HIST 328-4 The Province of Quebec from Confederation
HIST 329-4 Canadian Family History
HIST 385-4 Canadian and BC Art
HIST 423-4 Problems in the Diplomatic and Political History of Canada
HIST 424-4 Problems in the Cultural History of Canada
HIST 428-4 Problems in the Social and Economic History of Canada
HIST 430-4 New France
HIST 431-4 British North America 1760-1850
HIST 435-4 The Canadian Prairies
HIST 436-4 British Columbia
Key courses for History: HIST 101, 102, 328; one of 201, 433, 438; one of 423, 424, 428; one of HIST 326, 327, 329

Latin American Studies Program
LAS 320-3 Canada and Latin America
Key course for Latin American Studies: LAS 320

Department of Political Science
POL 151-3 The Administration of Justice
POL 221-3 Introduction to Canadian Government
POL 222-3 Introduction to Canadian Politics
POL 251-3 Introduction to Canadian Public Administration
POL 252-3 Local Democracy and Governance
POL 321-4 The Canadian Federal System
POL 322-4 Canadian Political Parties
POL 323-4 Provincial Government and Politics
POL 324-4 The Canadian Constitution
POL 347-4 Introduction to Canadian Foreign Policy
POL 394-4 Urban Governance in Canada
POL 395-4 Public Sector Management
POL 354-4 Comparative Metropolitan Governance
POL 355-4 Governing Instruments
POL 357-4 Law and Politics
POL 422-4 Canadian International Security Relations
POL 424-4 BC Government and Politics
POL 424-4 Quebec Government and Politics
POL 425-4 Political Leadership in Canada
POL 426-4 Canadian Political Behavior
POL 427-4 The Legislative Process in Canada
POL 428-4 Selected Topics in Canadian Government and Politics
POL 429-4 Selected Topics in Governance
POL 451-4 Public Policy Analysis
POL 454-4 Urban Public Policy Making
POL 455-4 Issues in Economic and Social Policy
POL 458-4 Selected Topics in Local and Urban Government and Politics
POL 459-4 Selected Topics in Public Policy, Public Administration and Public Law
Key courses for Political Science: POL 221, 222, 321, 324, 451

Department of Sociology and Anthropology
SA 100-4 Perspectives on Canadian Society
SA 286-4 Native Cultures of British Columbia
SA 292-4 Special Topics in Sociology
SA 293-4 Special Topics in Anthropology
SA 300-4 Canadian Social Structure
SA 335-4 Gender Relations and Social Issues
SA 386-4 Native Peoples and Public Policy
SA 387-4 Canadian Native Peoples
SA 390-4 Selected Regional Areas
SA 400-4 Canadian Ethnic Minorities
SA 486-4 Issues in Northwest Coast Studies
SA 495-4 Selected Regional Areas
Key courses for Anthropology: SA 100, 400, 486
Key courses for Sociology: SA 100, 300, 400

Department of Women's Studies
WS 101-3 Introduction to Women's Issues in Canada
WS 201-3 Women in Canada 1600-1920
WS 202-3 Women in Canada 1920 to the Present
WS 300-5 Special Topics in Women's Studies
WS 301-4 Special Topics in Women's Studies
WS 302-4 Special Topics in Women's Studies
WS 303-4 Special Topics in Women's Studies
WS 307-3 Women and British Columbia
Key courses for Women's Studies: WS 101, 201, 202, 307

Faculty of Business Administration
BUEC 280-3 Introduction to Labor Economics
BUS 303-3 Business in Society
BUS 344-3 Business to Business Marketing
BUS 384-3 Industrial Relations
BUEC 385-3 Collective Bargaining
BUEC 391-3 Law in the Economic Society
BUS 393-3 Commercial Law
BUS 396-3 The Structure of Industry
BUS 397-5 Government and Business
BUS 403-3 Seminar in Business and Society
BUS 449-3 Marketing and Society
BUEC 433-5 Forecasting in Business and Economics
BUS 492-3 Selected Topics in Business Administration
BUS 493-3 Selected Topics in Business Administration
BUS 494-3 Selected Topics in Business Administration
BUEC 495-3 Legal Aspects of Economic Relationships
BUS 498-3 Directed Studies
BUS 499-5 Directed Studies
Key courses for Business Administration: BUS 303, BUEC 280, either BUEC 396, or 397
Key courses for Business Administration and Economics: BUS 391; any three of ECON 381, 390; BUEC 384, 385, 396, 397

Faculty of Science
Department of Biological Sciences
BISC 310-3 The Plants and Animals of British Columbia

Certificate in French Canadian Studies
The program serves full and part time students, and those taking courses for educational enrichment only who may be attracted by the opportunities which the Office of Continuing Studies offers, particularly through evening courses.
For access to French Canadian background material, basic French language competency is necessary.

Requirements
Students must complete
FREN 230-3 Introduction to French-Canadian Literature
HIST 328-4 The Province of Quebec from Confederation
POL 424-4 Quebec Government and Politics
Students must also achieve competence in the French language by either
• completing six credit hours from group B courses below, or equivalent transfer credit as confirmed by a placement test administered by the Department of French. (Students who wish to concentrate on reading knowledge of French should take FREN 198 and the former FREN 298. The other courses listed stress speaking and understanding French.)
• or by passing a placement exam at the level of Grade 12 French, administered by the Department of French.

List of Relevant Courses
In addition, at least 27 credit hours are required, taken from the list of relevant courses below, of which no more than six credit hours in group B may be counted.

Relevant Courses
Group A French Canadian Studies
CNS 190-3 The Social Background of Canada
CNS 210-3 The Foundations of Canadian Culture
CNS 280-3 Canadian Political Economy
CNS 390-3 Topics in Canadian Popular Culture*
CNS 391-3 Special Canadian Topics*
CNS 490-3 The Canadian Intellectual Tradition*
CNS 491-3 Technology and Canadian Society*
FREN 230-3 Introduction to French-Canadian Literature
FREN 342-4 Literature in Transition from the Francophone World*
FREN 422-3 Canadian French
FREN 430-3 The French-Canadian Novel and Theatre
HIST 101-3 Canada to Confederation
HIST 102-3 Canada Since Confederation
HIST 328-4 The Province of Quebec from Confederation
HIST 430-4 New France
POL 424-4 Quebec Government and Politics

Group B French Language
FREN 100-3 Introductory French I
FREN 101-3 Introductory French II
FREN 151-3 French I
FREN 198-3 French for Reading Knowledge I
FREN 199-3 Writing French I: Spelling and Grammar
FREN 201-3 Intermediate French I
FREN 202-3 Intermediate French II
FREN 205-3 French Language: Oral Practice
FREN 206-3 Intermediate French III
FREN 298-3 French for Reading Knowledge II
FREN 300-3 Advanced French – Conversation
FREN 301-3 Advanced French – Composition I
FREN 302-3 Advanced French – Composition II
*These courses may be applied to the certificate program, only with express permission of the director of the Centre for Canadian Studies. Approval depends upon the extent of French Canadian content.

Cognitive Science Program
Co-ordinator and Advisor
N. Hedberg BA, PhD (Minn.), 9202 Robert C. Brown Hall, (604) 291-3479 Tel, (604) 291-5659 Fax

The following programs are offered.
BA with a major in cognitive science
Honors in cognitive science: option A and option B

In the last twenty years there has been a surge in research into various aspects of cognition. This affects many fields including psychology, linguistics, philosophy, computing science, education, anthropology, communications, and sociology. The extent of the influence varies, but the greatest impact within psychology has been on the subfields of psycholinguistics, cognitive psychology, and developmental psychology; within philosophy, on philosophy of language, philosophical logic, and philosophy of mind; within linguistics, on semantics, syntax, phonology, and phonetics; and within computing science, on artificial intelligence.

People working within these areas find that they read the same literature and ask closely related questions in their research and teaching. It has become evident that an increasing amount of work being done in these fields belongs to a common area which cuts across traditional departmental organization. There are now several journals and many collections of essays which contain articles from each of these fields.

Within the University, this interrelation is reflected in a number of courses which draw on research conducted in these areas. Presently, courses in the study of cognition and language are spread over several different departments. The cognitive science program draws many of these together into a unified program, and offers students a structured and integrated study of cognition.

Breadth Requirements
Students enrolled in this program must fulfill the Faculty of Arts breadth requirements (see “Breadth Requirements” on page 115).

Languages Other Than English
Most graduate schools require some proficiency in one or two languages other than English. Those who contemplate graduate studies are advised to include language courses in their programs.

Major Program
A GPA of 2.0 or higher in each discipline is required for continuation and graduation. Only courses from each discipline, that satisfy the requirements of the program, will be used to calculate this GPA.

Lower Division Requirements
(25-26 hours)
Computing Science
CMPT 101-4 Introduction to Computer Programming
CMPT 150-3 Introduction to Computer Design
Additionally, for students who choose Computing Science at the Intermediate level, the following must be completed.
MACM 101-3 Discrete Mathematics I
Linguistics
LING 220-3 Introduction to Linguistics
Additionally, students who choose linguistics at the Intermediate level must complete the following course.
LING 130-3 Practical Phonetics
Philosophy
PHIL 100-3 Knowledge and Reality
Psychology
PSYC 102-3 Introduction to Psychology II

Intermediate Courses (22-25 hours)
A student must take COGS 100 plus the courses listed below for at least three of the four disciplines.
Computing Science
CMPT 201-4 Data and Program Organization
Linguistics
LING 222-3 Introduction to Phonology
LING 222-3 Introduction to Syntax
Philosophy
PHIL 210-4 Elementary Formal Logic I
Psychology
PSYC 201-4 Research Methods in Psychology
PSYC 210-4 Data Analysis in Psychology
PSYC 221-3 Cognitive Psychology

Additionally, students who intend to take physiological psychology courses (PSYC 381 and 382) in the upper division must complete the following.
PSYC 280-3 Biological Bases of Behavior

Upper Division Requirements
(30-31 hours)
A student must choose COGS 300, plus fulfill the requirements listed below for the three disciplines selected previously at the intermediate level.

Computing Science
one of
CMPT 383-3 Comparative Programming Languages
CMPT 384-3 Symbolic Computing
plus any two of
CMPT 310-3 Artificial Intelligence Survey
CMPT 411-3 Knowledge Representation
CMPT 412-3 Computational Vision
CMPT 413-3 Computational Linguistics
CMPT 414-3 Model-based Computer Vision

Linguistics
any three of
LING 321-3 Phonology
LING 322-3 Syntax
LING 323-3 Morphology
LING 324-3 Semantics
LING 330-3 Phonetics

Philosophy
any three of
PHIL 341-3 Philosophy of Science
PHIL 343-3 Philosophy of Mind
PHIL 344-3 Philosophy of Language I
PHIL 444-4 Philosophy of Language II

Psychology
any three of
PSYC 303-4 Perception
PSYC 325-4 Memory
PSYC 330-4 Attention
PSYC 366-3 Language Development
PSYC 367-3 Experimental Psycholinguistics

Honors Program
A GPA of 3.0 in all courses in the cognitive science program is required for entrance and continuation in this program. Those interested in the honors program should consult the co-ordinator of the cognitive science program.
Two options are available: option A and option B.

Option A
A student must fulfill the requirements for a major in cognitive science and choose the courses listed below for one of the disciplines, and complete
COGS 490-5 Honors Project I
COGS 491-5 Honors Project II

Computing Science
MACM 300-3 Formal Languages and Automata with Applications
MACM 402-3 Automata and Formal Languages
plus any two of the following courses which have not been taken previously
CMPT 383-3 Comparative Programming Languages
CMPT 384-3 Symbolic Computing
CMPT 411-3 Knowledge Representation
CMPT 412-3 Computational Vision
CMPT 413-3 Computational Linguistics
CMPT 414-3 Model-based Computer Vision
CMPT 419-3 Topics in Artificial Intelligence

Linguistics
any four of
LING 400-3 Formal Linguistics
LING 401-3 Advanced Phonetics
LING 403-3 Advanced Phonology
LING 405-3 Advanced Syntax
LING 406-3 Advanced Semantics
LING 423-3 Advanced Morphology

**Philosophy**
PHIL 301-3 Epistemology
PHIL 331-3 Selected Topics II
PHIL 340-3 Philosophical Methods
PHIL 454-3 Background to Analytical Philosophy

**Psychology**
any three of the following courses which have not been taken previously
PSYC 303-4 Perception
PSYC 330-4 Attention
PSYC 381-3 Introduction to Physiological Psychology
PSYC 382-3 Physiology of Complex Behavior
PSYC 425-5 Language and Thinking
PSYC 430-5 Perception

**Option B**
A student must fulfill the requirements for a major in cognitive science and choose any combination of courses listed above totalling at least eleven credit hours and accepted by the cognitive science steering committee, and choose COGS 490 and 491.

**School for the Contemporary Arts**
(604) 291-3363 Tel, (604) 291-5907 Fax, www.sfu.ca/sca

**Director**
O. Underhill BMus (Vic, BC), MA (NY State)

**Professor Emeritus**
G. Strate BA, LLB (Alta) – dance

**Professors**
S.A. Aloj BA (C’nell), MA (Col) – dance
M. Diamond BA (W Ont), MA, PhD (Tor) – theatre
I. Garland BS (III), MS (Calif) – dance
D.K. MacIntyre BMus, MMus (Vic, BC) – music/interdisciplinary
B.D. Truax BSc (Ou), BMus (Br Col) – music*
O. Underhill BMus (Vic, BC), MA (NY State) – music

**Associate Professors**
C.V.A. Browne BA (RMC), MA (S Fraser) – film
A. Clay BFA (Nova Scotia Art & Des), MFA (Br Col) – visual art
J. Garay – dance
M.S. Gottfried BA (Col), MA (McG) – music
P. Gruben BA (Rice) – film
D. Kugler BA (Ohio Northerm), MFA (York) – theatre
J. Levitin BA, MA (Wash), PhD (NY State) – film**
G. Snider BS, MFA (Wis) – visual art
P. Stella BA (III) – theatre
C. Welsby BA (Chelsea School of Art, London), Higher Diploma (Slade School of Fine Art, London) – film
J. Yoon BA (Br Col), BFA (ECIAD), MFA (C’dia) – visual art

**Assistant Professors**
H. Dawkins BFA (Nova Scotia Art & Des), MA, PhD (Leeds) – interdisciplinary
M. Eist BA (American DC), MFA (NY) – dance

**Instructor**
J. Radul BA (S Fraser) – visual art

**Senior Lecturers**
R. Groeneboer BA (Calvin Coll, Michigan), MSc (Wis) – film
B. Hegland BA (Leth), MFA (III) – interdisciplinary
J.A. Macfarlane BA (Reed) – interdisciplinary
C. Prophet BA (York, Can) – dance
D. Zapf BMus, MA (Vic, BC) – music/interdisciplinary

**Lecturer**
G. Rosenberg BA (Camb), MA (Cantab) – film, visual art

**Laboratory Instructors**
A. Eigenfelt BMus (Br Col), MA (S Fraser), DM (Northwestern) – music
G. Harris – technical theatre
A. Smith – dance, music

**Advisors**
Ms. B. Leights, M. J. Sanderson, CA 601, (604) 291-3363

*Joint appointment with communication
**Joint appointment with women’s studies

**The School for the Contemporary Arts is committed to the study, production and promotion of contemporary art.**

The school’s philosophy is that the theory and practice of art, the doing and thinking, cannot be separated: all programs within the school, therefore, combine theoretical and critical study with practical experience. Theoretical and critical studies include the historical development of and the interrelationships among the arts, the process of art-making and the relationship between art and the world within which it is made. Practical experience is available within studio or laboratory courses, and students are encouraged to acquire additional practical experience by participating in extracurricular productions, exhibitions or performances.

The School for the Contemporary Arts offers general interest courses and sponsors a variety of public events in order to make contemporary art more accessible to, and to provide cultural activities for, the wider community.

**Admission**
Admission to all contemporary arts programs and courses is contingent upon admission to the University. Contact the Office of the Registrar for information on admission procedures, requirements and deadlines.

Entry to all programs and to many courses is by audition, interview or application. Contact the office for information on procedures and deadlines.

Although the University operates on a trimester system, most FPA courses are planned in a two semester (fall and spring) sequence. Consequently, students seek fall semester (September) entry to the School for the Contemporary Arts programs and are advised to contact the school in the preceding January for information on program entry and requirements.

**Transfer Credit and Advanced Placement**
Unassigned or general elective (type 2 and 3, respectively) transfer credit which has been awarded for courses completed at other recognized post-secondary institutions, will not automatically entitle students to advanced placement in the school’s programs. Advanced placement is generally given on an individual basis as a result of an audition or interview.

**Programs Offered**
The School for the Contemporary Arts offers the following programs.

Major in Art and Culture Studies (BA)
Major in Dance (BFA)
Major in Film (BFA)
Major in Music (BFA)
Major in Theatre (BFA)
Major in Visual Art (BFA)

Joint Major in Art and Culture Studies and Anthropology
Joint Major in Art and Culture Studies and Sociology
Extended Minor in Dance
Extended Minor in Film
Extended Minor in Music
Extended Minor in Theatre
Extended Minor in Visual Arts
Minor in Art and Culture Studies
Minor in Fine and Performing Arts
Minor in Film and Video Studies
Master of Fine Arts – see “MFA Program” on page 317

**About the School’s Course Offerings**
Students are encouraged to take advantage whenever possible of interdisciplinary offerings within the school. As many of the programs depend on a continuing sequence of courses to be taken in order, students should plan their programs carefully to gain the maximum benefit and efficiency from their course of study. Note that not all courses are offered every semester and several are offered on a rotational basis, i.e. every third or fourth semester. Advisors are available in the school’s main office to help students plan their programs.

**Suggested Courses for Interdisciplinary Requirements**
For clarification, the courses listed below are the offerings from individual areas available to students in the school requiring credits in other disciplines, either in studio or in theory/history. Students from the university at large may also find these courses of interest. Students are also advised that some of the courses listed below may have prerequisites.

**Lower Division Theory and History Courses**
FPA 111-3 Issues in the Fine and Performing Arts
FPA 211-3 Introduction to Contemporary Theory in the Arts
FPA 127-3 History of Dance: Origins to 20th Century
FPA 136-3 The History and Aesthetics of Cinema I
FPA 137-3 The History and Aesthetics of Cinema II
FPA 140-3 Music in the Twentieth Century
FPA 167-3 History of Art: 1839-1939
FPA 168-3 History of Art: 1940 - the Present
FPA 227-3 History of Dance: Twentieth Century
FPA 229-3 Selected Topics in Dance I*
FPA 236-3 Cinema in Canada
FPA 237-3 Selected Topics in Film and Video
FPA 244-3 Theory of Contemporary Music
FPA 249-3 Selected Topics in Music II*
FPA 257-3 Context of Theatre I
FPA 259-3 Selected Topics in Theatre I*
FPA 269-3 Selected Topics in Visual Arts I*
FPA 289-3 Selected Topics in the Fine and Performing Arts I*

*This course may only count in this category when it is offered as a theory/history course.

**Lower Division Studio Courses**
FPA 120-3 Introduction to Contemporary Dance
FPA 124-3 Dance Improvisation
FPA 129-3 Fundamental Integration of Human Movement
FPA 145-3 Introduction to Music Composition
FPA 147-3 Introduction to Electroacoustic Music
FPA 150-3 Introduction to Acting I
FPA 151-3 Introduction to Acting II
FPA 160-3 Introductory Studio in Visual Arts I
FPA 161-3 Introductory Studio in Visual Arts II
FPA 163-3 Issues in Spatial Presentation
FPA 170-3 Introduction to Production Technology
FPA 171-3 Stage and Production Management
FPA 229-3 Selected Topics in Dance I*
FPA 232-3 Film Sound

Faculty of Arts – 123
process in dance, film, music, theatre or visual art. Course selection beyond the program’s core is flexible and students are encouraged to shape their studies in the school, or in the University at large, in relation to their own interests and curiosity.

**Lower Division Requirements**

Students must complete 18 credit hours, as follows. *Interdisciplinary Theory Courses* both of:

- FPA 111-3 Issues in the Fine and Performing Arts
- FPA 211-3 Introduction to Contemporary Theory in the Arts

**Disciplinary History and Theory Courses**

Students must complete at least six credit hours of lower division disciplinary history or theory courses from within the School for the Contemporary Arts.

**Upper Division Requirements**

A minimum of 30 credit hours must be completed as follows. *Interdisciplinary Theory Courses* both of:

- FPA 311-5 Interdisciplinary Studies in the Arts
- FPA 313-5 Arts, Audience, Patronage, Institutions

*(FPA 310, 311, 312, 313, 314, 315 taken prior to 99-2 will count towards this requirement.)*

This course may be taken more than once for credit if the topic changes plus a minimum of seven credit hours from:

- FPA 411-3 Interdisciplinary Studies in the ContempArts
- FPA 412-4 Advanced Seminar in Art and Culture Studies

This course may be taken more than once for credit if the topic changes.

**Additional History and Theory Courses**

At least six credit hours of upper division history or theory courses from the School for the Contemporary Arts must be completed. The remaining seven credit hours may be from any of the above upper division courses within the school, or from approved courses in other departments. Students may request course approvals by providing course descriptions to the student advisors in contemporary arts. The following courses are pre-approved:

- ARCH 301-3 Prehistoric and Indigenous Art
- ARCH 336-3 Special Topics in Prehistoric and Indigenous Art
- CMNS 321-4 The Cultural Production of Popular Music
- CMNS 334-4 Cultural Policy
- CMNS 422-4 Media and Ideology
- ENGL 310-4 Studies in Drama to 1642
- ENGL 312-4 Shakespeare
- ENGL 364-4 History and Principles of Literary Criticism
- ENGL 366-4 Studies in Critical Approaches to Literature
- ENGL 368-4 Studies in Drama
- GS 304-3 Richard Wagner: The Ring of the Nibelung
- HIST 303-4 Museum Methods and Use
- HIST 385-4 Canadian and BC Art
- PHIL 325-3 Philosophy of Art II
- SA 416-4 Sociology of Art Forms
- WS 412-3 Women and Film

### Bachelor of Fine Arts Degree Program

**Degree Requirements**

To be awarded a Bachelor of Fine Arts, students must complete a minimum of 120 credit hours, 30 of which must satisfy the Faculty of Arts breadth requirements. (see ‘Breadth Requirements’ on page 115.) Within the minimum total of 120 credit hours, a minimum of 45 credit hours must be in upper division courses.

To complete a Contemporary Arts major, students must include the following credit hours in the 120 that are required for this degree.

- dance major 80 credit hours
- film major 74 credit hours
- music major 76 credit hours
- theatre major (performance stream) 80 credit hours
- theatre major (production and design stream) 80 credit hours
- visual arts major 75 credit hours

**Dance Major Program**

The BFA major in dance approaches dance as an art form and integrates theory with creative and technical studio courses. Emphasis is given to contemporary dance technique, composition and experimentation. Courses are also offered in fundamental body work, ballet, history and criticism, and movement analysis. Course work in other artistic disciplines is encouraged, and opportunities for participation in a variety of productions are available. The program is intended for students who desire to study dance in relation to other contemporary art disciplines and academic fields.

**Lower Division Requirements**

A minimum of 40 credit hours must be completed including all of:

- FPA 111-3 Issues in the Fine and Performing Arts
- FPA 122-4 Contemporary Dance I
- FPA 123-4 Contemporary Dance II
- FPA 124-3 Dance Improvisation
- FPA 127-3 History of Dance: Origins to the 20th Century
- FPA 129-3 Fundamental Integration of Human Movement
- FPA 220-4 Contemporary Dance III
- FPA 221-4 Contemporary Dance IV
- FPA 224-3 Dance Composition I
- FPA 227-3 History of Dance: The 20th Century

plus six additional credit hours in lower division FPA courses outside of dance.

**Upper Division Requirements**

A minimum of 40 credit hours must be completed including all of:

- FPA 220-4 Contemporary Dance V
- FPA 221-4 Contemporary Dance VI
- FPA 324-3 New Dance Composition
- FPA 426-3 Dance/Movement Analysis

*plus 18 credit hours selected from the following:

- FPA 322-3 Ballet I
- FPA 322-3 Ballet II
- FPA 325-3 Special Project in Dance Composition
- FPA 326-3 Repertory I
- FPA 327-3 Repertory II
- FPA 420-4 Contemporary Dance VII
- FPA 421-4 Contemporary Dance VIII
- FPA 425-5 Intensive Studies in Performance
- FPA 427-3 Ballet III
- FPA 428-3 Ballet IV

*Other dance related courses may be substituted with permission of the school.

plus one of:

- FPA 311-5 Interdisciplinary Studies in the Arts
- FPA 313-5 Arts, Audience, Patronage, Institutions
plus three additional credit hours in an upper division FPA course outside dance.

**Program with National Ballet School**
In addition to the BFA in dance and the extended minor, the School for the Contemporary Arts offers a joint degree/diploma program with the National Ballet School Teachers' Training Program. This five year program allows students to initiate their studies at SFU or at the National Ballet School (NBS). The students who begin this program at SFU will spend three years at SFU and two years at NBS and receive a BFA degree and a National Ballet School Teachers' Training diploma. Students who transfer to SFU after three years of study at NBS will complete two years at SFU and receive a Bachelor of General Studies degree and the NBS Teachers' Training Diploma.

**Film Major Program**
The intent of the BFA major in film is to provide a balanced program of creative, technical and analytical studies within the interdisciplinary setting of the School for the Contemporary Arts. Film and video production courses emphasize the creation of original work as well as the acquisition of technical skills. Film courses which familiarize students with the aesthetic and social issues surrounding contemporary film and video practice are an integral part of the curriculum. Students augment their understanding of the components of film and video through interdisciplinary studies and projects. Directed study courses are available for upper division students wishing to work independently beyond regular course offerings.

**Entry to all film production courses is by questionnaire and interview.** Contact the school by early February to request an information letter and questionnaire.

Film students who wish to complete the film major may apply for admission to the BFA major program after completing FPA 231, normally at the end of the second year of study. Approval will be based on the student's creative work and academic record in required lower division courses.

The attention of students whose interest in film is related primarily to its historical, critical, or theoretical aspects, is directed to the art and culture studies major program, leading to a BA degree, and to the film and video studies minor program.

**Lower Division Requirements**
A minimum of 43 credit hours must be completed including the following.

- FPA 111-3 Issues in the Fine and Performing Arts
- FPA 130-4 Fundamentals of Film
- FPA 131-4 Filmmaking I
- FPA 136-3 The History and Aesthetics of Cinema I
- FPA 137-3 The History and Aesthetics of Cinema II
- FPA 230-5 Filmmaking II
- FPA 231-5 Filmmaking III
- FPA 232-3 Film Sound
- FPA 233-3 Screenwriting I
- FPA 237-3 Intermediate Selected Topics in Film and Video Studies**
- FPA 436-3 Advanced Seminar in Film and Video Studies**

*With prior approval, students may substitute courses devoted to a film or video studies topic in other departments, or in directed study in film studies, to fulfill this requirement.**

**May be repeated under another topic.

plus six credit hours of lower division FPA studio courses outside Film. Students may apply CMNS 258 toward this requirement.

plus FPA 211-3 Introduction to Contemporary Theory in the Arts

or another FPA history or critical course outside Film.

**Upper Division Requirements**
A minimum of 31 credit hours must be completed including the following.

three of*

- FPA 335-4 Introduction to Film Theory
- FPA 337-3 Intermediate Selected Topics in Film and Video Studies**
- FPA 436-3 Advanced Seminar in Film and Video Studies**

*With prior approval, students may substitute courses devoted to a film or video studies topic in other departments, or in directed study in film studies, to fulfill this requirement.

**May be repeated under another topic.

plus a minimum of 19 credit hours from the following.

- FPA 332-3 Film Production Seminar
- FPA 333-3 Cinematography and Lighting
- FPA 334-3 Selected Topics in Film and Video Production
- FPA 338-3 Screenwriting II
- FPA 339-3 Directing and Acting for Film and Video
- FPA 390-3 Video Production II
- FPA 393-2 Techniques of Video
- FPA 430-5 Filmmaking IV
- FPA 432-5 Filmmaking V

With prior permission, a directed study course (FPA 400, 402 or 404), a film studies course, or another upper division FPA course may be substituted for one of the above.

plus one of

- FPA 311-5 Interdisciplinary Studies in the Arts
- FPA 313-5 Arts, Audience, Patronage, Institutions or another upper division FPA history or critical course outside film.

**Music Major Program**
The bachelor of fine arts – major in music is a flexible program that offers several options for the music student who wishes to pursue an interest in composition, electroacoustic music, world music or interdisciplinary collaboration. Complementary courses in music history, theory and criticism provide an integral balance to the in-depth studio nature of the program.

The program takes full advantage of the opportunities to experience and study other art forms that are provided in the School for the Contemporary Arts. Students are required to take studio courses in other art disciplines as well as interdisciplinary courses in history, theory and criticism.

**Entry to specific courses required for the Music major is by interview,** usually scheduled for early spring and late summer. Contact the general office to make an appointment.

In addition to the 76 credit hours that constitute the BFA – major in music, students are required to fulfill the 30 credit Faculty of Arts breadth requirement, within the minimum 120 credit hours required for the degree. At least 45 of the 120 credit hours must be in upper division courses.

The attention of students whose interest in music is related primarily to its historical, critical, or theoretical aspects, is directed to the art and culture studies major program, leading to a BA degree.

**Lower Division Requirements**
Students must complete a minimum of 39 credit hours including

- all of
- FPA 111-3 Issues in the Fine and Performing Arts
- FPA 140-3 Music in the 20th Century
- FPA 147-3 Introduction to Electroacoustic Music
- FPA 240-3 Contemporary Music Performance I
- FPA 244-3 Theory of Contemporary Music
- plus four of
- FPA 243-3 Gamelan I
- FPA 245-3 Music Composition I
- FPA 246-3 Music Composition II
- FPA 247-3 Electroacoustic Music I
- FPA 249-3 Selected Topics in Music I
- CMNS 258-3 Introduction to Electroacoustic Communication

plus two FPA studio courses outside Music

plus one FPA theory or history course outside Music.

**Upper Division Requirements**
A minimum of 37 upper division credit hours must be completed.

Fifteen credit hours must be chosen from the following list.

- FPA 340-3 Contemporary Music Performance II
- FPA 341-3 World Music
- FPA 343-3 Gamelan II
- FPA 344-3 Contemporary Music Analysis and Criticism
- FPA 345-3 Music Composition III
- FPA 346-3 Music Composition IV
- FPA 347-3 Electroacoustic Music II
- FPA 349-3 Selected Topics in Music I
- FPA 349-3 Selected Topics in Music II

Nine credit hours must be chosen from the following.

- FPA 400-3 Directed Study (Studio)*
- FPA 401-3 Directed Study (Theory/History)*
- FPA 402-4 Directed Study (Studio)*
- FPA 403-4 Directed Study (Theory/History)*
- FPA 404-5 Directed Study (Studio)*
- FPA 443-3 Gamelan III
- FPA 445-3 Music Composition V
- FPA 446-3 Music Composition VI
- FPA 447-3 Computer Music Composition

*content of directed studies courses must be approved by the music area.

**Theatre Major Program**
The theatre program allows students to choose a performance stream or a production and design stream. Both programs are completed within a bachelor of fine arts – major in theatre program.

The performance stream emphasizes the development of an all-round theatre artist. The studio courses in theatre are supplemented by courses in dramatic literature, theatre history, playmaking, and technical theatre.

Courses chosen from disciplines outside theatre give the program an interdisciplinary component. Students are encouraged to participate in productions and to develop their own scripts and performance pieces.

The production and design stream provides a path for students who wish to study theatre, but prefer to emphasize production and design aspects of the discipline.

In addition to the 80 credit hours required for the BFA – major in theatre, students are required to fulfill the 30 credit hour Faculty of Arts breadth requirements, within the 120 credit hours required for the degree.

Students whose interest in theatre is primarily historical, critical, or theoretical, are directed to the art
and culture studies major program, leading to a BA degree.

Lower Division Requirements for the Performance Stream
Entry to FPA 250, 252, 254 and to the major in theatre (performance stream) is by audition, usually scheduled for early spring and late summer. Contact the general office to make an appointment.

Students who wish to enrol in the theatre major program normally take FPA 150 and 151, and are advised to take other required courses, prior to auditioning for entry to the program.

A minimum of 44 credit hours must be completed including all of
FPA 111-3 Issues in the Fine and Performing Arts
FPA 120-3 Fundamental Integration of Human Movement
FPA 150-3 Introduction to Acting I
FPA 151-3 Introduction to Acting II
FPA 170-3 Introduction to Production Technology
FPA 211-3 Stage and Production Management
FPA 257-3 Context of Theatre I
FPA 270-3 Technical Theatre
plus one of
FPA 271-3 Stage and Production Management
plus two FPA studio courses other than theatre

Upper Division Requirements for the Performance Stream
A minimum of 36 credit hours must be completed including all of
FPA 300-3 Acting III
FPA 311-3 Issues in the Fine and Performing Arts
FPA 320-3 History of Art: 1940 - Present
FPA 340-3 Writing the Theatre
FPA 351-3 Acting IV
FPA 352-3 Playwriting II
FPA 354-2 Theatre Laboratory III
FPA 355-2 Theatre Laboratory IV
FPA 357-3 Context of Theatre II
FPA 426-3 Dance/Movement Analysis
plus one of
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Art, Audience, Patronage, Institutions
plus 15 credit hours of upper division FPA courses

Lower Division Requirements for the Production and Design Stream
A minimum of 39 credit hours must be completed including all of
FPA 111-3 Issues in the Fine and Performing Arts
FPA 120-3 Fundamental Integration of Human Movement
FPA 150-3 Introduction to Acting I
FPA 151-3 Introduction to Acting II
FPA 170-3 Introduction to Production Technology
FPA 171-3 Stage and Production Management
FPA 257-3 Context of Theatre I
FPA 270-3 Technical Theatre
FPA 271-3 Stage Management Practice
plus one of
FPA 125-3 Theory and Practice of Directing
FPA 237-3 Theatre Seminar II
FPA 257-3 Context of Theatre I
FPA 270-3 Technical Theatre
plus six additional credit hours of lower division FPA courses which may be drawn from any available FPA offerings.

Upper Division Requirements for the Production and Design Stream
A minimum of 41 credit hours must be completed including all of
FPA 320-3 History of Art: 1940 - Present
FPA 352-3 Playwriting II
FPA 354-3 Playwriting III
FPA 355-3 Playwriting IV
FPA 356-3 Playwriting V
FPA 357-3 Context of Theatre II
FPA 358-3 The History and Aesthetics of Cinema I
FPA 359-3 The History and Aesthetics of Cinema II
FPA 360-3 Studio in Visual Art I
FPA 361-3 Studio in Visual Art II
FPA 362-3 Drawing I
FPA 363-3 Painting II
FPA 364-3 Sculpture II
FPA 365-3 Photography II
FPA 369-3 Selected Topics in Visual Art I
FPA 390-3 Video Production II
plus one of
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Art, Audience, Patronage, Institutions
plus six additional credit hours in upper division FPA courses outside visual art.

Minor Programs

Fine and Performing Arts Minor

The FPA minor program can accommodate a wide range of interests in the fine and performing arts, but some exposure to both the practical and the theoretical aspects of art is assured by the studio course requirement at the lower division and the seminar in art and culture studies at the upper division.

Lower Division Requirements
A minimum of 12 credit hours in FPA must be completed including one studio course.

Upper Division Requirements
A minimum of 17 credit hours in FPA must be completed including at least one of FPA 311 or 313.

Film and Video Studies Minor

This minor focuses on theoretical, analytical, historical and critical aspects of film and video.

Lower Division Requirements
A minimum of 12 credit hours must be completed including the following.
FPA 136-3 The History and Aesthetics of Cinema I
FPA 137-3 The History and Aesthetics of Cinema II
plus two of
FPA 236-3 Cinema in Canada
FPA 237-3 Selected Topics in Film and Video Studies* FPA 238-3 Introduction to Screenwriting

Upper Division Requirements
A minimum of 17 credit hours must be completed including one of
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Art, Audience, Patronage, Institutions
plus 12 hours from
FPA 333-5 Introduction to Film Theory**FPA 337-3 Intermediate Selected Topics in Film and Video Studies*
FPA 338-3 Advanced Screenwriting FPA 436-3 Advanced Seminar in Film and Video Studies*
**recommended
*these courses may include studies in film and video analysis, national cinemas, genre, political cinema, etc. and may be repeated for credit when a different topic is offered.

Note: Courses devoted to film or video are occasionally offered by other departments. With prior permission, students may substitute one or more of these courses to fulfill requirements, up to a maximum of six credit hours.

Art and Culture Studies Minor

This minor program is designed for students who want to develop their understanding of the fine and performing arts. The program includes courses in the history or analysis of dance, film, music, theatre or visual art. The minor program complements other programs of study, while fostering and enriching a lifelong interest in the arts.

Lower Division Requirements
Students are required to complete a minimum of 12 credit hours as follows.
**Interdisciplinary Theory Core Course**
FPA 111-3 Issues in the Fine and Performing Arts
plus at least nine credit hours of lower division courses within the School for the Contemporary Arts. Six of these credit hours must be history or theory courses.

**Upper Division Requirements**
A minimum of 17 credit hours must be completed as follows:
- all of FPA 311-5 Interdisciplinary Studies in the Arts*
- FPA 313-5 Arts, Audience, Patronage, Institutions* (FPA 310, 311, 312, 313, 314, 315 taken prior to 99-2 will count toward this requirement.)
- *This course may be taken more than once for credit if the topic changes.
- plus seven credits of upper division history or theory courses from within the School for the Contemporary Arts.

**Dance Extended Minor**
The extended minor in dance is intended primarily for students pursuing a BA general degree with a view to teaching dance in the public schools, but may be also used in combination with other academic interests.

The program is balanced with dance technique, composition and theory, and some work in a relevant art discipline other than dance.

**Entry to FPA 122 and the extended minor in dance is by audition,** usually scheduled for early spring and late summer. Contact the general office to make an audition appointment.

Students without sufficient dance training to audition for program entry may register in FPA 120.

**Lower Division Requirements**
A minimum of 28 credit hours in dance must be completed including:
- all of FPA 122-4 Contemporary Dance I
- FPA 123-4 Contemporary Dance II
- FPA 129-3 Fundamental Integration of Human Movement
- FPA 220-4 Contemporary Dance III
- FPA 221-4 Contemporary Dance IV
- FPA 224-3 Dance Composition I
- plus one of FPA 127-3 History of Dance: Origins to the 20th Century
- FPA 227-3 History of Dance: The 20th Century
- plus one of FPA 111-3 Issues in the Fine and Performing Arts
- FPA 140-3 Music in the 20th Century
- FPA 150-3 Introduction to Acting I
- FPA 170-3 Introduction to Production Technology

**Upper Division Requirements**
A minimum of 17 credit hours must be completed including at least three of:
- FPA 322-3 Film Production Seminar
- FPA 334-3 Selected Topics in Film and Video Production
- FPA 338-3 Screenwriting II
- FPA 339-3 Directing and Acting for Film and Video
- FPA 390-3 Video Production II
- FPA 393-3 Stage Lighting
- An upper division studio course outside film may be substituted for one of the above.
- plus one of FPA 311-5 Interdisciplinary Studies in the Arts
- FPA 313-5 Arts, Audience, Patronage, Institutions
- or another upper division FPA history or critical course outside film.

**Lower Division Requirements**
A minimum of 27 credit hours must be completed including all of:
- FPA 111-3 Issues in the Fine and Performing Arts
- FPA 150-3 Introduction to Acting I
- FPA 151-3 Introduction to Acting II
- FPA 170-3 Introduction to Production Technology
- FPA 257-3 Context of Theatre I
- FPA 270-3 Technical Theatre
- plus any two lower division FPA theory or history courses.

**Upper Division Requirements**
A minimum of 17 credit hours must be completed including all of:
- FPA 357-3 Context of Theatre II
- FPA 372-3 Technical Production I
- FPA 375-3 Stage Design
- plus one of FPA 373-3 Technical Production II
- FPA 374-3 Stage Lighting
- FPA 389-3 Selected Topics in the Fine and Performing Arts II
- FPA 400-3 Directed Study (Studio)
- FPA 401-3 Directed Study (Theory/History)
- FPA 402-4 Directed Study (Studio)
- FPA 403-4 Directed Study (Theory/History)
- FPA 404-5 Directed Study (Studio)
- FPA 390-3 Video Production II

**Film Extended Minor**
This program is for students who wish to apply their studies in a broad range of other programs within the University to film and video production. Film has affinities with many other disciplines, including social sciences and humanities, English, business and communications. Students from other areas of contemporary arts may develop specific skills such as composing for film, multimedia installation, or directing actors by combining an extended minor in film with another in the appropriate area.

**Entry to all film production courses is by audition and interview.** Contact the school by early February to request an information letter and questionnaire.

**Lower Division Requirements**
A minimum of 28 credit hours must be completed including all of:
- FPA 111-3 Issues in the Fine and Performing Arts
- FPA 130-4 Fundamentals of Film
- FPA 131-4 Filmmaking I
- plus two of FPA 136-3 The History and Aesthetics of Cinema I
- FPA 137-3 The History and Aesthetics of Cinema II
- FPA 236-3 Cinema in Canada
- FPA 237-3 Selected Topics in Film and Video Studies
- plus at least eight credit hours from among FPA 230-5 Filmmaking II
- FPA 231-5 Filmmaking III
- FPA 232-3 Film Sound
- plus three credit hours from another lower division FPA course.

**Upper Division Requirements**
A minimum of 17 credit hours must be completed including at least three of:
- FPA 233-2 The Techniques of Film
- FPA 234-3 Selected Topics in Film and Video Studies
- FPA 337-3 Intermediate Selected Topics in Film and Video Studies
- FPA 436-3 Advanced Seminar in Film and Video Studies
- FPA 393-3 Techniques of Video

**Music Extended Minor**
Those who wish a BA general degree by completing two extended minors are directed to the music extended minor. A balanced introduction to music composition, theory, history and performance is supplied at the lower level. A less concentrated upper division program allows students to gain experience in a particular area. Students may use this minor for teaching in the schools.

**Entry to specific courses required for the extended minor in music is by interview,** usually scheduled for early spring and late summer. Contact the general office to make an appointment.

**Lower Division Requirements**
A minimum of 27 credit hours must be completed including all of:
- FPA 140-3 Music in the 20th Century
- FPA 145-3 Introduction to Music Composition and Theory
- FPA 147-3 Introduction to Electroacoustic Music
- plus five of FPA 240-3 Contemporary Music Performance I
- FPA 243-3 Gamelan I
- FPA 244-3 Theory of Contemporary Music
- FPA 245-3 Music Composition I
- FPA 246-3 Music Composition II
- FPA 247-3 Electroacoustic Music I
- FPA 249-3 Selected Topics in Music I
- plus one FPA lower division theory or history course outside music.

**Upper Division Requirements**
A minimum of 17 credit hours must be completed including three of:
- FPA 244-3 Theory of Contemporary Music
- FPA 245-3 Music Composition III
- FPA 246-3 Music Composition IV
- FPA 247-3 Electroacoustic Music II
- FPA 340-3 Contemporary Music Performance II
- FPA 341-3 World Music
- FPA 343-3 Gamelan II
- plus one of FPA 311-5 Interdisciplinary Studies in the Arts
- FPA 313-5 Arts, Audience, Patronage, Institutions
- FPA 390-3 Video Production II
- plus three additional credit hours in an upper division FPA course. An additional music course may be used to fulfill this requirement.

**Theatre Extended Minor**
This program is for the student with an interest in the technical, design and administrative aspects of theatre. Interdisciplinary requirements place the study of theatre in the context of contemporary art theory and practice.

**Lower Division Requirements**
A minimum of 27 credit hours must be completed including all of:
- FPA 111-3 Issues in the Fine and Performing Arts
- FPA 150-3 Introduction to Acting I
- FPA 151-3 Introduction to Acting II
- FPA 170-3 Introduction to Production Technology
- FPA 171-3 Stage and Production Management
- FPA 257-3 Context of Theatre I
- FPA 270-3 Technical Theatre
- plus any two lower division FPA theory or history courses.

**Upper Division Requirements**
A minimum of 17 credit hours must be completed including all of:
- FPA 357-3 Context of Theatre II
- FPA 372-3 Technical Production I
- FPA 375-3 Stage Design
- plus one of FPA 373-3 Technical Production II
- FPA 374-3 Stage Lighting
- FPA 389-3 Selected Topics in the Fine and Performing Arts II
- FPA 400-3 Directed Study (Studio)
- FPA 401-3 Directed Study (Theory/History)
- FPA 402-4 Directed Study (Studio)
- FPA 403-4 Directed Study (Theory/History)
- FPA 404-5 Directed Study (Studio)
- FPA 390-3 Video Production II
Disciplinary History Courses
Students must complete at least six credit hours of lower division disciplinary history or theory courses from within the School for the Contemporary Arts.

Studio Courses
Students must complete at least six credit hours of lower division studio courses from within the School for the Contemporary Arts.

Note: For some studio courses, permission to register is selective and may be based on an interview or audition. Contact the School for the Contemporary Arts for more detail regarding specific studio courses.

Art and Culture Studies Upper Division Requirements
Students are required to complete 17 credit hours as follows.

Interdisciplinary Theory Core
Students must complete both of
FPA 311-5 Interdisciplinary Studies in the Arts*  
FPA 313-5 Arts, Audience, Patronage, Institutions*
(FPA 310, 311, 312, 313, 314, 315 taken prior to 99-2 will count towards this requirement.)

This course may be taken more than once for credit if the topic changes.

plus a minimum of seven credit hours chosen from
FPA 390-3 Video Production II  
FPA 393-2 Techniques of Video  
FPA 411-3 Interdisciplinary Studies in the Contemporary Arts
FPA 412-4 Advanced Seminar in Art and Culture Studies
FPA 436-3 Advanced Seminar in Film and Video Studies

Note: Some courses listed have prerequisites beyond those that can be applied to the joint major program requirements.

Anthropology Lower Division Requirements
Students complete 20 credit hours including all of
SA 101-4 Introduction to Anthropology (A)  
SA 245-4 Cultures and Images (A)  
SA 255-4 Introduction to Social Research (SA)
plus eight additional credit hours at the 200 division chosen from the following.

SA 201-4 Anthropology of Contemporary Life*  
SA 203-4 Comparative Ethnic Relations (SA)*  
SA 217-4 Conflict, Violence and War (SA)  
SA 218-4 Illness, Culture and Society (SA)  
SA 263-4 Peasants, Proletarians and the Global Economy (A)
SA 286-4 Aboriginal Peoples and British Columbia: Introduction (A)  
SA 293-4 Special Topics in Anthropology (A)  
SA 294-4 Special Topics in Anthropology and Sociology**

SA 286-4 Aboriginal Peoples and British Columbia: Introduction (A)  
SA 293-4 Special Topics in Anthropology (A)  
SA 294-4 Special Topics in Anthropology and Sociology**

**highly recommended

Anthropology Upper Division Requirements
Students complete 20 credit hours including both of
SA 301-4 Contemporary Ethnography (A)  
SA 356-4 Ethnography and Qualitative Methods (SA)
plus 12 additional credit hours chosen from
SA 303-4 Ethnic Conflict (SA)  
SA 316-4 Tourism and Social Policy (SA)  
SA 318-4 The Anthropology of Medicine (A)  
SA 319-4 Culture, Ethnicity and Aging (SA)  
SA 320-4 Population and Society (SA)  
SA 323-4 Symbol, Myth and Meaning (A)  
SA 332-4 The Archaeology of Childhood (A)  
SA 340-4 Social Issues and Social Policy Analysis (SA)
SA 345-4 Special Topics in Anthropology and Sociology (SA)**
SA 350-4 Chinese Culture and Civilization (A)*  
SA 355-4 Quantitative Methods

**highly recommended

Anthropology Upper Division Requirements
Students complete 20 credit hours including both of
SA 301-4 Contemporary Ethnography (A)  
SA 356-4 Ethnography and Qualitative Methods (SA)
plus 12 additional credit hours chosen from
SA 303-4 Ethnic Conflict (SA)  
SA 316-4 Tourism and Social Policy (SA)  
SA 318-4 The Anthropology of Medicine (A)  
SA 319-4 Culture, Ethnicity and Aging (SA)  
SA 320-4 Population and Society (SA)  
SA 323-4 Symbol, Myth and Meaning (A)  
SA 332-4 The Archaeology of Childhood (A)  
SA 340-4 Social Issues and Social Policy Analysis (SA)
SA 345-4 Special Topics in Anthropology and Sociology (SA)**

**highly recommended

Anthropology Upper Division Requirements
Students complete 20 credit hours including both of
SA 301-4 Contemporary Ethnography (A)  
SA 356-4 Ethnography and Qualitative Methods (SA)
plus 12 additional credit hours chosen from
SA 303-4 Ethnic Conflict (SA)  
SA 316-4 Tourism and Social Policy (SA)  
SA 318-4 The Anthropology of Medicine (A)  
SA 319-4 Culture, Ethnicity and Aging (SA)  
SA 320-4 Population and Society (SA)  
SA 323-4 Symbol, Myth and Meaning (A)  
SA 332-4 The Archaeology of Childhood (A)  
SA 340-4 Social Issues and Social Policy Analysis (SA)
SA 345-4 Special Topics in Anthropology and Sociology (SA)**

**highly recommended

Anthropology Upper Division Requirements
Students complete 20 credit hours including both of
SA 301-4 Contemporary Ethnography (A)  
SA 356-4 Ethnography and Qualitative Methods (SA)
plus 12 additional credit hours chosen from
SA 303-4 Ethnic Conflict (SA)  
SA 316-4 Tourism and Social Policy (SA)  
SA 318-4 The Anthropology of Medicine (A)  
SA 319-4 Culture, Ethnicity and Aging (SA)  
SA 320-4 Population and Society (SA)  
SA 323-4 Symbol, Myth and Meaning (A)  
SA 332-4 The Archaeology of Childhood (A)  
SA 340-4 Social Issues and Social Policy Analysis (SA)
SA 345-4 Special Topics in Anthropology and Sociology (SA)**

**highly recommended

Anthropology Upper Division Requirements
Students complete 20 credit hours including both of
SA 301-4 Contemporary Ethnography (A)  
SA 356-4 Ethnography and Qualitative Methods (SA)
plus 12 additional credit hours chosen from
SA 303-4 Ethnic Conflict (SA)  
SA 316-4 Tourism and Social Policy (SA)  
SA 318-4 The Anthropology of Medicine (A)  
SA 319-4 Culture, Ethnicity and Aging (SA)  
SA 320-4 Population and Society (SA)  
SA 323-4 Symbol, Myth and Meaning (A)  
SA 332-4 The Archaeology of Childhood (A)  
SA 340-4 Social Issues and Social Policy Analysis (SA)
SA 345-4 Special Topics in Anthropology and Sociology (SA)**

**highly recommended

Anthropology Upper Division Requirements
Students complete 20 credit hours including both of
SA 301-4 Contemporary Ethnography (A)  
SA 356-4 Ethnography and Qualitative Methods (SA)
plus 12 additional credit hours chosen from
SA 303-4 Ethnic Conflict (SA)  
SA 316-4 Tourism and Social Policy (SA)  
SA 318-4 The Anthropology of Medicine (A)  
SA 319-4 Culture, Ethnicity and Aging (SA)  
SA 320-4 Population and Society (SA)  
SA 323-4 Symbol, Myth and Meaning (A)  
SA 332-4 The Archaeology of Childhood (A)  
SA 340-4 Social Issues and Social Policy Analysis (SA)
SA 345-4 Special Topics in Anthropology and Sociology (SA)**

**highly recommended

Anthropology Upper Division Requirements
Students complete 20 credit hours including both of
SA 301-4 Contemporary Ethnography (A)  
SA 356-4 Ethnography and Qualitative Methods (SA)
plus 12 additional credit hours chosen from
SA 303-4 Ethnic Conflict (SA)  
SA 316-4 Tourism and Social Policy (SA)  
SA 318-4 The Anthropology of Medicine (A)  
SA 319-4 Culture, Ethnicity and Aging (SA)  
SA 320-4 Population and Society (SA)  
SA 323-4 Symbol, Myth and Meaning (A)  
SA 332-4 The Archaeology of Childhood (A)  
SA 340-4 Social Issues and Social Policy Analysis (SA)
SA 345-4 Special Topics in Anthropology and Sociology (SA)**

**highly recommended

Anthropology Upper Division Requirements
Students complete 20 credit hours including both of
SA 301-4 Contemporary Ethnography (A)  
SA 356-4 Ethnography and Qualitative Methods (SA)
plus 12 additional credit hours chosen from
SA 303-4 Ethnic Conflict (SA)  
SA 316-4 Tourism and Social Policy (SA)  
SA 318-4 The Anthropology of Medicine (A)  
SA 319-4 Culture, Ethnicity and Aging (SA)  
SA 320-4 Population and Society (SA)  
SA 323-4 Symbol, Myth and Meaning (A)  
SA 332-4 The Archaeology of Childhood (A)  
SA 340-4 Social Issues and Social Policy Analysis (SA)
SA 345-4 Special Topics in Anthropology and Sociology (SA)**
of Labor (S)
SA 363-4 Processes of Development and Underdevelopment (SA)
SA 364-4 Urban Communities and Cultures (SA)
SA 365-4 Selected Regional Areas (SA)
SA 371-4 The Environment and Society (SA)
SA 374-4 South Africa: Socio-Political Development (SA)
SA 400-4 Canadian Ethnic Minorities (SA)
SA 416-4 Sociology of Art Forms (S)
SA 420-4 Sociology of Aging (SA)
SA 447-4 Selected Issues in Social Policy Analysis (SA)
SA 450-4 Advanced Sociological Theory (S)
SA 455-4 Special Topics in Applied Social Research (SA)
SA 460-4 Special Topics in Sociology and Anthropology (SA)**
SA 463-4 Special Topics in Development Studies (SA)
SA 497-4 Directed Readings in Sociology (S)
*highly recommended
**applicable only when the topic is sociology

**Praxis Centre for Screenwriters**
300 – 12 Water Street, Vancouver, BC, V6B 1A5, (604) 682-3100 Tel, (604) 682-7909 Fax

**Director**
P. Gruben BA (Rice)

Praxis is a professional development workshop for screenwriters and filmmakers. Intensive non-credit workshops are held twice a year for writers whose feature film scripts have been chosen through a national competition. In addition, Praxis offers public seminars throughout the year and maintains a reference library of film scripts and other materials related to film production and studies.

**School of Criminology**
2630 Diamond Building, (604) 291-3213 Tel, (604) 291-4140 Fax, www.sfu.ca/criminology

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**Professor Emeritus**
E.A. Fattah LLL (Cairo), MA, PhD (Montr), FRSCan

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P.L. Brantingham AB (Col), MA (Fordham), MSP, PhD (Florida State)
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B. Burch BA (Qu), MA (Tor), PhD (Br Col)
D.E. Chunn BA (Br Col), MA, PhD (Tor)
R.R. Corrado BA (Mich), MA, PhD (Northwestern)
C.T. Griffiths BA, MA, PhD (Montana)
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W.G. Glackman BA (Calif), MA, PhD (S Fraser)
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D. Lacombe BA (Sher), MA, PhD (Tor)*
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W. Diebolt LLB (Br Col)
D. Gustafson BA (Vic, BC), MA (Associated Mennonite Seminaries, Indiana)
D. Eaves MB, ChB (Liverpool), DPM, MRC Psych (Royal College of Physicians)
M. Hessing BA (Denver), MA (Syracuse), PhD (Br Col)
Y. Jwani BA (Br Col), MA, PhD (S Fraser)
A. Oosthoek BA (York), MA (Car)
K. Rossmo BA (Sask), MA, PhD (S Fraser)
T. Tobin LLB (Calg)

**Lecturer**
E. Elliott, BPE (Ott), MSW (Car), PhD (S Fraser)

**Associate Members**
C. Yerbury, Continuing Studies
J. Whatley, Continuing Studies

**Advisor**
Ms. M. McIlroy, 2644 Diamond Building, (604) 291-3645

**Joint appointment with sociology and anthropology**
Criminology offers courses leading to a bachelor of arts to students interested in a comprehensive, interdisciplinary approach to criminology.

The study of criminology attempts the unification of all aspects of crime by an interdisciplinary and integrative approach. The curriculum is designed to assist students to acquire an in-depth understanding of the complexities of criminal, delinquent, and deviant behavior and of society reaction to crime and deviance. Students concurrently acquire a theoretical and practical knowledge of the criminal justice system and its components, and gain insights into the philosophy, sociology, and present state of criminal law.

A wide range of disciplines including psychology, sociology and anthropology, political science, business administration, economics, philosophy, computing science, and mathematics are integrated with criminology courses into a curriculum which covers the following areas:

**Understanding Individuals, Society, the System and the Law**
- Understanding the individual in society
- Understanding human behavior
- Understanding the criminal justice system
- Understanding criminal behavior
- Understanding the law
- Understanding specific criminological problems

**Learning the Techniques**
- Research methods and techniques
- Techniques of intervention
- Techniques of management, administration and planning
- Relating theory to practice
- Field Work

This interdisciplinary program and the wide variety of criminology courses and other behavioral and social sciences integrated within it, allow students to pursue an interest in a different sector of applied criminology: crime prevention, corrections, criminal law reform and social reform.

**Enrolment Limitations**

**Admission**
The school limits admission to the upper division of its major, minor and honors programs. Entry into the major/honors or minor in the School of Criminology will be on the basis of a formal application made to the school by May 15 or by September 15, for admission to upper division effective the following September or January respectively. Students are eligible to apply for entry to the major/honors program after successful completion of 60 credit hours, including the lower division group A and group B required courses. Students are eligible to apply for entry to the minor program after successful completion of 60 credit hours including CRIM 100 or 101 or 102 in addition to CRIM 131 and 135. Students should make application to the school during the semester in which they are completing the above requirements. If completion is to take place during a summer semester, students should make application during the spring, and will be admitted for the fall semester conditional upon successful completion of the requirements in summer.

With the approval of the Office of the Dean of Arts, the School of Criminology will establish a yearly quota — the number of students to be admitted into the major/honors or minor. This quota will be established on the basis of projected available course space and school resources. In advance of each competition, the school will announce the minimum cumulative grade point average below which students will not be considered for admission. The school will receive and review all applications from those eligible for consideration, and in its screening decisions will consider all relevant materials, including cumulative grade point, practical experience, letters of recommendation and other material the student wishes to submit in support of the application.

**Continuation in Major, Honors or Minor**
To continue as a criminology major or minor, students must maintain a 2.25 CGPA. Students whose CGPA falls below 2.25 will not be allowed to register in any upper division CRIM courses including those offered through distance education. When it is restored to 2.25, students will be readmitted after review and approval of the director of undergraduate programs.

For honors continuance, a CGPA of 3.00 must be maintained. Those with a lower CGPA will not be allowed to register in CRIM 499 and, therefore, cannot be allowed to complete the program.

**Appeal Procedure**
Applicants denied admission to a criminology major/ honors/minor may appeal in writing to the school’s director. If that appeal results in a negative decision, a written appeal to the dean of the Faculty of Arts may be submitted. Appeals will be granted only in very exceptional circumstances.

**Registration Priority**
Registration priority for limited enrolment upper division seminar courses in the school will be established on the basis of cumulative GPA.

**Transfer Students**
Students transferring to Simon Fraser University from a two-year college that has articulated the first 60 credit hours of study in criminology with the School of Criminology will be considered on the basis of their college cumulative GPA (recalculated on the basis of grades received in courses transferable to the University), as well as other relevant materials.

**Major Program**
Students in the general degree program must complete a total of 120 credit hours. (see "General Information" on page 21 and the following requirements.)

Students majoring in criminology must obtain a minimum grade of C- in all required group A and group B courses.
Lower Division (normally the first 60 credit hours)

During the first four levels, students are required to complete 20 courses (60 credit hours) including at least the following.

- eight courses from group A
- seven courses from group B
- an additional five courses of general electives

The Faculty of Arts breadth requirements must be completed for graduation and the general electives should be considered for that purpose. Students may not complete the group B requirements with courses other than those listed below unless they obtain permission to do so from the school's undergraduate curriculum committee prior to taking the courses.

Group A – Lower Division Requirements

Students are required to complete all of

CRIM 101-3 Introduction to Criminology
CRIM 103-3 Psychological Explanations of Criminal and Deviant Behavior
CRIM 104-3 Sociological Explanations of Criminal and Deviant Behavior
CRIM 131-3 Introduction to the Criminal Justice System — A Total System Approach
CRIM 135-3 Introduction to Canadian Law and Legal Institutions: A Criminal Justice Perspective
CRIM 220-3 Research Methods in Criminology
CRIM 230-3 Criminal Law

plus one of

CRIM 203-3 Historical Reaction to Crime and Deviance
CRIM 210-3 Law, Youth and Young Offenders
CRIM 213-3 Introduction to Women and Criminal Justice
CRIM 231-3 Introduction to the Judicial Process
CRIM 241-3 Introduction to Corrections
CRIM 251-3 Introduction to Policing

Group B – Lower Division Requirements

Students are required to complete seven courses, including all of

PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
SA 150-4 Introduction to Sociology

plus one of

POL 100-3 Introduction to Politics and Government
POL 151-3 The Administration of Justice

plus one of

PSYC 210-4 Data Analysis in Psychology
STAT 101-3 Introduction to Statistics*
STAT 203-3 Introduction to Statistics for Social Sciences*

*of the two statistics courses, STAT 203 is recommended for students in criminology.

plus one of

PHIL 001-3 Critical Thinking
PHIL 100-3 Knowledge and Reality
PHIL 110-3 Introduction to Logic and Reasoning
PHIL 120-3 Introduction to Moral Philosophy
PHIL 150-3 History of Philosophy I
PHIL 151-3 History of Philosophy II
PHIL 220-3 Introduction to Social and Political Philosophy
PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
PHIL 280-3 Introduction to Existentialism

plus one of

CMPT 104-2 Computer Programming
CMPT 201-4 Data and Program Abstraction
ECON 101-3 The Canadian Economy
ENGL 199-3 Introduction to University Writing
HIST 101-3 Canada to Confederation
HIST 102-3 Canada since Confederation
HIST 201-3 The History of Western Canada
PHIL 210-4 Natural Deductive Logic
POL 210-3 Introduction to Political Philosophy
POL 221-3 Introduction to Canadian Government
POL 222-3 Introduction to Canadian Politics
POL 251-3 Introduction to Canadian Public Administration
PSYC 106-3 Social Issues
PSYC 221-3 Introduction to Cognitive Psychology
PSYC 241-3 Introduction to Abnormal Psychology
PSYC 250-3 Child Psychology
PSYC 260-3 Introduction to Social Psychology
PSYC 270-3 Introduction to Personality
SA 202-4 Post-Industrial Society
SA 203-4 Comparative Ethnic Relations
SA 250-4 Introduction to Sociological Theory
SA 260-4 Individual and Society

General Electives – Lower Division Requirements

Students complete another five general elective courses chosen from group A, group B, or another 100/200 level courses or the transfer equivalent thereof. Refer to the Faculty of Arts breadth requirements when selecting general electives.

Note: Declared criminology majors will normally complete all lower division group A and B requirements before proceeding to upper division. Students may proceed to upper division courses without having completed these lower division courses only with the express written approval of the criminology undergraduate curriculum and articulation committee.

Upper Division

Among the remaining credit hours required for the degree, students must complete a minimum of 48 credit hours in courses numbered 300 and above, of which at least 36 credit hours must be in upper division courses in criminology chosen from group A below. The remaining 12 credit hours may be taken from group A and/or from group B below.

Group A – Upper Division Requirements

Students are required to complete a minimum of 36 credit hours including the following three courses.

CRIM 300-3 Current Theories and Perspectives in Criminology
CRIM 320-5 Advanced Research Issues in Criminology
CRIM 330-3 Criminal Procedure and Evidence

plus a minimum of 25 credit hours from criminology upper division courses (excluding CRIM 301). Please see “Criminology” on page 225 for the listing of upper division criminology courses.

Group B – Upper Division Requirements

An additional 12 required hours may be chosen from upper division courses in the following disciplines and/or from upper division criminology courses (excluding CRIM 301).

Note: Many upper division courses in these disciplines have prerequisites or registration restrictions in place, as shown each semester in the Course Timetable and Exam Schedule. It is in doubt as to your eligibility to register in a particular non-criminology courses, you are advised to contact the undergraduate advisor in the appropriate department well in advance of any attempt to register.

Archeology (ARCH)
Business Administration (BUS)

Joint Major in Psychology and Criminology

Please refer to the Department of Psychology section for requirements.

Joint Major in Sociology and Anthropology and Criminology

Please refer to the Department of Sociology and Anthropology section for requirements.

Honors Program

The School of Criminology has a structured honors program for its outstanding undergraduate students. The program dovetails with the criminology major and consists of two semesters of advanced course work and supervised research. Honors students are required to write and defend a short thesis. Students are admitted as a group in September of each year, and must complete and defend their theses by the following April.

Students normally enter the program with a minimum of 110 credit hours (see below) but may enter with less and take one additional course during the first program semester with permission of the director of undergraduate programs. Students are required to complete a minimum of 132 credit hours with grade point averages in accordance with general and Faculty of Arts graduation requirements including the requirement of a minimum cumulative grade point average of not less than 3.00 (3.50 for first class honors).

Please see “General Information” on page 21. Also see “Graduation Requirements” on page 116.

Lower Division

Lower division requirements are the same as for the major in criminology.

Upper Division

Students must complete a minimum of 72 credit hours as follows: a minimum of 60 credit hours from criminology and/or group B courses numbered 300 and above. Of these 60 hours, a minimum of 50 credit hours must be selected from upper division criminology and must include CRIM 300, 320, 330, 490, 491 and 499.

The remaining credit hours, to satisfy degree requirements, may be selected at the discretion of the student. Students are reminded that Faculty of Arts breadth requirements must be completed for
graduation and the general electives should be considered for that purpose. To continue in the program, students must maintain a cumulative grade point average of 3.0. Those students whose cumulative grade point average falls below a 3.0 will not be allowed to register in CRIM 499 and therefore will not be allowed to complete the program.

**Admission Procedure**

Eligible students are normally identified by the school and invited to apply for program admission. The selection process normally takes place each April for admission to the following September. Students who feel they are eligible may also apply to the director of undergraduate programs.

**Minor Program**

Students who minor in criminology must complete one of CRIM 100-5 Introduction to Criminology I CRIM 101-3 Introduction to Criminology CRIM 102-5 Introduction to Criminology II and both of CRIM 131-3 Introduction to the Criminal Justice System — A Total System Approach CRIM 135-3 Introduction to Canadian Law and Legal Institutions: A Criminal Justice Perspective and at least 18 other credit hours in criminology courses numbered 300 and above. A minimum grade of C- in each of CRIM 100/101/102, 131 and 135 is also required.

**Extended Minor Program**

This program consists of the lower division requirements for a major and the upper division requirements for a minor. Certain other criteria may be set by individual departments and programs. A student must have their program approved by the advisor for the extended minor program.

**Post Baccalaureate Diploma**

Advisor
Ms. M. McIlroy, 2644 Diamond Building, (604) 291-3645

This program is for students who have already completed a bachelor’s degree in a discipline other than criminology to expand their knowledge of criminology through a recognized program. This diploma allows students to pursue individual interests in specific areas of criminology and is available through distance education courses, on campus and Simon Fraser University at Harbour Centre.

For information about post baccalaureate diploma program general regulations, refer to Continuing Studies.

**Program Requirements**

- completion of lower level prerequisite courses CRIM 100 or 101 or 102 plus CRIM 131 and 135
- successful completion of an approved program comprised of 30 credit hours of third and fourth year courses
- Of the 30 credit hours, a minimum of 15 must come from criminology courses numbered 300/400 and the remaining from any upper division on campus or distance education courses, or a combination of both
- minimum GPA of 2.5 on courses applied toward the diploma
- completion of the diploma within five years of admission to the program

For information, contact the advisor in criminology.

**Application Deadlines**

Written application for admission to the program must be received by the advisor no later than:
- February 1 (summer semester admission)
- April 30 (fall semester admission)
- September 30 (spring semester admission)

Students must make separate application for admission to the University, in accordance with University deadlines for the appropriate semester.

Applications received by the School of Criminology after the deadline will be considered only if resources permit following consideration of those applications received on time.

**Certificate Programs**

Advisor
Ms. M. McIlroy, 2644 Diamond Building, (604) 291-3645

The University offers two criminology certificate programs: the general certificate in criminology and the advanced certificate in criminology. Both certificates are primarily directed toward undergraduates and criminal justice professionals, but are open to all. Those who hold a bachelor’s degree (in any field of study) should refer to the post baccalaureate diploma in criminology.

The certificates are not designed to satisfy specific employment credentials. Rather, the general certificate provides a basic theoretical and descriptive foundation in criminology, and the advanced certificate program provides an in-depth understanding of criminology through more intensive study.

Courses in these certificate programs are offered through the Centre for Distance Education and assist students in understanding the complexities of illegal behaviours, as well as society’s reactions to these behaviours.

**Admission Requirements**

Students applying for admission must meet undergraduate admission deadlines, as set out in this Calendar. Application forms, accompanied by official documents, must be submitted to the Office of the Registrar. In addition to applying for University admission, all new students must apply in writing to the School of Criminology for admission to the certificate programs. Letters should be submitted to the advisor.

**General Certificate**

**Program Requirements**

- successful completion of 60 credit hours, including 12 courses as below
- a minimum grade of C- in each of the courses required for the certificate
- the majority of criminology courses must be completed through the Centre for Distance Education
- completion of the certificate within five years of admission to the program

**Required Courses**

both of
- CRIM 100-5 Introduction to Criminology I
- CRIM 102-5 Introduction to Criminology II

or all three of
- CRIM 101-3 Introduction to Criminology
- CRIM 103-3 Psychological Explanations of Criminal and Deviant Behavior
- CRIM 104-3 Sociological Explanations of Criminal and Deviant Behavior

plus all of

**Advanced Certificate**

**Program Requirements**

- completion of SFU’s general criminology certificate, or two years (equivalent to 60 SFU credit hours) of accredited course work at a university or community college, or completion of a criminology certificate or diploma from a BC regional college prior to entering the advanced certificate program

**Note:** Students without a criminology certificate or diploma must take CRIM 100 or 101 or 102 plus CRIM 131 and 135, and obtain at least C- in each.

- successful completion of 18 credit hours from criminology courses numbered 300/400 (refer to the group A criminology courses in the criminology major program section)
- The majority of courses must be completed through distance education (consult the Centre for Distance Education for a list of criminology distance education courses).
- completion of the certificate within five years of admission to the program.

**Co-operative Education Program**

This program is offered to qualified students who wish to acquire practical experience in criminology. The program entails planned semesters of study and employment in the area of the student’s choice. To be admitted, students must have completed 30 credit hours, including
Department of Economics

3602 Diamond Building, (604) 291-3508 Tel, (604) 291-5944 Fax, www.sfu.ca/economics

Chair
(to be announced)

Professors Emeriti
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H.G. Grubel BA (Rutgers), PhD (Yale)
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Telus Endowed University Professor
R.G. Harris BA (Qu), PhD (Br Col), FRScAn

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J.F. Chant BA (Br Col), PhD (Duke)
J.W. Dean BSc (Car), MA, PhD (Harv)
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G. Dow BA (Amherst), MPP, PhD (Mich)
S.T. Easton AB (Oberlin), AM, PhD (Chic)
R.G. Harris BA (Qu), PhD (Br Col), FRScAn
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P.E. Kennedy BA (Qu), PhD (Wis)
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C.G. Reed BA, MA, PhD (Wash)
R.W. Schwindt AB, PhD (Calif)*

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S. Mongrain BA, MA (Laval), PhD (Qu)
K. Pendakur BA, MA (Br Col), PhD (Calif)

Advisors
Ms. S. King, 3663 Diamond Building, (604) 291-4543/3508
Mrs. G. Seifert, 3657 Diamond Building, (604) 291-4571/3508

* joint appointment with business administration

The Department of Economics offers honors and major programs leading to the BA degree. The department also offers joint honors and joint major programs in co-operation with the Faculty of Business Administration and the Departments of Political Science, Geography, and Latin American Studies. A minor program is offered for students who are majoring or taking honors programs in disciplines other than economics.

Admission Information

The Department of Economics limits admission to its major, honors and minor programs (including joint honors and joint majors). Entry will be on the basis of a formal application made to the department. To be considered for these programs, students must have completed lower division required courses with at least a C- grade.

On the recommendation of the Department of Economics and the Office of the Dean of Arts, the University will establish a yearly quota — the number of students to be admitted into major, honors, and minor programs. This quota will be established on the basis of projected available course space and department resources. In advance of each semester, the department will announce the minimum cumulative GPA below which students will not be normally considered.

Students may apply for admission to the major, minor or honors programs after completing 45 credit hours. Students will be selected on the basis of their CGPA and performance in required courses.

Applications for entry should be filed with the departmental advisor. Students are required to provide the appropriate documentation. Students whose applications are not approved may appeal to the department's undergraduate program chair.

Non-Majors Access to Courses

Lower Division
Access to lower division economics and BUEC courses is available to all students meeting the prerequisites.

Upper Division ECON Courses
Non-majors who meet the current CGPA entrance requirements have the same access as approved students in economics programs to upper division economics courses.

Upper Division BUEC courses
Non-majors who meet the current CGPA entrance requirements have the same access as approved students in economics and Business programs to upper division BUEC courses.

Transfer Students
Students transferring to Simon Fraser University will be considered on the basis of their entrance CGPA (calculated for grades received in courses transferable to the University). Transfer students must be admitted to the University before they may apply for admission to the department's major, honors or minor programs. Students who meet these requirements will be admitted to the program under a provisional status and will retain the provisional status until 15 credit hours have been completed at Simon Fraser University. To continue, the CGPA for these 15 credit hours must equal or exceed the CGPA entrance requirement for non-transfer students.

Exchange and Visiting Students
Exchange and visiting students must obtain approval from the Department of Economics prior to registering in upper division ECON/BUEC courses.

Requirements for the BA Degree

All majors and honors students must meet requirements for the BA degree in either the honors or general program as described in the Faculty of Arts section. Students should fulfill Faculty requirements early in their programs and obtain broadly based backgrounds before entering upper division courses. Major and honors students must complete the lower division requirements for their respective degree in the first 60 credit hours prior to program acceptance (including joint programs).

For a course to be accepted as fulfilling a prerequisite, or for a required course to be accepted in an economics program (i.e., major, joint major, honors, joint honors, minor) students must have a grade of C- or higher.

Major Program

Lower Division Requirements
Students must complete the following courses with at least a C- prior to admission to the major program.

BUEC 223-3 Elementary Economic and Business Statistics I
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
MATH 157-3 Calculus for the Social Sciences I (or equivalent)

Two 200 division ECON or BUEC courses (in addition to BUEC 232)

Plus:
one 000, 100 or 200 level English or philosophy course
and one 100 or 200 level history or political science course
and one 100 or 200 level sociology/anthropology or psychology course
and one 100 or 200 level biological sciences, chemistry or physics course

Upper Division Requirements

With the exception of BUEC 333, students normally cannot enter ECON upper division courses during the first 60 credit hours without permission of the undergraduate chair. If BUEC 333 is taken in the first 60 credit hours, this course will not count toward the department or faculty upper division requirements.

Normally, majors will include 45 credit hours of upper division credit in their last 60 credit hours of work toward the degree.

At least 30 credit hours of upper division credit in economics is required, including

BUEC 333-3 Elementary Economic and Business Statistics II
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory
and at least one 400 division ECON or BUEC course (excluding ECON 431, 435, BUEC 433 and 485)
Group Requirements
To meet the requirements for the major program, students must include at least one of the following, with a grade of C- or higher.
ECON 102-3 Contemporary World Economies
ECON 110-3 Foundations of Economic Ideas
ECON 208-3 History of Economic Thought
ECON 250-3 History of Economic Development A
ECON 252-3 History of Economic Development B
ECON 309-5 Introduction to Marxian Economics
ECON 353-5 Economic History of Canada
ECON 355-4 Economic Development
ECON 395-5 Comparative Economic Systems
ECON 404-3 Honors Seminar in Methodology of the Social Sciences
ECON 407-3 Seminar in Marxian Economics
ECON 409-3 Seminar in Economic Thought
ECON 450-3 Seminar in Quantitative Economic History
ECON 451-3 Seminar in European Economic History
ECON 455-3 Seminar in Economic Development

Joint Major in Latin American Studies and Economics
Please refer to the Latin American Studies section for requirements.

Honors Program
In addition to the lower division courses for the economics major, students must receive credit for at least 50 upper division credit hours in economics including the following.
BUEC 333-3 Elementary Economic and Business Statistics II
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory
ECON 343-5 Introduction to Mathematical Economics
ECON 402-3 Advanced Topics in Microeconomics
ECON 403-3 Advanced Topics in Macroeconomics
ECON 435-5 Quantitative Methods in Economics
ECON 499-6 Honors Seminar in Economics

Group Requirements
Students must also include at least two courses from the economics group requirement (see “Group Requirements” on page 133) and are responsible for ensuring they have also fulfilled all requirements for an honors degree set up by the Faculty of Arts.

Joint Major in Business Administration and Economics
Lower Division Requirements
Requirements are the same as for the economics major and business administration major.

Upper Division Requirements
Students must complete at least 29 credit hours of upper division credit in business administration or BUEC including the core courses with the following exception: BUS 207 and 303 are waived.
BUEC 333, which must be taken, will count as upper division economics hours rather than upper division business administration hours.

- three courses beyond the core must be completed within the requirements of a single concentration
- at least two 400 division BUS or BUEC courses (excluding practicum courses and BUS 478) must be completed at Simon Fraser University with a minimum CGPA of 2.75.

Group Requirements
Students must include at least two courses from the economics group requirements. For information, see “Group Requirements” on page 133.

Joint Major in Economics and Political Science
For requirements, see “Joint Major in Political Science and Economics” on page 155.

Joint Major in Geography and Economics – Environmental Specialty
For requirements, see “Joint Major in Geography and Economics – Environmental Specialty” on page 140.

Minor Program
Lower Division Requirements
A minimum C- grade in all of the required courses listed below is required.
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics

Upper Division Requirements
At least 15 upper division credit hours in economics or BUEC courses, taken following the completion of 60 credit hours are required. A maximum of nine ECON upper division credit hours from another institution can be applied to the minor in economics.

Note: Students majoring in business administration may not count BUEC 333 as part of the required credit hours in economics.

Co-operative Education
This co-op education program, for qualified students who wish to acquire practical experience in economics, entails planned semesters of study and employment in the student’s choice of area.

To be eligible for admission to the co-operative education program, students must have completed 30 credit hours including ECON 103 (or 200) and ECON 105 (or 205). At least 12 of these 30 credit hours must be completed at Simon Fraser University with a minimum CGPA of 2.75.

Arrangements for work semesters are made through the Faculty of Arts co-op co-ordinator at least one semester in advance. Refer to the Co-operative Education section for further details.

Department of English
Chair
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R.N. Maud AB, PhD (Harv)
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S. O’Toole BA (C’mant), MA (Calif State), PhD (Yale)
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M. Stieg BA (Reed), MA, PhD (Wash)
D. Stout BA (McM), MA (Tot)
J. Sturrock BA, MA (Oxf), PhD (Br Col)
J. Zaslow BA (Case W Reserve), PhD (Wash)*

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M.A. Gillies BA (Alta), MPhil, DPhil (Oxf)
M.D. Harris BA (Harv), PhD (Buffalo)
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M.A. Sluck BA (Mcm), MA, PhD (Tor)*

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M. Linley BA (Wlaur), MA, PhD (Qc)
K.J. Peters BA (Tabor), MA (Wchita State), PhD (Nebraska)
PM. St. Pierre BA (Br Col), MA (Qu), PhD (Syd)

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S. Roberts BA, MA (S Fraser)

Lecturers
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R. Ramsey BA, MA (Br Col), PhD (Tor)

Laboratory Instructors
M. Sawatsky BA, MA (S Fraser)
W. Strachan BA (McG), MA (Mich), PhD (S Fraser)
M. Valiquette BA, MA (S Fraser)

Advisors
Ms. B. Thorburn, 6133 Academic Quadrangle, (604) 291-4835
Ms. H. Newcombe, 6137 Academic Quadrangle, (604) 291-3371

*A joint appointment with humanities

The associate chair and other faculty are available to give advice about the Department of English. Enquire at the departmental office. Students planning to enter the honors program are particularly encouraged to consult with departmental advisors.

Major Program

Lower Division Requirements

Normally, an English major, before proceeding to upper division English courses, shall obtain credit or standing for two of
ENGL 101-3 Introduction to Fiction
ENGL 102-3 Introduction to Poetry
ENGL 103-3 Introduction to Drama
ENGL 104-3 Introduction to Prose Genres
ENGL 105-3 Introduction to Issues in Literature and Culture
ENGL 199-3 Introduction to University Writing
and both of
ENGL 204-3 Medieval and Renaissance Literature
ENGL 205-3 Seventeenth and Eighteenth Century Literatures in English
and two of
ENGL 206-3 19th Century Literatures in English
ENGL 207-3 20th Century Literatures in English
ENGL 210-3 Advanced University Writing
ENGL 212-3 Introduction to the Study of Language
ENGL 214-3 Introduction to the Study of Rhetoric
ENGL 216-3 Introduction to Critical Approaches to Literature

Any one, but not more than one, of ENGL 101, 102, 103, 104, 105 and 109 may be replaced by any three unspecified transfer credits in English. However, to fulfil the requirements for the major in English, students may only use one of ENGL 199, 210 or a college or university writing course that SFU recognizes as a transferable English credit [e.g. ENGL (3) – Writing].

A student who enters the University with 18 transfer credits in English will be deemed to have met the department’s lower division requirements for a major in English provided those credits include any one of ENGL 101, 102, 103, 104, 105 or 109; one of ENGL 204 or 205; and one of ENGL 206, 207, 210, 212, 214 or 216. However, students may only use one of ENGL 199, 210 or a college or university writing course that SFU recognizes as a transferable English credit [e.g. ENGL 3 – Writing] towards the 18 credits. Students declaring a major in English and found deficient in the department’s lower division requirements must make up the deficiency. Such make up normally shall be attempted before the student takes upper division courses in English, but the department may permit it to be attempted concurrently or to be deferred in order to avoid timetable conflicts or for other good cause.

Upper Division Requirements

An English major must obtain 32 hours in upper division English courses, one of which must come from within the series ENGL 300 to 310; one must come from within the series ENGL 312 to 322; one must come from within the series ENGL 354 to 366; and the remainder may come from anywhere within the series ENGL 300 to 446. All of these courses may be taken in any order. Exceptionally, and only with the permission of the department, other English courses of equivalent content may be substituted for those required in the series 300 to 310, 312 to 322, and 354 to 360. With the permission of the department, up to eight credit hours derived from courses on literature given by other departments may be substituted for up to eight hours in upper division English courses.

Honors Program

This program is intended for the student who has a special interest in English literature, and wishes to pursue studies beyond the course work required for the major. The program requires the study of theory and criticism in ENGL 364 and 366, and, with the honors essay, concentrated independent research and writing on a topic of the student’s choice. Students proposing to enter honors English should take the same lower division English courses as English majors. On completion, students may apply for admission to the honors program. A GPA of 3.3 in all English courses taken at Simon Fraser University is required for acceptance and continuance in the program but does not in itself guarantee either.

Normally, a student in honors English must obtain 52 credit hours in upper division English courses, one of which must be from within the series ENGL 300 to 306; one must from within the series ENGL 308 to 312; one from within the series 314 to 322; one from within the series 354 to 360; four must be ENGL 364, 366, 494 and 496; and the remainder may come from anywhere within the series ENGL 300 to 446. Exceptionally, and only with permission of the department, other English courses of equivalent content may be substituted for those required in the series 300 to 306; 308 to 312; 314 to 322; and 354 to 360. With permission of the department, up to eight credit hours derived from literature courses given by other departments may be substituted for up to eight credit hours in upper division English courses. No courses from other departments may be substituted for the honors courses ENGL 494 and 496. A grade of B or higher must be achieved in the honors graduating essay (ENGL 496) in which the program culminates.

Minor Program

For a minor in English a student must obtain credit or standing in any two of
ENGL 101-3 Introduction to Fiction
ENGL 102-3 Introduction to Poetry
ENGL 103-3 Introduction to Drama
ENGL 104-3 Introduction to Prose Genres
ENGL 105-3 Introduction to Issues in Literature and Culture
ENGL 199-3 Introduction to University Writing

Any one but not more than one of ENGL 101, 102, 103, 104, 105 and 199 may be replaced by any one of ENGL 210, 212, 214, or 216; or by any three unspecified transfer credits in English. However, to fulfil the requirements for the minor in English, students may only use one of ENGL 199, 210 or a college or university writing course that SFU recognizes as a transferable English credit [e.g. ENGL 3 – Writing].

Students must also obtain credit or standing in two of the following courses, one of which must be ENGL 204 or 205:
ENGL 204-3 Medieval and Renaissance Literature
ENGL 205-3 17th and 18th Century Literatures in English
ENGL 206-3 19th Century Literatures in English
ENGL 207-3 20th Century Literatures in English

Students must also obtain 16 credits in upper division English courses, of which one must be from the series ENGL 300 to 322. No courses from other departments may be substituted for the English courses which make up the minor.

Languages Other Than English

Most graduate schools require some proficiency in one or two languages other than English. Those who contemplate graduate studies in this field are advised to include language courses other than English in their programs.

Joint Major in English and French Literatures

Program information may be found in the French section.

Joint Major in English and Humanities

Program information may be found in the Humanities section.

Joint Major in English and Women’s Studies

Program information may be found in the Women’s Studies section.

Extended Minor Program

An extended general minor consists of the lower division requirements for a major and the upper division requirements for a minor. Approval by the Department of English advisor is required for an extended minor in English.

Co-operative Education Program

This program is designed for students who wish to acquire work experience in areas related to English studies. The program entails planned semesters of study and employment in an area of the student’s choice.

To be admitted to this program, students must have completed 30 credit hours with a minimum CGPA of 3.0. Prior to admission, students must have completed five English courses (15 credit hours of credit) including the lower division requirements for a minor in English.
College transfer students must complete at least 15 credit hours at Simon Fraser University before becoming eligible for admission to the co-operative education program. They also must satisfy the requirements shown above, or the equivalent.

Transfer students who have participated in co-operative education programs elsewhere may be credited with the semester(s) already taken. The applicability of such semesters depends on the evaluation.

Arrangements for the work semesters are made through the Faculty of Arts co-operative education co-ordinators.

Interested students should contact the Department of English for further information. Also, refer to the Co-operative Education section.

First Nations Studies Program

6188 Academic Quadrangle, (604) 291-5595 Tel, (604) 291-4989 Fax

Associate Professor
M. Boetscher-Ignace MA (Georg August Universitat), PhD (S Fraser), co-ordinator, SCES/SFU Program in Kamloops

Advisor
Ms. H. Coleman, 6188 Academic Quadrangle, (604) 291-5595

*joint appointment with sociology and anthropology

The minor program offers courses in the study of traditional and contemporary issues involving the aboriginal peoples of North America and Canada in particular. Designed for both First Nations students and non-Native students, its focus is on traditional cultures, languages and histories of First Nations, as well as such issues as Indian-White relations, the development of federal and provincial policy towards Native peoples, aboriginal rights and title questions, issues of economic development and self-government and gender and intergenerational issues.

The objective of the minor is to present and examine critically the above issues, taking into account the perspectives of aboriginal peoples. It will expose students to research methods pertinent to past, present and future issues affecting aboriginal peoples. In this respect, it is especially relevant for First Nations students who wish to put knowledge of Native issues and research skills to practice in serving their communities and nations.

This program may be taken in conjunction with any major or honors bachelor’s degree, or with a bachelor of general studies degree. It is expected that First Nations studies courses will be taught by faculty with appointments in First Nations or joint appointments in First Nations and other disciplines.

Lower Division Requirements

At least nine lower division credit hours are required including

FNST 101-3 The Cultures, Languages and Origins of Canada’s First Peoples
FNST 201-3 Canadian Aboriginal Peoples’ Perspectives on History
and at least one course from
ARCH 200-3 Special Topics in World Prehistory (when topic is ancient peoples of British Columbia)
ARCH 223-3 The Prehistory of Canada
BISC 272-3 Special Topics in Biology (when topic is Native Ethnobotany)

HIST 201-3 The History of Western Canada
LING 231-3 Introduction to an Amerindian Language I
LING 232-3 Introduction to an Amerindian Language II
LING 260-3 Language, Culture, and Society (when topic appropriate)
SA 286-4 Native Cultures of British Columbia (A)
STAT 203 (formerly 103) (or equivalent) and SA 255 (or equivalent course in research methods) are strongly recommended.

Other courses which have First Nations content may be applied toward the minor as an elective, subject to approval by the steering committee.

Upper Division Requirements

At least 15 upper division credit hours are required, including at least six credit hours from
FNST 301-3 Issues in Applied Native Studies Research
FNST 401-3 Aboriginal Rights and Government Relations
FNST 402-3 The Discourse of Native Peoples

If all of the above courses are completed, the extra three credit hours may be applied to the required nine credit hours as specified below.

Students must also complete at least nine credit hours from
ARCH 332-3 Special Topics in Archaeology I*
ARCH 333-3 Special Topics in Archaeology II*
ARCH 360-5 Native Cultures of North America
ARCH 378-3 Pacific Northwest North America
ARCH 379-3 American Southwest
ARCH 386-3 Archaeological Resource Management
ARCH 479-3 Directed Readings*
CRIM 419-3 Indigenous Peoples, Crime, and Criminal Justice
FNST 301-3 Issues in Applied First Nations Studies Research**
FNST 401-3 Aboriginal Rights and Government Relations**
FNST 402-3 The Discourse of Native Peoples**
FNST 326-4 The History of Native People in Canada
LING 331-3 Description and Analysis of a First Nations Language I
LING 332-3 Description and Analysis of a First Nations Language II
LING 430-3 Native American Languages
LING 431-3 Language Structures I***
LING 432-3 Language Structures II***
SA 386-4 Native Peoples and Public Policy
SA 387-4 Canadian Native Peoples
SA 388-4 Comparative Studies of Minority Indigenous Peoples

*when offered as an archaeological field school. This combination counts as only one course for satisfying requirements for the minor.

**when not used toward requirement of six credit hours.

***only when the topic is a native language.

Other courses which have First Nations content may be applied toward the minor as electives, subject to approval by the steering committee.

Credit accumulated in the certificate in native studies research may be applied toward the minor in First Nations studies.

Co-operative Education

In conjunction with other departments in the Faculty of Arts, and other faculties offering the co-operative education program, eligible students wishing to undertake a minor in First Nations studies may apply to participate in the co-op program for work placements in native organizations or with employers in the private, public and non-profit sectors.

Certificate in Native Studies Research

This program provides a unique opportunity to explore the history and prehistory, culture, language and contemporary situation of Canadian native peoples, and to acquire basic skills in researching native issues. Particular emphasis is on the study of native people in the interior of British Columbia.

Offered through the Simon Fraser University/Secwépemc Cultural Education Society (SCES) Program in Kamloops, all program components can be taken at the SCES Centre on the Kamloops (Shuswap) Indian reserve, and normally require five full time study semesters. It can be completed as a two year program, or be part of a BA degree program.

The certificate is especially suitable for native individuals who wish to gain proficiency in studying native issues and to acquire social research skills which can be put to use in their communities and nations. It is also open to non-native students who wish to acquire skills in the above areas.

Admission Requirements

Normally, Simon Fraser University admission requirements apply. Students may be admitted under regular or special entry categories. Application assistance and advice is available at the SCES Centre in Kamloops.

Program Requirements

• successful completion of 30 credit hours, of which 21 credit hours are earned by completing six required courses. The remaining nine credit hours are selected from the specified list of optional courses.

• completion of a practicum, where the student can apply acquired research skills in a supervised setting.

• minimum grade point average of 2.0 calculated on all courses applied to the certificate. Duplicate courses are counted only once.

• completion of the certificate normally within five years of program admission.

Core Courses

ARCH 273-3 Archaeology of the New World
ARCH 262-3 The History of Western Canada
ARCH 304-5 Introduction to Practical Phonetics
ARCH 366-4 Introduction to Social Research
SA 286-4 Native Cultures of British Columbia

and one of
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology

Optional Courses

ARCH 200-3 Special Topics in World Prehistory*
ARCH 332-3 Special Topics in Archaeology I*
ARCH 333-3 Special Topics in Archaeology II*
ARCH 336-3 Special Topics in Prehistoric and Indigenous Art*
ARCH 360-5 Native Cultures of North America
BISC 272-3 Special Topics in Biology*
BISC 372-3 Special Topics in Biology*
CRIM 419-3 Indigenous Peoples, Crime, and Criminal Justice
FNST 101-3 The Cultures, Languages and Origins of Canada’s First Peoples
FNST 201-3 Canadian Aboriginal Peoples’ Perspectives on History
FNST 301-3 Issues in Applied First Nations Studies Research
FNST 401-3 Aboriginal Rights and Government Relations
FNST 402-3 The Discourse of Native Peoples
HIST 326-4 The History of Native Peoples

*when topic appropriate

**joint appointment with sociology and anthropology

***only when the topic is a native language.
LING 100-3 Communication and Language
LING 231-3 Introduction to an Amerindian Language I
LING 232-3 Introduction to an Amerindian Language II
LING 260-3 Language, Culture and Society
SA 100-4 Perspectives on Canadian Society
SA 201-4 Anthropology of Contemporary Life
SA 292-4 Special Topics in Sociology
SA 293-4 Special Topics in Anthropology
SA 384-4 Native Peoples and Public Policy
SA 387-4 Canadian Native Peoples
SA 388-4 Comparative Studies of Minority Indigenous Peoples
SA 396-4 Selected Regional Areas
WS 200-3 Women in Cross-Cultural Perspective
*when topic is appropriate
The program's practicum component can be fulfilled by selecting one of three options. Some courses within each option have prerequisites; accordingly, students should plan their programs in advance.

Option 1
SA 141 is required. This is the first semester of the co-operative education program in sociology and anthropology. The employment situation must be acceptable to the Native Studies research program.

Option 2
At least five credit hours of a field school in archaeology, involving survey and excavation of a native heritage site are required.

Option 3
SA 360 is required, which permits a faculty member to supervise an independent field research project acceptable to the Native Studies research program.

Note: Some courses taken at the Burnaby Mountain or Harbour Centre campuses may count towards the certificate, subject to certificate steering committee approval. A three course maximum (totalling not more than 10 credit hours) of comparable content and level from an approved college or university may be transferred toward program requirements, subject to University regulations governing transfer credits, and subject to approval of the certificate steering committee. Credits applied to this certificate may be applied also to major or minor programs or to a bachelor's degree under the normal regulations governing those programs, but may not be applied to another Simon Fraser certificate or diploma.

Department of French
Chair
G. Poirier BA (Laval), MA, PhD (McG)
Professors
R. Davison BA, MA, PhD (McG)
M.C. Fauquenoy LèsL, Dr3rdCy (Paris), Chev. Palms Acad (France), FRScCan
G. Merler BA (Br Col), MA, PhD (Laval)
Associate Professors
G. Poirier BA (Laval), MA, PhD (McG)
J. Viswanathan LèsL, MA (Liège), MA (Ill), DèsL (Liège)
P. Wrenn BA, MA, PhD (Tor)
Assistant Professors
R. Canac-Marquis BA, MA (UQAM), PhD (U Mass, Amherst)
S. Steele BA, MA (Br Col), PhD (Tor)
Senior Lecturers
C.N. Luu-Nguyen BEd (Saigon), MA (Monterey Inst Foreign Studies)
C. Trépanier BA, MA (Laval)
Lecturer
C. Caws MA (Nantes), PhD (Br Col)
Laboratory Instructor
L. Bruneau BA (Qu)
Advisor
Ms. R. Gould, 8108A Robert C. Brown Hall, (604) 291-4505
The Department of French offers honors, major and extended minor programs encompassing French language, literature and linguistics. In addition, joint major programs are available in English and French literatures, in French, history and political science, and in French and humanities. A certificate program in French language proficiency is also offered for those who wish to enhance their knowledge of French for cultural, professional or employment purposes.

Initial Course Selection
Native French speakers, or those who received secondary education entirely within a French-speaking community will not normally be admitted to a French language course numbered 100 to 300 inclusive (except FREN 199 and 299).

French Language Placement Test
Students fitting into the following categories need not take the placement test but should register in the course indicated below.

- BC grade 12 French completed within the last three years who received a final grade of A: register in FREN 201
- BC grade 12 French completed (irrespective of grade) within the last three years and who have subsequently spent at least five weeks in a francophone environment: register in FREN 201
- BC grade 12 French completed within the last three years who do not meet the above two conditions: register in FREN 151
- Students who have completed grade 11 French within the last three years and have taken no more than 10 credit hours: register in FREN 101
- Fewer than three years of French taken in high school and no other French: register in FREN 100
- No French at all: register in FREN 099
- High school taken in a francophone educational system in a francophone country or province: register in FREN 230/240, 270, or 301

All others are required to take the placement test including the following.
- French immersion, programme francophone, IB and AP students
- College/university transfer students with transfer credits in French
- Students from other provinces or countries
- Students who have taken any credit/non-credit French course of six or more weeks duration since high school
- Students who have lived (minimum 30 months) in a francophone environment
- Special cases and any students seeking advice on eligibility to earn challenge credit for 151, and/or 201, and/or 202, and/or 206

Those required to take the placement test are urged to consult the Course Timetable and Exam Schedule for dates and times of the tests.

Course Challenge
Up to 12 credit hours of lower division French courses may be challenged by students receiving advanced placement. Courses open to challenge are: FREN 151, 201 or 216, 202 and 206. Students may challenge lower level language courses only when registered in one of FREN 201 (or 216), 202, 206, or 301. Challenge of language courses lower than the one actually registered in may be initiated by filling out and signing a course challenge form, obtainable from the French general office. The challenge must be approved by the department and submitted to the Office of the Registrar prior to the tenth day of classes. Successful completion (with a grade of at least C) of the language course actually taken automatically adds the challenge credit to the student's transcript. Please see "Course Challenge" on page 36.

Honors, Major, Extended Minor Programs
To be approved in a program, a student must have successfully completed (i.e. obtained a minimum grade of 2.0 or better in each of) the following courses or equivalents: FREN 151, 201 or 216, 202, 206, 230 or 240 and 270. Students who place in FREN 301 in the placement test will complete only FREN 230/240 and FREN 270 prior to acceptance in the program.

Only one of FREN 300 or 330 may be used in partial fulfilment of the upper division requirements of honors, major, extended minor, joint major and certificate programs.

For a degree in French, the following courses are required.

Lower Division Requirements
all of
FREN 151-3 French I*
FREN 201-3 Intermediate French I*
FREN 202-3 Intermediate French II*
FREN 203-3 Intermediate French III*
FREN 270-3 Introduction to French Linguistics I
one of
FREN 230-3 Introduction to French-Canadian Literature
FREN 240-3 Introduction to French Literature: Modern French Literature
*exemption is gained by successful completion of a more advanced French language course. Lower division language courses may be challenged (see above).

Upper Division Requirements
Major
FREN 301-3 Advanced French Composition I
FREN 360-3 Intermediate French Literature
FREN 370-3 Introduction to French Linguistics II
A further 21 credit hours of French, to be chosen from among the remaining courses at the 300 and 400 division, must be completed.

Students wishing to concentrate in French linguistics are advised to consider an extended minor in general linguistics.

Honors
FREN 301-3 Advanced French Composition I
FREN 360-3 Intermediate French Literature
FREN 370-3 Introduction to French Linguistics II
A further 41 credit hours of French, to be chosen from among the remaining courses at the 300 and 400 division, must be completed. The latter must include, in the last semesters of study
FREN 491-3 Readings in French Linguistics and/or Literary Criticism
FREN 492-3 Honors Essay
In addition, the honors student must acquire proficiency (i.e. the equivalent of two semesters) in another language in addition to English and French.

Extended Minor
Students must complete both of
FREN 301-3 Advanced French – Composition I
FREN 302-3 Advanced French – Composition II
and one of
FREN 360-3 Intermediate French Literature
FREN 370-3 Introduction to French Linguistics II
A further six credit hours of French, to be chosen from among the remaining courses at the 300 and 400 division, must be completed.

**Note:** LING 360 or FREN 310 may not both be used in an arts degree.

LING 360 and FREN 310 may not both be used in partial fulfillment of these requirements.

### Courses in French

Courses are offered in the following fields.

#### French Language

- FREN 099-3 French for Beginners
- FREN 100-3 Introductory French I
- FREN 101-3 Introductory French II
- FREN 151-3 French I
- FREN 199-3 Writing French I: Spelling and Grammar*
- FREN 201-3 Intermediate French I
- FREN 202-3 Intermediate French II
- FREN 205-3 French Language: Oral Practice
- FREN 206-3 Intermediate French III
- FREN 216-3 French for Immersion Program Students
- FREN 220-3 French for Business
- FREN 299-3 Writing French II: Intermediate Composition*
- FREN 300-3 Advanced French – Conversation
- FREN 301-3 Advanced French – Composition I
- FREN 302-3 Advanced French – Composition II
- FREN 330-3 The Francophone World

*restricted entry to these distance education courses

#### French Linguistics

FREN 301 and 302 represent the formal culmination (but not the end) of the student’s training in French language use. FREN 270 and 370 represent the bridge between this knowledge of French (i.e. ability to use) and a knowledge about French (i.e. how to approach, analyse and describe various linguistic aspects of the French language). These latter concerns form the central objectives of the 400 division French linguistics courses.

**Linguistic Theories**

- FREN 270-3 Introduction to French Linguistics I
- FREN 370-3 Introduction to French Linguistics II
- FREN 414-3 French Linguistic Theories

**Structure of French**

- FREN 411-4 Modern French: Morphology
- FREN 412-4 Modern French: Syntax
- FREN 413-4 Modern French: Phonology
- FREN 420-3 French Semantics and Lexicology

**Evolution of French**

- FREN 407-4 History of French: Phonology
- FREN 408-4 History of French: Morphology and Syntax

**French Dialects**

- FREN 421-3 Varieties of French
- FREN 422-3 Canadian French

**French Applied Linguistics**

- FREN 310-3 Linguistics and French Language Learning
- FREN 311-3 The Acquisition of Vocabulary
- FREN 312-3 Corrective Phonetics

#### French Literature

200 Division Courses: FREN 240 and 230 introduce students to basic concepts and methods of literary analysis as well as the sociocultural background of a few short modern French and French Canadian works of fiction, drama and poetry. They also aim to improve language competence: all lectures, class discussions and assignments are in French. FREN 230 or 240 are prerequisites for FREN 360.

**300 Division:** FREN 360 continues the introduction to the textual analysis of literary texts (fiction, drama and poetry) offered in 240, 230. The historical background of the works selected from the Middle Ages to the 19th century is also discussed. FREN 360 is a prerequisite for all 400 division French literature courses.

**400 Division:** These courses study specific literary movements or genres through various critical approaches: thematic or structural. The emphasis is on close textual analysis rather than literary history.

**400 Division Courses on Literary Movements**

- FREN 461-3 French Medieval Literature
- FREN 462-3 French Renaissance Literature
- FREN 463-4 Literature of the Seventeenth Century
- FREN 465-4 Literature of the Eighteenth Century
- FREN 467-3 Romanticism
- FREN 470-4 Realism to Naturalism
- FREN 479-3 Interdisciplinary Approaches to French Studies

**400 Division Courses on Genres**

- FREN 430-3 The French-Canadian Novel and Theatre
- FREN 472-3 The Contemporary Theatre
- FREN 474-3 French Poetry
- FREN 475-3 The Contemporary Novel

#### French Linguistics/Literature

The following courses are for students who, once they have acquired a sufficient background in linguistics and literary criticism, wish to explore the relationship between the two disciplines.

- FREN 406-3 French Stylistics
- FREN 480-2 Seminar I
- FREN 491-3 Readings in French Linguistics and/or Literary Criticism
- FREN 492-3 Honors Essay

In addition, two courses are available to students who do not wish to specialize in French. These are taught in English.

- FREN 198-3 Reading French I
- FREN 342-4 Literature in Translation from the Francophone World

#### Joint Major in English and French Literatures

The joint major is an interdepartmental program, usually within a BA, designed for students who are interested in exploring the many close relationships between English and French literatures.

**Advisors**

- Ms. R. Gould, Department of French, 8108A Robert C.R. Day, History

**Guidelines for Course Selection**

The following courses are recommended if the student is interested in the linguistic analysis of literary texts.

**400 Division Courses on Literary Movements**

- FREN 360-3 Intermediate French Literature
- FREN 365-3 French Linguistics
- FREN 367-3 French Applied Linguistics
- FREN 460-3 Advanced French: Syntax
- FREN 480-2 Seminar I
- FREN 491-3 Readings in French Linguistics and/or Literary Criticism
- FREN 492-3 Honors Essay

**400 Division Courses on Genres**

- FREN 330-3 Advanced French – Conversation
- FREN 331-3 Advanced French – Composition I
- FREN 332-3 Advanced French – Composition II
- FREN 333-3 The Francophone World

*restricted entry to these distance education courses

**English**

Students must complete 20 hours in upper division English courses, one of which must come from within the series ENGL 300-322. Courses should be selected according to guidelines (see below).

**Guidelines for Course Selection**

The following courses are recommended if the student is interested in critical theory.

**400 Division Courses on Literary Movements**

- FREN 360-3 French Linguistics
- FREN 365-3 French Applied Linguistics
- FREN 367-3 French Literature
- FREN 370-3 Introduction to French Linguistics II
- FREN 408-3 French Stylistics

**400 Division Courses on Genres**

- FREN 330-3 Advanced French – Conversation
- FREN 331-3 Advanced French – Composition I
- FREN 332-3 Advanced French – Composition II
- FREN 333-3 The Francophone World

*restricted entry to these distance education courses

**French**

- FREN 360-3 Intermediate French Literature
- FREN 365-3 French Linguistics
- FREN 367-3 French Applied Linguistics
- FREN 460-3 Advanced French: Syntax
- FREN 480-2 Seminar I
- FREN 491-3 Readings in French Linguistics and/or Literary Criticism
- FREN 492-3 Honors Essay

In addition, two courses are available to students who do not wish to specialize in French. These are taught in English.

- FREN 198-3 Reading French I
- FREN 342-4 Literature in Translation from the Francophone World

**French Linguistics/Literature**

The following courses are for students who, once they have acquired a sufficient background in linguistics and literary criticism, wish to explore the relationship between the two disciplines.

- FREN 406-3 French Stylistics
- FREN 480-2 Seminar I
- FREN 491-3 Readings in French Linguistics and/or Literary Criticism
- FREN 492-3 Honors Essay

In addition, two courses are available to students who do not wish to specialize in French. These are taught in English.

- FREN 198-3 Reading French I
- FREN 342-4 Literature in Translation from the Francophone World

**Joint Major in English and French Literatures**

The joint major is an interdepartmental program, usually within a BA, designed for students who are interested in exploring the many close relationships between English and French literatures.

**Advisors**

- Ms. R. Gould, Department of French, 8108A Robert C. Brown Hall, (604) 291-4505
- Dr. J. Viswanathan, Department of French, (604) 291-4823
- Dr. M. Harris, Department of English, (604) 291-3371
- Ms. H. Newcombe, Department of English, (604) 291-3371
- Ms. P. Jantzi, Department of Political Science, 6025 Academic Quadrangle, (604) 291-4429
- Mrs. T. Wright, Department of History, 6026 Academic Quadrangle, (604) 291-4429
- Mrs. T. Wright, Department of History, 6026 Academic Quadrangle, (604) 291-3346

This program concentrates on languages, literature, history and politics of France and French-speaking peoples of Canada and the world. It prepares for careers in teaching, journalism, archival work, civil and diplomatic services and is offered by the Departments of French, History and Political Science.

The relevance of courses to the program is frequently obvious, e.g., courses dealing directly with France, French Canada, and the French language, but in
cases where there is doubt as to sufficient French content in a course, the student should consult the steering committee representative in the appropriate department and review the Guidelines for Course Selection (contained in the information brochure relating to the joint major) which lists sample courses suitable for the program. The program is intended to be broad in nature; the emphasis is on the role played in the world by French language, literature, history and politics; hence the courses selected may represent a variety of interests and fields.

The attention of students is drawn to courses offered by the Canadian studies program which might be of interest.

**Lower Division Requirements**

As prerequisites, the following are required for a total of 42 credit hours.

- 12 credit hours of History
- 12 credit hours of political science
- 15 credit hours of French*  
- 3 additional credit hours of history or political science
  *see below for possible exemptions for those already proficient in French.

**Upper Division Requirements**

The following are required for a total of 47 credit hours.

- 16 credit hours of history
- 16 credit hours of political science
- 15 credit hours of French (FREN 301, 360 or 370 and nine credits of 400 level courses)

**History**

Students must take 12-15 credit hours of lower division history and at least 15 hours of upper division history. Courses may be chosen in consultation with the history departmental assistant or the history representative on the program steering committee and, after reviewing the Guidelines for Course Selection, which offers a list of sample courses suitable to the program. Such choices must fit with the thematicity criteria of the joint major to the steering committee’s satisfaction.

**Political Science**

Students must take 12-15 lower division credit hours and at least 16 credit hours of upper division political science. Students may choose courses in consultation with the departmental assistant of political science or the representative of the Department of Political Science on the program steering committee after reviewing the Guidelines for Course Selection. It is emphasized that such choices must fit in with the thematicity criteria of the joint major to the steering committee’s satisfaction.

**French**

Students must acquire an appropriate degree of proficiency in both oral and written French. In order to achieve this, a certain number of French language courses are required. Exemption from one or more French language courses can be obtained by gaining advanced placement through a placement test administered by the Department of French. The course challenge procedure may also be used to fulfill lower division language requirements in part or in full.

**Lower Division**

- FREN 151-3 French I (or exemption)
- FREN 201-3 Intermediate French I (or exemption)
- FREN 202-3 Intermediate French II (or exemption)
- FREN 206-3 Intermediate French III (or exemption)
  one of
- FREN 230-3 Introduction to French-Canadian Literature
- FREN 240-3 Introduction to French Literature: Modern French Literature
- FREN 270-3 Introduction to French Linguistics I
  **Suggested**
- FREN 205-3 French Language: Oral Practice

**Upper Division**

- FREN 301-3 Advanced French – Composition I  
  one of
- FREN 360-3 Intermediate French – Literature
- FREN 370-3 Introduction to French Linguistics II
  **Note:** Students wishing to complement this joint major program specialization with greater competence in oral and written French may take FREN 300 or 330 and FREN 302 in addition to the above requirements. FREN 330 is highly recommended.

At least nine hours must be at the 400 level. Students may choose courses in consultation with the Department of French departmental assistant or the representative of the Department of French on the program steering committee and after reviewing the Guidelines for Course Selection.

**Joint Major in French and Humanities**

Please refer to the Humanities Program section for requirements.

**Extended Minor Program**

This program consists of the lower division requirements for a major and the upper division requirements for a minor. Certain other criteria may be set by individual departments and programs. Students must have their program approved by the advisor for the extended minor program.

**Post Baccalaureate Diploma in French and Education**

The Department of French and Faculty of Education jointly offer this post baccalaureate diploma comprising a set of organized courses for practising or future French teachers. This program includes courses directly related to the pedagogy of French as a second language as well as courses enhancing previous competence in the French language, or knowledge of French literature or linguistics.

**French Requirements**

Students normally choose 15 credit hours from the following courses.

- FREN 301-3 Introduction to French Literature: Modern French Literature
- FREN 270-3 Introduction to French Linguistics I

**Admission Requirements**

Students must seek admission or re-admission to the program admission. Qualifications for application to program admission. Teachers seeking a reclassification should note that, since integrated programs are looked upon as upgrading work, all courses in such programs must be taken no more than 10 years before the date of reclassification through the Teachers’ Qualification Service.

**Transfer Credit**

Transfer credit for course work in education and/or in French may be considered to fulfill requirements for this program. A maximum of six transfer credits in each of French and education may be awarded.

**French Requirements**

Students normally choose 15 credit hours from the following courses.

- FREN 310-3 Linguistics and French Language Learning
- FREN 311-3 The Acquisition of Vocabulary
- FREN 312-3 Corrective Phonetics

The remaining credit hours may be selected from 300 and 400 level French courses with the exception of FREN 342. In addition, students should note that only one of FREN 300 or 330 will count towards the 15 upper division credits required for the diploma.

Please note that all course selections must be approved by the advisor in French department.

**Education Requirements**

Students with credit for the above courses or equivalents must select approved substitutes from upper division French courses. Students with no previous undergraduate courses in French linguistics or French literature are required to take the lower level prerequisites FREN 270 and/or FREN 230/240.

**Education Requirements**

Students normally choose 15 credits from among the following courses.

- EDUC 361-3 Assessment of Classroom Teaching
- EDUC 362-3 Classroom Management and Discipline
- EDUC 384/385 Special Topics*
- EDUC 451-4 Classroom French Curriculum Practices
- EDUC 472-4 Language Arts
- EDUC 473-4 Reading**
- EDUC 474-4 Social Studies
- EDUC 475-4 Mathematics
- EDUC 476-4 Natural Sciences
- EDUC 480-4 French as a Second Language
- EDUC 481-4 French Immersion and Programme-cadre de Français***

*Courses offered in French during summer institutes
**This course may be substituted with EDUC 826 if EDUC 473 has already been taken (special permission required).
***This course may be substituted with EDUC 858 if EDUC 481 has already been taken (special permission required).
Certificate in French Language Proficiency

This program is intended for students who may or may not be enrolled in a degree program and who wish to improve oral and written proficiency in French, and it is also for those wishing to enhance their knowledge of the language for cultural reasons or professional needs. The program is not intended for native speakers of French.

Recommendations for the award of the certificate will be made by the Department of French and the Faculty of Arts.

Admission

Normal admission regulations to Simon Fraser University will apply.

Requirements

Students must successfully complete 30 credit hours, of which 21 hours are earned by completing seven required courses. The remaining nine credit hours may be selected from any other French courses, excluding FREN 099, 100, 101, 196, 298, and 342. Duplicate courses are counted only once.

Note: It is possible to obtain exemption, up to a maximum of 12 credit hours, from lower division French language courses by advance placement, obtained by demonstrating equivalent preparation to the French department’s satisfaction. Exempted courses must be replaced with credit obtained by

• approved transfer credit for French courses taken at another post-secondary institution (subject to University regulations governing the approval of transfer credit), up to a maximum of six credit hours

• challenge credit for exempted courses (subject to University regulations governing approval of challenge credit), up to a maximum of six hours

• successful completion of other French courses at Simon Fraser University, excluding FREN 099, 100, 101, 196, and 342.

Students who gain, or hope to gain, exemption should consult the advisor early in their program. In accordance with regulations governing certificate programs (see “General Information” on page 21), credits accumulated toward the certificate program may be applied also to major programs or extended minor programs or to a bachelor’s degree.

Italian Courses

Italian courses are administered by the Department of French. For courses offered, see “Italian” on page 253.

Department of Geography


Chair
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Professors Emeriti
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A. MacPherson MA (Edin), FRMetS
T.K. Poiker PhD (Heidel)
P.L. Wagner AB, MA, PhD (Calif)
J.W. Wilson BSc (Glas), MSc (MIT), MPP
(N Carolina)
S.T. Wong AB (Augustana, Ill), AM (Yale), PhD (Chic)

Professors
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L.J. Evenden BA (McM), MA (Georgia), PhD (Edin)
R. Hayter BA (Newcastle, UK), MA (Alta), PhD (Wash)
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J.T. Pierce BA (Tor), MA (Wat), PhD (Lond), Dean of Arts
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**joint appointment with biological sciences
**joint appointment with earth sciences
***joint appointment with resource and environmental management

The Department of Geography offers a program of study within the Faculty of Arts leading to the degree of bachelor of arts with honors, major or minor standing in Geography. Students interested in a bachelor of science degree in geography should refer to the Faculty of Science section.

BA Major Program

Students should check that they have fulfilled the requirements of the Faculty of Arts as detailed in the Faculty of Arts section.

Transfer students may enter the geography program without having fulfilled all lower division requirements. See the department academic advisor as soon as possible about entering the program.

Supporting Courses Outside Geography

Students will profit greatly by selecting a wide range of subjects outside geography. Economics, sociology and anthropology, political science, history, and many areas in the Faculty of Science can be of great value to the prospective geographer. Students may wish to complete a minor in one of these fields. Any geography faculty member will be pleased to advise.

Students with credit or claiming advanced standing in geography should consult an undergraduate advisor in the department concerning the structure of their programs.

Lower Division Requirements

Students must complete
GEOG 100-3 Human Geography
GEOG 111-3 Physical Geography (6 credit hours)

Students must also complete one 200 level course from section A (see below), both GEOG 221 and 241 from section B, and one course from section C.

Section A – Physical Geography

GEOG 111-3 Physical Geography
GEOG 213-3 Geomorphology I
GEOG 214-3 Climatology I
GEOG 215-3 Biogeography

Section B – Human Geography

GEOG 100-3 Human Geography
GEOG 102-3 World Problems in Geographic Perspective
GEOG 212-3 Geography of Natural Hazards
GEOG 221-3 Economic Geography
GEOG 241-3 Social Geography
GEOG 264-3 Canadian Cities
GEOG 261-3 Introduction to Urban Geography

Section C – Techniques and Special Requirements

GEOG 250-3 Cartography I
GEOG 251-3 Methods in Spatial Analysis
GEOG 253-3 Aerial Photographic Interpretation

Section D – Regions

GEOG 162-3 Canada
GEOG 263-3 Selected Regions
GEOG 265-3 Geography of British Columbia

Upper Division Requirements

Students are expected to consult with a departmental advisor when they formally declare a major in Geography. Those who do not seek advice from the department run a risk of prolonging their programs.

Students must complete 20 credit hours of 300 level courses, including at least one course from section A (see below). (20 credit hours)

Additionally, 12 credit hours of 400 level courses must be completed, including at least one course from section D (see below). (12 credit hours)

Total 32 credit hours

Section A – Physical Geography

GEOG 311-4 Hydrology I
GEOG 313-4 Geomorphology II
GEOG 314-4 Climatology II
GEOG 315-4 Regional Ecosystems
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 317-4 Soil Science
GEOG 411-4 Hydrology II
GEOG 412-4 Glacial Processes and Environments
GEOG 413-4 Geomorphology III
GEOG 414-4 Climatology III
GEOG 415-4 Advanced Biogeography
GEOG 416-4 Pleistocene Geography
GEOG 417-4 Soil Science II
GEOG 419-4 Mass Transfer in the Biosphere

Section B – Human Geography

GEOG 301-4 Geographic Ideas and Methodology
GEOG 322-4 World Resources
BA Minor Program

Students are expected to consult with a departmental advisor when they formally declare a minor in geography. Those who do not seek advice from the department run a risk of prolonging their programs.

Students must complete

- GEOG 100-3 Human Geography
- GEOG 111-3 Physical Geography

and one of

- GEOG 221-3 Economic Geography
- GEOG 241-3 Social Geography

and one of

- GEOG 250-3 Cartography
- GEOG 251-3 Methods in Spatial Analysis
- GEOG 253-3 Aerial Photographic Interpretation

(12 credit hours)

Students must also complete a minimum of 15 credit hours in GEOG courses numbered 300 and 400. (15 credit hours) Total 27 credit hours

Extended Minor Program

This program consists of the lower division requirements for a major and the upper division requirements for a minor. Certain other criteria may be set by individual departments and programs. A student must have their program approved by the advisor for the extended minor program.

Geography – Environmental Specialty Major Program

Lower Division Requirements

Students must complete a total of 24 credit hours including

- GEOG 100-3 Human Geography
- GEOG 111-3 Physical Geography
- GEOG 215-3 Biogeography
- GEOG 221-3 Economic Geography
- GEOG 241-3 Social Geography

Also required is one course selected from the Section C – Techniques and Special Requirements list (see above) plus the following two trans-disciplinary core courses.

- EVSC 200-3 Introduction to Environmental Science
- REM 100-3 Global Change

Upper Division Requirements

Students must complete the following trans-disciplinary core courses

- GEOG 389-4 Human Ecology: Human Relations to Nature
- GEOG 445-4 Resource Planning
- GEOG 450-4 Environmental Workshop
- REM 311-3 Applied Ecology and Sustainable Environments
- REM 356-3 Institutional Arrangements for Sustainable Environmental Management

Also required are 24 credit hours selected from

- GEOG 315-4 Regional Ecosystems
- GEOG 322-4 World Resources
- GEOG 323-4 The Dynamics of Industrial Location and Regional Development
- GEOG 327-4 Geography of Tourism and Outdoor Recreation
- GEOG 369-4 Human Microgeography
- GEOG 381-4 Political Geography
- GEOG 382-4 Population Geography
- GEOG 383-4 Regional Development and Planning I
- GEOG 385-4 Food Production and the Environment
- GEOG 386-4 Geography, Health and Health Care
- GEOG 387-4 Geography and Gender

plus 12 credit hours from

- GEOG 420-4 Comparative Cultural Geography
- GEOG 421-4 Geography of Resource Development
- GEOG 422-4 Geography of the Third World
- GEOG 426-4 Industrial Change and Local Development
- GEOG 427-4 Selected Topics in the Geography of Tourism
- GEOG 444-4 Regional Development and Planning II
- GEOG 449-4 Environmental Processes and Urban Development

Geography – Environmental Specialty Honors Program

Students must complete all the requirements for the environmental specialty major (see above) plus

- GEOG 301-4 Geographic Ideas and Methodology
- GEOG 491-4 Honors Essay

132 credit hours is required, of which 60 must be upper division. To graduate with honors, students must have a GPA of not less than 3.00 (cumulative, upper division and cumulative geography GPA).

Program entry requires the approval of the department and an admission GPA of 3.00.

Joint Major in Geography and Business Administration

Refer to the Faculty of Business Administration section for requirements.

Joint Major in Geography and Economics – Environmental Specialty

Lower Division Requirements

Economics

Students must complete the same requirements as for the economics major program and also complete ECON 260; the latter course can be counted as one of the 200 level requirements.

Geography

Students must complete the same requirements as for the geography – environmental specialty major program.

Upper Division Requirements

Economics

Students must complete 25 credit hours in economics including

- ECON 301-5 Intermediate Microeconomic Theory
- ECON 305-5 Intermediate Macroeconomic Theory
- ECON 362-4 Economics of Natural Resources
- BUEC 333-3 Elementary Economic and Business Statistics II

and at least one 400 division ECON or BUEC course (excluding ECON 431, 435, BUEC 433 and 485) and, to satisfy economics group requirements, at least one of the following.

- ECON 102-3 Contemporary World Economies
- ECON 110-3 Foundations of Economic Ideas
- ECON 208-3 History of Economic Thought
- ECON 250-3 History of Economic Development A
- ECON 252-3 History of Economic Development B
- ECON 309-5 Introduction to Marxian Economics
- ECON 353-5 Economic History of Canada
- ECON 355-4 Economic Development
- ECON 395-5 Comparative Economic Systems
- ECON 400-3 Honors Seminar in Methodology of the Social Sciences
- ECON 407-3 Seminar in Marxian Economics
- ECON 409-3 Seminar in Economic Thought
- ECON 450-3 Seminar in Quantitative Economic
ECON 455-3 Seminar in Economic Development
ECON 451-3 Seminar in European Economic History

Credits applied to one certificate may not be applied to another Simon Fraser certificate or diploma.

Admission Requirements

Admission

Students should consult with the departmental advisor as early as possible for program admission. Formal approval is required before completion of the certificate.

Credits applied to one certificate may not be applied to another Simon Fraser certificate or diploma.

Requirements

To qualify for the certificate, students must complete the following courses (or their equivalents from another department or institution).

one of
GEOG 251-3 Methods in Spatial Analysis
STAT 101-3 Introduction to Statistics
STAT 203-3 Introduction to Statistics for the Social Sciences

STATA 370-3 Introduction to Probability and Statistics

for all of
GEOG 250-3 Cartography I
GEOG 253-3 Aerial Photographic Interpretation
GEOG 352-4 Methods in Spatial Analysis II
GEOG 354-4 Remote Sensing
GEOG 354-4 Introduction to Geographic Information Systems

three of
GEOG 351-4 Cartography II
GEOG 355-4 Technical Issues in Geographic Information Systems
GEOG 452-4 Advanced Issues in Geographic Information Systems
GEOG 453-4 Digital Image Processing

Under special circumstances, students may substitute, from approved courses, up to eight of the above 12 credits to satisfy this requirement.

Certificate in Urban Studies

This certificate encourages and facilitates the study of the nature and functions of the contemporary city from an interdisciplinary perspective of geography, political science, sociology and anthropology. It is for undergraduates who wish to have a concentration in the area of urban studies. Program completion is possible in one year but additional semesters may be required. The certificate is suited to careers in urban planning, governance, consulting and/or who wish to participate in the Faculty of Arts co-operative education program.

Admission Requirements

Normal requirements for admission to Simon Fraser University apply. Students must complete GEOG 100 and POL 151 and/or POL 100 prior to formal admission to the certificate program.

Course Requirements

Successful completion of eight courses total of 27/29 credit hours including the following required courses.

GEOG 261-3 Introduction to Urban Geography
POL 252-3 Local Democracy and Governance
SA 201-4 Anthropology of Contemporary Life

and at least two of
GEOG 325-4 Geography of Service Activities
GEOG 362-4 Geography of Urban Development
POL 354-4 Comparative Metropolitan Governance
SA 364-4 Urban Communities and Cultures

and at least one of
GEOG 264-3 Canadian Cities
POL 352-4 Urban and Local Governance in Canada

and at least one of the following (the steering committee may designate other courses)

GEOG 241-3 Social Geography
SA 202-4 Post-Industrial Society

and one more course from the above list for a total of eight courses.

Credits applied to one certificate may not be applied to another Simon Fraser certificate or diploma.

Post Baccalaureate Diploma in Urban Studies

This program, administered by the Department of Geography, serves those who have previously completed a bachelor’s degree or equivalent and who wish to expand knowledge in theoretical and descriptive terms of the nature and functions of cities in contemporary society. The program emphasizes an holistic view of contemporary city in which geographic, social, political, economic and cultural perspectives are explored and interrelated.

The program will be of special interest to those who wish to develop or enhance their careers in the urban setting, and those who desire a better understanding of the contemporary city. Where possible, courses will be offered at the downtown Harbour Centre campus. This diploma is offered through the Departments of Geography, Political Science, Sociology and Anthropology, History, Gerontology, Humanities and the Centre for Community Economic Development.

Course Requirements

Students must have a bachelor’s degree with a CGPA of 2.5 to gain program admission. The program requires successful completion of eight undergraduate courses (totaling at least 30 credit hours), of which four courses will be completed at the third-year level, and four at the fourth-year level. In addition, students complete two graduate courses noted below. Post baccalaureate diplomas must be completed within five years of program admission. Students must maintain a GPA of 2.5 on courses used for the diploma.

Students must complete at least four of
GEOG 325-4 The Dynamics of Industrial Location and Regional Development
GEOG 325-4 Geography of Service Activities
GEOG 362-4 Geography of Urban Development
GEOG 382-4 Population Geography
HIST 379-4 The Transformation of American Culture: 1830-1900

and at least four of
CED 401-4 Concepts, Techniques and Principles for CED Practice
GEOG 424-4 Urban Transportation
GEOG 441-4 Geography of Urban Regions
GEOG 444-4 Regional Development and Planning II
GEOG 448-4 Public Policy, Theory and Human Geography
GEOG 449-4 Environmental Processes and Urban Development
GERO 401-3 Aging and the Built Environment
POL 454-4 Urban Public Policy Making
POL 458-4 Selected Topics in Local and Urban Government and Politics

Students are also required to complete the following two graduate courses in urban studies.

URB 600-4 Urban Transformations
URB 801-4 Urban Problems and Solutions

Co-operative Education

The co-operative education program is for students who wish to acquire practical experience. The program entails planned semesters of study and employment in an area of the student’s choice.
Requirements
To be admitted into co-op, students must have completed their 28 credit hours with a minimum cumulative grade point average of 2.75. Prior to the admission, students must complete the following.
GEOG 100-3 Human Geography
GEOG 111-3 Physical Geography
GEOG 221-3 Economic Geography
GEOG 241-3 Social Geography
one of
GEOG 213-3 Geomorphology I
GEOG 214-3 Climatology I
GEOG 215-3 Biogeography
and one of
GEOG 250-3 Cartography I
GEOG 251-3 Methods in Spatial Analysis
GEOG 253-3 Aerial Photographic Interpretation
College transfer students must complete at least 15 credit hours at SFU before being eligible for admission to the co-op program and must satisfy the requirements above or their equivalents.
College transfer students who have participated in co-op programs elsewhere may be credited with the semester(s) already taken. The applicability of such semesters depends on the evaluation of the Department of Geography.
To continue in this program, students must maintain a minimum CGPA of 2.5 in the course work.
The following four courses are completed during four work semesters.
GEOG 302-0 Geography Practicum I
GEOG 303-0 Geography Practicum II
GEOG 402-0 Geography Practicum III
GEOG 403-0 Geography Practicum IV
Please see “Co-operative Education” on page 201. Interested students should contact the environmental co-operative education co-ordinator, telephone (604) 291-3115.

Gerontology Program
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Professor
G.M. Gutman BA (Br Col), MA (Alta), PhD (Br Col)
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Assistant Professor
Y. Carrière BSc, MSc, PhD (Montr)
B. Mitchell BA, MA (Wat), PhD (McM)*
Adjunct Professors
G. Birch BSc, PhD (Br Col)
S. Brink BA (Madras), MSc, PhD (Purdue)
M. Carr BN Nursing (McG), MSc (CCHS)
S. Crawford BHE (Br Col), MSc (Lond), PhD (S Fraser)
K. Dean BA, MA, PhD (Minn)
V. Doyle BA (Vic, BC), EdM (Harv), PhD (S Fraser)
E. Gallagher BSc Nursing (Wind), MSc Nursing (Duke), PhD (S Fraser)
M. Hollander MSc (Br Col)
D. Jackson AA, BTh (Sask)
T. Koch BA (Clark), MA (Br Col)
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D. Robertson BSc (Durh), MD (Newcastle, UK)
J. Small BA (New Mexico), BA (Central Wash), PhD (Calif)
C. Spencer BA (Calg), LLB, LLM (Sask)
L. Trottier BSc (Br Col)

Associate Members
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R.M. Gordon, Criminology
W. Parkhouse, Kinesiology
D. Zimmerman, Philosophy
Steering Committee
E.M. Gee, Sociology
R. Gordon, Criminology
R.B. Horsfall, Geography
M.M. Kimball, psychology/Women’s Studies
J. Martin, Education
W. Parkhouse, Kinesiology
Advisor
Ms. N. Holtby, 2800 Harbour Centre, (604) 291-5065
*joint appointment with sociology and anthropology

Minor Program
The minor will provide specialized education on gerontology for undergraduate students interested in combining course work in aging related issues with an existing major program.
Students entering the program must have completed a minimum of 60 credit hours with a cumulative grade point average of 2.0 or better. The following prerequisite courses are recommended for those entering this program.
KIN 105-3 Fundaments of Human Structure and Function
KIN 142-3 Introduction to Kinesiology
PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
SA 150-4 Introduction to Sociology (S)
STAT 203-3 Statistics for the Social Sciences
Approved minor students must complete GERO 300 plus 12 credit hours chosen from the following.
GERO 301-3 Research Methods in Gerontology
GERO 302-3 Health Promotion and Aging
GERO 400-4 Seminar in Applied Gerontology
GERO 401-3 Aging and the Built Environment
GERO 402-3 Drug Issues in Gerontology
GERO 404-3 Health and Illness in Later Life
GERO 405-3 Aging in Small Communities and Rural Areas
GERO 406-3 Death and Dying
GERO 407-3 Nutrition and Aging
GERO 408-4 Families and Aging
GERO 410-3 Special Topics in Gerontology I
GERO 411-3 Special Topics in Gerontology II
GERO 412-3 Special Topics in Gerontology III
Additional courses from various departments are designated for inclusion in the minor. A list of these courses is available from the Gerontology Program. A maximum of six credit hours of designated courses may be applied towards the minor with prior approval from the program advisor. Candidates intending to apply for admission to the Post Baccalaureate Diploma in Gerontology or to the master’s program should contact the program advisor before selecting courses for the minor.

Post Baccalaureate Diploma
This program is for students who have completed a bachelor’s degree and are working or plan to work with the elderly. It provides a broadly based, multidisciplinary perspective on aging as well as requisite knowledge and skills for meaningful intervention and application of research findings to practice.
For information about the post baccalaureate diploma program general regulations, refer to Continuing Studies.

Admission Requirements
• completion of a bachelor’s degree from a recognized university with a minimum graduation grade point average of 2.5.
• previous work experience in gerontology or related field for at least one year. Students without this requirement may be admitted, but will be required to undertake a practicum as part of their diploma requirements.
• three letters of reference attesting to the applicant’s personal qualities and characteristics, ability to complete a post baccalaureate program of studies and career potential and dedication to the field of gerontology.

Program Requirements
Successful completion of 30 hours of approved course work is required. Of those 30, 19 are earned by completing six required courses listed below. The remaining 11 hours are from the specified list of optional courses.
A CGPA of 2.5 is required on courses applied toward the diploma.
Students entering the program without appropriate work experience will be required to complete a practicum in order to graduate.
Required Courses
GERO 300-3 Introduction to Gerontology
GERO 301-3 Research Methods in Gerontology
GERO 400-4 Seminar in Applied Gerontology
KIN 142-3 Physiological Aspects of Aging
PSYC 357-3 Psychology of Adulthood and Aging
SA 420-4 Sociology of Aging

Optional Courses
CRIM 411-3 Crime and Victimization of the Elderly
EDUC 351-3 Teaching the Older Adult
GERO 302-3 Health Promotion and Aging
GERO 401-3 Aging and the Built Environment
GERO 402-3 Drug Issues in Gerontology
GERO 403-3 Counselling with Older Adults
GERO 404-3 Health and Illness in Later Life
GERO 405-3 Aging in Small Communities and Rural Areas
GERO 406-3 Death and Dying
GERO 407-3 Nutrition and Aging
GERO 408-4 Families and Aging
GERO 410-3 Special Topics in Gerontology I
GERO 411-3 Special Topics in Gerontology II
GERO 412-3 Special Topics in Gerontology III
KIN 460-3 Cellular Mechanisms and Theories of Aging
PSYC 456-5 Psychology of Adulthood and Aging
SA 319-4 Culture, Ethnicity and Aging
SA 460-4 Special Topics in Sociology and Anthropology (when topic is medical anthropology)

Notes:
Most diploma program courses have prerequisites. A student who has not completed appropriate prerequisites may be required to do so before registering in the diploma program courses. Contact the program advisor for information on prerequisites and general program requirements.
Students should take GERO 300 and 301 when they begin the program, and GERO 400 near the end. Students may choose PSYC 301, SA 355 or any other approved courses in research methodology as an alternative to GERO 301; however, only one of these courses may be applied toward the diploma.
Courses other than above may be designated for gerontology diploma credit from semester to semester. Check with the program for listings.
Department of History

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R. C. Newton BA (Rutgers), MA, PhD (Flor)
Jack and Nancy Farley Endowed University Professor
J. P. Barr BA (McG), MA, PhD (Yale), FRScan

Hellenic Canadian Congress of BC Chair in Hellenic Studies
A. Gerolymatos BA (C’dia), MA, PhD (McG)

Professors
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C. R. Day BA (Stan), MA, PhD (Harv)
R. K. Debo BA, MA, PhD (Nebraska)
P. E. Dutton BA (WOnt), MA, PhD (Tor), MSD (Pontif Inst Tor)*
M. D. Fellman AB (Mich), PhD (Northwestern)
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J. Parr BA (McG), MA, PhD (Yale), FRScan
M. L. Stewart BA (Calg), MA, PhD (Cal)
J. O. Stubbs BA (Tor), MSC (Lond), DPhil (Oxf)

Associate Professors
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Instructor
P. Rabmon BA (BR Col), MA (Duke)

Advisors
Ms. H. Skibenecky, 6020 Academic Quadrangle, (604) 291-4429
Ms. T. Wright, 6025 Academic Quadrangle, (604) 291-3446

+joint appointment with humanities
+joint appointment with women’s studies

Major Program

Students must obtain at least 18 credit hours in 100 and 200 division history courses, including at least six hours in 100 division, to enter the major program.

Students should plan lower division work with upper division requirements in mind. The program offers a wide range of courses organized into three principal groups, providing ample opportunity to specialize in courses in any one of these groups, but for breadth of understanding, they must select courses from each group. A careful selection of lower division courses meets this requirement and lays the foundation for specialization in specific areas. For this reason, students are advised to take at least one course from each of the following groups of lower division courses.

Group 1 – Europe
HIST 105-3 Western Civilization from the Ancient World to the Reformation Era
HIST 106-3 Western Civilization from the Reformation Era to the 20th Century
HIST 216-3 The Ancient World
HIST 219-3 The Early Middle Ages
HIST 220-3 Europe from the 12th to the Mid-16th Century
HIST 223-3 Europe from the Mid-16th Century to the French Revolution
HIST 224-3 Europe from the French Revolution to the First World War
HIST 225-3 20th Century Europe

Group 2 – North America
HIST 101-3 Canada to Confederation
HIST 102-3 Canada Since Confederation
HIST 104-3 History of the Americas to 1763
HIST 201-3 The History of Western Canada
HIST 204-3 The Social History of Canada
HIST 212-3 The United States to 1877
HIST 213-3 The United States since 1877

Group 3 – Africa, Asia, Latin America, Middle East
HIST 146-3 Africa in Recent History
HIST 151-3 The Modern Middle East
HIST 208-3 Latin America: The Colonial Period
HIST 209-3 Latin America: The National Period
HIST 230-3 The Expansion of Europe
HIST 231-3 The Origins of Modern Africa: Conquest, Resistance and Resurgence
HIST 249-3 The Origins of Islam and the Emergence of Islamic Civilization
HIST 251-3 The Western Imperial Presence in the Middle East and North Africa
HIST 252-3 Islamic India
HIST 254-3 China to 1800
HIST 255-3 The Emergence of Modern China

Note: Candidates for a history major may count one or both of WS 201 and 202 towards the required 18 lower division history credit hours credit.

All students must obtain credit in at least nine hours of lower division history credit before enrolling in upper division work.

Major students must obtain credit in at least 32 credit hours (eight hours of 300 and 400 division work; 12 hours (three courses) must be in 400 division work. Courses must be distributed within all three groups. Students must take at least two courses from any two groups, and at least one from the remaining group.

Group 1 – Europe
HIST 310-4 Women and the Family in Modern Europe
HIST 311-4 Education and Childhood in European History
HIST 312-4 Poverty, Crime, and Madness: Society and the Outcast
HIST 315-4 Politics and Society in England, 1500-1700
HIST 316-4 English Society since the Mid 18th Century
HIST 318-4 Early Modern France
HIST 319-4 France since 1800
HIST 331-4 Germany from the Reformation to 1815
HIST 332-4 Germany since 1815
HIST 334-4 Russia to 1900
HIST 335-4 20th Century Russia
HIST 336-4 Absolutism and Enlightenment
HIST 337-4 The Balance of Power in Europe
HIST 338-4 World War II
HIST 339-4 The British Empire and Commonwealth
HIST 340-4 The History of Science: 1100-1725
HIST 361-4 The History of Science: The 18th Century to the Present

Group 2 – North America
HIST 322-4 Atlantic Migration
HIST 324-4 Slavery in the Americas
HIST 326-4 The History of Native People in Canada
HIST 327-4 Canadian Labor and Working Class History
HIST 328-4 The Province of Quebec from Confederation
HIST 329-4 Canadian Family History
HIST 340-4 United States Foreign Policy
HIST 379-4 The Transformation of American Culture 1830-1900
HIST 380-4 Industrial Culture in Modern America
HIST 383-4 The American Dream in the Twentieth Century
HIST 385-4 Canadian and BC Art
HIST 423-4 Problems in the Diplomatic and Political History of Canada
HIST 424-4 Problems in the Cultural History of Canada
HIST 425-4 Gender and History
HIST 426-4 Law and Society in Historical Perspective
HIST 428-4 Problems in the Social and Economic History of Canada
HIST 430-4 New France
HIST 431-4 British North America, 1760-1850
HIST 435-4 The Canadian Prairies
HIST 436-4 British Columbia
HIST 446-4 The Revolutionary and Early National Period in the United States
HIST 450-4 The Era of the American Civil War
HIST 451-4 Innocence and Corruption in Nineteenth Century American Myth
HIST 452-4 The US in the Progressive Era
HIST 453-4 The US Between the Wars
HIST 454-4 Gender and Sexuality in US History
HIST 464-4 History of Women in North America

Group 3 – Africa, Asia, Latin America, Middle East
HIST 412-4 Marxism and the Writing of History
HIST 413-4 Britain and Europe in the Twentieth Century
HIST 414-4 The Impact of the Great War
HIST 415-4 Victorian Britain
HIST 416-4 The French Revolution
HIST 417-4 France in Modern Times
HIST 418-4 Modern Spain and the Civil War
HIST 419-4 Modernization and Reform in Russia 1860-1930
HIST 420-4 The History of Russian Foreign Policy from Catherine the Great to Stalin

Faculty of Arts – 143
HIST 459-4 Problems in the Political and Social History of Latin America
HIST 465-4 The Emergence of the Israelis and Palestinians in Historical Perspective
HIST 467-4 Change and Revolution in Modern Egypt
HIST 469-4 Islamic Social and Intellectual History
HIST 473-4 The Making of South African Society
HIST 474-4 Modern Chinese Identities
HIST 481-4 British India
HIST 482-4 Emergent African Nationalism
HIST 483-4 The Struggle for Identity in Sub-Saharan Africa

Consult one of the department’s advisors before beginning the program.
These interdisciplinary courses below have some Canadian history content.
CNS 160-3 The Social Background of Canada
CNS 210-3 Foundations of Canadian Culture
CNS 391-3 Special Canadian Topics
CNS 490-3 Canadian Intellectual Tradition

Concentration in Middle Eastern and Islamic History
Students may qualify for this concentration by completing two of
HIST 151-3 The Modern Middle East
HIST 249-3 The Origins of Islam and the Emergence of Islamic Civilization
HIST 251-3 The Western Imperial Presence in the Middle East and North Africa
HIST 252-3 Islamic India
plus four of
HIST 350-4 Continuity and Change in the Ottoman Empire and Turkey from 1453 to 1938
HIST 352-4 Religion and Politics in Modern Iran
HIST 354-4 Imperialism and Modernization in Asia and the Middle East
HIST 355-4 The Arab Middle East in the Twentieth Century
HIST 465-4 The Emergence of the Israelis and Palestinians in Historical Perspective
HIST 467-4 Change and Revolution in Modern Egypt
HIST 469-4 Islamic Social and Intellectual History

Concentration in British History
Students may qualify for this concentration by completing
HIST 215-3 The Making of the British Isles
plus one of
HIST 315-4 Politics and Society in England,
1500-1707
HIST 316-4 English Society from the Mid 18th Century
and four of
HIST 339-4 The British Empire and Commonwealth
HIST 390-4 Great Britain as a World Power
HIST 404-4 Religion, Society and Politics in England,
1530-1640
HIST 405-4 Early Modern English Society
HIST 407-4 Popular Culture in Great Britain and Europe
HIST 413-4 Britain and Europe in the Twentieth Century
HIST 415-4 Victorian Britain
HIST 481-4 British India

Honors Program
In intensive, small seminars, students are encouraged to refine discussion skills, expository writing, and critical thought. No more than 30 students are enrolled at any one time. Those who wish to pursue the honors program apply to the program supervisor at the end of the fourth level. Those admitted must maintain a minimum GPA of 3.33 in all honors courses, and a minimum of 3.0 in all other upper division courses. The three required honors courses must be completed in three semesters in a fall/spring/ fall/spring sequence and all other work must be completed within six semesters of program admission.

Honors students must complete the following.
HIST 300-4 Approaches to History
HIST 305-2 Honors Tutorial
HIST 400-4 Seminar in Historical Methods
HIST 498-8 Honors Essay

In addition to the 18 credit hours of honors courses, 44 upper division credit hours are also required. Students are encouraged to take courses outside the Department of History but at least 50 of the 62 upper division hours must be in history courses. For honors requirements, see “Honors Program” on page 115.

Minor Program
Students intending to enter the minor program must obtain at least nine hours of credit in 100 and 200 division course work in history.

Minor students must obtain credit in 300 and 400 division work, totalling at least 16 hours of credit, with at least four credit hours in each level.

Courses with appropriate historical content in the Department of Women’s Studies, Latin American Studies Program, and Humanities Program will be considered by the Department of History for designated credit toward this minor. Such courses for the minor must have prior approval from the departments’ advisors.

Minor in Labor Studies
Students must complete 24 credit hours, comprised of nine lower division and 15 upper division credit hours. It is the student’s responsibility to ensure completion of prerequisite and other departmental requirements before choosing elective courses.

Lower Division Requirements
LBST 101-3 Introducing Labor Studies
plus two of
BUEC 280-3 Introduction to Labor Economics
CNS 280-3 Canadian Political Economy
ECON 103-3 Principles of Microeconomics
POL 222-3 Introduction to Canadian Politics
SA 202-4 Post-Industrial Society

Upper Division Requirements
LBST 301-3 Labor Movements: Contemporary Issues and Images
plus at least 12 credit hours from the following.
BUS 484-3 Workplace Industrial Relations
BUEC 384-3 Industrial Relations
BUEC 396-3 The Structure of Industry
CMNS 454-4 Computer Mediated Work and Workplace Communication
ECON 381-4 Labor Economics
ECON 480-3 Seminar in the Economics of Labor Market Policy
HIST 327-4 Canadian Labor and Working Class History
KIN 381-3 Psychology of Work and Human Performance
KIN 382-3 Physical Hazards in the Workplace
POL 356-4 The Political Economy of Labor
SA 340-4 Social Issues and Social Policy Analysis
SA 362-4 The Global Division of Labor
WS 305-4 Women and Work: Production and Reproduction
WS 310-4 Special Topics in Women’s Studies

*applicable only when the topic is relevant to labor studies

Languages Other Than English
Although not required for a BA in history, it is often useful to have acquaintance with a language other than English for many history courses. For this reason students, especially those who intend to pursue graduate courses, should consider including a second language in their programs.

Joint Major in History and Humanities
For program requirements, see “Joint Major in History and Humanities” on page 146.

Joint Major in History and Latin American Studies
For program requirements, see “Joint Major Programs” on page 148.

Joint Major in History and Canadian Studies
For program requirements, see “Joint Major Program” on page 120.

Joint Major in French, History and Politics
This joint major offers study of the language, history, politics and culture of French speaking people of Canada and the world. It prepares for careers in civil service, politics (with an emphasis on Canadian government and politics or on international relations), diplomatic service, international organizations, journalism, teaching and archival work. For further details, see “Joint Major in French, History and Politics” on page 137.

Extended Minor Program
An extended minor program consists of the lower division requirements for a major and the upper division requirements for a minor. Other criteria may be set by individual departments and programs. A student must have their program approved by the advisor for the extended minor program. This program requires 18 credit hours in 100 and 200 division courses and 16 hours in 300 and 400 division, with at least four credit hours in each level.

Public History
6025 Academic Quadrangle, (604) 291-3446
Advisor
Mrs. T. Wright BA (S Fraser), 6025 Academic Quadrangle, (604) 291-3446

Courses are designed for general interest and for pre-professional training in the public sector of history — in museums, archives, business, labor, ethnic and administrative history work. They can count towards majors, minors and honors in history.
A postgraduate diploma and a certificate program are available. Completion requires participation in one or more internships.

Post Baccalaureate Diploma in Public History
This diploma is available for students who have already completed a bachelor’s degree. The program is a historical study as it is practised in non-academic settings — in museums, archives, government
agencies, cultural societies, conservation authorities, businesses, families, and other public and private institutions.

The program offers an opportunity for ordered and sequential study based on established undergraduate courses in Canadian and public history. It combines core courses in history with optional ones in related disciplines, and it recognizes the importance of applied skills by requiring appropriate work experience or internship in the Public History program, or completion of a special project.

For information about the post baccalaureate diploma program general regulations, refer to Continuing Studies.

**Program Requirements**
- successful completion of an approved program of 30 hours of third and fourth year courses, or graduate level courses if appropriate. Of those 30, 12 are to be taken in the set of core courses described below.
- program completion within five years of admission.

Most students are expected to finish within two or three years. Students must maintain a GPA of 2.5 on courses used for the diploma.

**Core Courses**
- HIST 301-4 Heritage Preservation
- HIST 302-4 Archives Methods and Uses
- HIST 303-4 Museums Method and Uses
- and one of
  - HIST 435-4 The Canadian Prairies
  - HIST 436-3 British Columbia

**Optional Courses**
- ARCH 336-3 Special Topics in Prehistoric and Indigenous Art
- ARCH 372-5 Material Culture Analysis
- CMNS 362-4 Evaluation Methods for Applied Communication Research
- GEOG 344-4 Geography of Modern Industrial Societies
- GEOG 375-4 Historical Geography I
- GEOG 475-4 Historical Geography II
- HIST 326-4 The History of Native People in Canada
- HIST 385-4 Canadian and BC Art
- HIST 424-4 Problems in the Cultural History of Canada
- HIST 428-4 Problems in the Social and Economic History of Canada

To fulfill the optional course requirement, students may, upon the recommendation of the program co-ordinator, select a course not included among listed options, but with content appropriate to the program.

Internships consist of appropriate documented work experience, e.g. employment (normally two years or more) or substantial volunteer work in a historical institution, or participation in the public history internship, or completion of a special project. Relevant co-op education experience may be included.

Students without such experience wishing to participate in the summer job internship should contact the program co-ordinator. These jobs in archival, museum and other institutions will be supervised, paid and non-credit.

**Certificate in Public History**

The certificate program is available to those without a bachelor's degree. Credits earned in the program may be applied toward a bachelor's degree.

The program is interdisciplinary. It combines core courses in history with optional ones in related disciplines and it recognizes the importance of applied skills by requiring appropriate work experience or internship in the public history program, or completion of a special project. It also offers opportunities for students to participate in credit free academic and professional events.

Courses are available on a full or part time basis, during the day and evening, on the Burnaby Mountain campus, through Simon Fraser University at Harbour Centre and distance education.

**Admission**
Admission is governed by the University's admissions regulations.

**Program Requirements**
- The student must successfully complete 24 credit hours, with 12 of these 24 credit hours earned by completing the following:
  - HIST 102-3 Canada since Confederation
  - HIST 201-3 The History of Western Canada
- and two of
  - HIST 301-4 Heritage Preservation
  - HIST 302-4 Archives Methods and Uses
  - HIST 303-4 Museums Method and Use
- The student must complete at least four courses (one of which must be history) from the following totalling at least 12 credit hours.
  - ARCH 223-3 The Prehistory of Canada
  - ARCH 336-3 Special Topics in Prehistoric and Indigenous Art
  - ARCH 372-5 Material Culture Analysis
  - ARCH 386-3 Archaeological Resource Management
  - ARCH 349-5 Management of Archaeological Collections
  - CMNS 261-3 Documentary Research in Communication
  - CMNS 362-4 Evaluation Methods for Applied Communication Research
  - ECON 101-3 The Canadian Economy
  - ECON 261-3 Resources and The Economy of British Columbia
  - GEOG 241-3 Social Geography
  - GEOG 344-4 Geography of Modern Industrial Societies
  - GEOG 375-4 Historical Geography I
  - GEOG 475-4 Historical Geography II
  - HIST 326-4 The History of Native People in Canada
  - HIST 385-4 Canadian and BC Art
  - HIST 424-4 Problems in the Cultural History of Canada
  - HIST 428-4 Problems in the Social and Economic History of Canada
  - HIST 435-4 The Canadian Prairies
  - HIST 436-4 British Columbia

To fulfill the optional course requirement, students may, upon the recommendation of the program co-ordinator, select a course not included among listed options, but with content appropriate to the program.

Internships consist of appropriate documented work experience related to the program. Internships may be paid and non-credit.

Credits applied toward this certificate may not be applied toward any other Simon Fraser University certificate or diploma, but they may be applied toward major program or minor program requirements or toward a bachelor's degree under the normal regulations governing those programs.

At least 18 of the required 24 credit hours must be completed at Simon Fraser University. Credit for a maximum of two courses (totaling not more than six credit hours) of comparable content and level may be transferred from previous university-college study toward the requirements of the program upon the recommendation of the Department of History.

Non-credit seminars and lectures complementing public history study are strongly recommended. Writing improvement, legal research, and communication media skills are examples.

**Certificate in Hellenic Studies**

6219 Academic Quadrangle, (604) 291-5886

The certificate, which requires a minimum of 24 hours of credit, is offered to students with a general interest in Hellenic studies and also to those interested in pursuing graduate studies in Greek history. Students planning to pursue graduate studies in Greek history are advised to take two language courses.

It is the student’s responsibility to ensure completion of prerequisites for upper division courses.

Students may take special topics courses in place of the courses listed below with the advisor’s approval.

**Lower Division Requirements**

Students must complete three of
- HIST 208-4 The Byzantine Empire
- HIST 390-4 Studies in History I*
- HIST 421-4 Modern Greece, 1864-1925
- HIST 422-4 Greece, 1935-1944: Occupation and Resistance
- LANG 110-3 Introduction to a World Language I*
- LANG 160-3 Introduction to a World Language I*

*when offered as Modern Greek

A student who successfully completes all four language courses (HUM 151, 152, LANG 110, 160) need take only three courses from the upper division list.

**Upper Division Requirements**

Students must complete four of
- HIST 308-4 The Byzantine Empire
- HIST 390-4 Studies in History I*
- HIST 421-4 Modern Greece, 1864-1925
- HIST 422-4 Greece, 1935-1944: Occupation and Resistance
- HUM 302-4 The Golden Age of Greece: An Integrated Society
- PHIL 350-3 Ancient Philosophy

*when offered as Early Modern Greece

(15 or 16 credit hours)

**Co-operative Education Program**

Co-operative education is a system that combines work experience with academic studies. Students spend alternate semesters on campus and in paid, study related jobs which provide practical experience in the social sciences and interpretive skills and complements a degree in history.

Interested students can complete either a general co-op program or have the co-op work semesters qualify as the internship portion of the public history program. Arrangements for the work experiences are made through the department’s co-op co-ordinator and the University’s Office of Co-op Education. Please see “Co-operative Education” on page 201.

**Department of Humanities**

5115 Academic Quadrangle, (604) 291-3689 Tel.
(604) 291-4504 Fax, http://www/sfu/ca/humanities

Chair
S. Duguid BA (II), MA, PhD (S Fraser)
Faculty of Arts –

Professor Emeritus
T.J. Kirschneder BA (Roosevelt), MA, PhD (Chic)
J.S. Woodsworth Chair
(to be announced)

Professors
P.E. Dutton BA (WOnnt), MA, PhD (Tor), MSL, MSD (Pontif Inst Tot)**
A. Gómez-Moriana Lic (Salamanca), MA (Munich), PhD (Salamanca), PhD (Munich)
L.P. Kitching BA, MA (Br Col), PhD (Indiana)
K. Meze BA (York), MA (Car), PhD (Qu)
J.W. Walls BA, MA, PhD (Indiana)

Associate Professors
I. Angus BA, MA (Wat), PhD (York)****
L. Burton BA (Towson), MSc (J Hopkins), MA, PhD (Columbia Teachers)
D. Clavero ProfHist (Saragossa), MA, PhD (Br Col)
S. Duguid BA (Ill), MA, PhD (S Fraser)
M.A. Stouck BA (McM), MA, PhD (Tor)*

Assistant Professors
L. Armstrong BA, MA (Dal), MDiv, MA, PhD (Tor)**
T. Kawasaki LLB (Doshisha), MA (Tor), MA, PhD (Prim)***
D.C. Mirhady BA, MA (Br col), PhD (Rutgers)

Senior Lecturers
D. Grayston BA (Br Col), MDiv (Gen Theoid Sem, NY), ThM (Tor), PhD (St. Michael’s)
T. Yu BA (HK), MA, PhD (Br Col)

Adjunct Professor
P. Kingsley MLitt (Camb), PhD (Lond)

Associate Members
K.S. Hanson BA (Denison), MA, PhD (Princeton)
G. Merler BA (Br Col), MA, PhD (Laval)
A.C. Paranipe BA, MA, PhD (Poona)

*joint appointment with English
**joint appointment with history
***joint appointment with political science
****joint appointment with sociology and anthropology

Advisor
Ms. C. Prisland, 5114 Academic Quadrangle, (604) 291-4094

Humanities

This is the study of a broad range of ideas and subjects drawn from philosophy, art, literature, history, religion, science, and social and political thought. Through a comparative and interdisciplinary approach to classical, medieval, renaissance, and modern culture, study of the humanities raises critical questions about achievements and controversies associated with civilization itself. Students are encouraged to examine knowledge and ideas central to the humanities and to integrate these concerns with degree programs in original and critical ways. The Asia-Canada Program and the graduate Liberal Studies Program are affiliated with the Department of Humanities. Refer directly to their respective sections for information.

Major Program

Students completing the major in humanities are expected to include a breadth of humanities courses in fulfilling the upper division requirement. Therefore, they must consult the student advisor to plan their upper division course selection. Major students must also consult the advisor if they wish to enhance their major program interest by selecting humanities related upper division electives from other departments.

Lower Division Requirements

Students are required to complete 18 lower division credit hours including

HUM 102-3 Classical Mythology

plus one of
HIST 105-3 Western Civilization from the Ancient World to the Reformation Era
HIST 106-3 Western Civilization from the Reformation Era to the 20th Century

plus one of
PHIL 150-3 History of Philosophy I
PHIL 151-3 History of Philosophy II

plus one of
HUM 201-3 Great Texts in the Humanities I
HUM 202-3 Great Texts in the Humanities II
HUM 203-3 Great Texts in the Humanities III
plus two further lower division humanities courses.

Upper Division Requirements

Students are required to complete a minimum of 32 credit hours in upper humanities courses. In support of the interdisciplinary approach to the study of the humanities, students may, with prior approval of the Department of Humanities advisor, substitute up to two humanities related upper division courses from other academic units towards the upper division humanities requirement. Note that the same upper division course may not be used toward more than one program (honors, joint honors, major, joint major, minor or extended minor). See the first paragraph of this Calendar section for a definition of humanities related subjects.

Joint Major in English and Humanities

This joint major is for those interested in exploring the various relationships between English literature and humanities. Students must plan their program in consultation with advisors in each department.

Lower Division Requirements

English

Students must complete the lower division requirements of the English major program. Please see “Lower Division Requirements” on page 134.

Humanities

Students must complete 15 credit hours including
HUM 102-3 Classical Mythology
and two of
HUM 201-3 Great Texts in the Humanities I
HUM 202-3 Great Texts in the Humanities II
HUM 203-3 Great Texts in the Humanities III
and two further humanities courses.

Upper Division Requirements

English

Students must complete 20 credit hours in upper division English courses, as follows. One from the series ENGL 300-308, one from the series ENGL 310-322, and the remainder from anywhere in the series ENGL 300-394 and ENGL 441-446. A CGPA of 2.0 in English must be maintained.

Humanities

Students must complete 20 credit hours in upper division humanities courses.

Recommended
HUM 305-4 Medieval Studies
HUM 307-4 Carolingian Civilization
HUM 311-4 Humanists and Humanism in the Italian Renaissance
HUM 312-4 Renaissance Studies
HUM 321-4 The Humanities and Critical Thinking

Joint Major in French and Humanities

This inter-departmental program explores the relationship between the study of humanities and French. Interested students must plan their program in consultation with advisors in each department.

Lower Division Requirements

French

Students must complete the lower division requirements of the French major program. Please see “Lower Division Requirements” on page 136.

Humanities

Students must complete 15 credit hours which must include
HUM 102-3 Classical Mythology
and two of
HUM 201-3 Great Texts in the Humanities I
HUM 202-3 Great Texts in the Humanities II
HUM 203-3 Great Texts in the Humanities III
and two further humanities courses.

Upper Division Requirements

French

Students must complete 20 upper division hours in French including
FREN 301-3 Advanced French — Composition I and one of
FREN 360-3 Intermediate French Literature
FREN 370-3 Introduction to French Linguistics II
plus 14 credit hours from the 400 level French linguistics or literature offerings. FREN 461 and 462 is recommended.

Humanities

Students must complete 20 credit hours in upper division humanities courses. The following are recommended.

HUM 307-4 Carolingian Civilization
HUM 311-4 Humanists and Humanism in the Italian Renaissance

Joint Major in History and Humanities

This joint major is designed for those interested in exploring the various relationships between the two disciplines. Students must plan their program in consultation with advisors in each department.

Lower Division Requirements

History

Students must complete the lower division requirements of the history major program. Please see “Lower Division Requirements” on page 146.

Humanities

Students must complete 15 credit hours including
HUM 102-3 Classical Mythology
and two of
HUM 201-3 Great Texts in the Humanities I
HUM 202-3 Great Texts in the Humanities II
HUM 203-3 Great Texts in the Humanities III
and two further humanities courses.

Upper Division Requirements

History

Students must complete the upper division requirements of the history major program.

Humanities

Students must complete 20 credit hours in upper division humanities courses.

Recommended
HUM 302-4 The Golden Age of Greece: An Integrated Society
HUM 303-4 The Latin Humanist Tradition
HUM 305-4 Medieval Studies
HUM 307-4 Carolingian Civilization

Recommended
HUM 305-4 Medieval Studies
HUM 307-4 Carolingian Civilization

Joint Major in History and Humanities

This inter-departmental program explores the relationship between the study of humanities and French. Interested students must plan their program in consultation with advisors in each department.

Lower Division Requirements

French

Students must complete the lower division requirements of the French major program. Please see “Lower Division Requirements” on page 136.

Humanities

Students must complete 15 credit hours which must include
HUM 102-3 Classical Mythology
and two of
HUM 201-3 Great Texts in the Humanities I
HUM 202-3 Great Texts in the Humanities II
HUM 203-3 Great Texts in the Humanities III
and two further humanities courses.

Upper Division Requirements

French

Students must complete 20 upper division hours in French including
FREN 301-3 Advanced French — Composition I and one of
FREN 360-3 Intermediate French Literature
FREN 370-3 Introduction to French Linguistics II
plus 14 credit hours from the 400 level French linguistics or literature offerings. FREN 461 and 462 is recommended.

Humanities

Students must complete 20 credit hours in upper division humanities courses. The following are recommended.

HUM 307-4 Carolingian Civilization
HUM 311-4 Humanists and Humanism in the Italian Renaissance

Joint Major in History and Humanities

This joint major is designed for those interested in exploring the various relationships between the two disciplines. Students must plan their program in consultation with advisors in each department.

Lower Division Requirements

History

Students must complete the lower division requirements of the history major program. Please see “Lower Division Requirements” on page 146.

Humanities

Students must complete 15 credit hours including
HUM 102-3 Classical Mythology
and two of
HUM 201-3 Great Texts in the Humanities I
HUM 202-3 Great Texts in the Humanities II
HUM 203-3 Great Texts in the Humanities III
and two further humanities courses.

Upper Division Requirements

History

Students must complete the upper division requirements of the history major program.

Humanities

Students must complete 20 credit hours in upper division humanities courses.

Recommended
HUM 302-4 The Golden Age of Greece: An Integrated Society
HUM 303-4 The Latin Humanist Tradition
HUM 305-4 Medieval Studies
HUM 307-4 Carolingian Civilization

Recommended
HUM 305-4 Medieval Studies
HUM 307-4 Carolingian Civilization

Joint Major in History and Humanities

This inter-departmental program explores the relationship between the study of humanities and French. Interested students must plan their program in consultation with advisors in each department.
HUM 311-4 Humanists and Humanism in the Italian Renaissance
HUM 312-4 Renaissance Studies

Joint Major in Philosophy and Humanities
This joint major is for those interested in exploring the various relationships between the two disciplines. Students must plan their program in consultation with advisors in each department.

Lower Division Requirements
Humanities
Students must complete 15 credit hours including HUM 102-3 Classical Mythology and two of HUM 201-3 Great Texts in the Humanities I HUM 202-3 Great Texts in the Humanities II HUM 203-3 Great Texts in the Humanities III and two further humanities courses.

Philosophy
Students must complete the following 12 credit hours.
all of PHIL 100-3 Knowledge and Reality PHIL 120-3 Introduction to Moral Philosophy and one of PHIL 150-3 History of Philosophy I PHIL 151-3 History of Philosophy II

Upper Division Requirements
Humanities
Students must complete 20 credit hours in upper division humanities courses.

Recommended
HUM 320-4 The Humanities and Philosophy HUM 321-4 The Humanities and Critical Thinking

Philosophy
Students must complete 21 credit hours which must include PHIL 301.

Minor Program
Lower Division Requirements
Students must complete nine credit hours of lower division humanities courses which must include one of HUM 102, 201, 202 or 203. Because humanities study requires familiarity with philosophical concepts and an awareness of the past, it is recommended that students also take one of HIST 105 or 106 or PHIL 150 or 151.

Upper Division Requirements
Students must complete 16 credit hours in upper division humanities courses comprising four courses, or three courses plus HUM 400. Students wishing to complete an individual research project should include HUM 400 in their program.

Extended Minor Program
Students may qualify for a BA with an extended minor in humanities plus one other extended minor, or may use the extended minor in combination with other programs in other degrees. Lower and upper division requirements are set out below.

Lower Division Requirements
Students must complete the lower division requirements for the major in humanities.

Upper Division Requirements
Students must complete 16 upper division credit hours in humanities courses.

Post Baccalaureate Diploma in Humanities
This diploma is available for students who have already completed a bachelor's degree. For information about this program's general regulations, refer to Continuing Studies.

Program Requirements
Students must successfully complete an approved program comprising 30 credit hours of upper division or graduate courses including at least 16 credit hours in humanities courses. Students should include HUM 400. The remaining 14 credit hours are selected in consultation with an advisor in the subject or discipline which most closely fits the student's goals. For more information about the program contact the humanities advisor.

Asia-Canada Program
Director
J.W. Walls BA, MA, PhD (Indiana)
Advisory Committee
I. Andrews, Education
T. Kawasaki, Political Science/Humanities
R. Miki, English
N. Ng, Linguistics
N. Omae, Linguistics
T. Perry, Linguistics
L. Shin, History
J. Walls, Humanities
J. Yoont, Contemporary Arts
T. Yu, Humanities
Advisor
Ms. C. Prisland, 5114 Academic Quadrangle, (604) 291-4094

The Asia-Canada program offers students the opportunity to investigate the connections between contemporary Canadian society and culture, and that of a variety of Asian countries. Part of the program is a study of one or more Asian languages. The goal of this minor program is to introduce students to the economic, social and cultural connections between Asian countries and Canada.

Minor Program
Admission
There are no special admission requirements but students must normally apply and declare the minor program no later than the 60th credit hour. Students planning to enter the program should take note of the benefits of early beginning in language study, and are encouraged to consult the program advisor about the nature of the program as early as possible.

Lower Division Requirements
Students must complete at least 21 credit hours including

ASC 101-3 Introduction to Asia-Canada Studies I
ASC 102-3 Introduction to Asia-Canada Studies I
plus one of
ASC 200-3 Introduction to Chinese Culture and History
ASC 201-3 Introduction to Japanese Culture and History
ASC 202-3 Studies in Chinese Culture

Language Requirements
Students must also complete at least 12 credit hours or the equivalent of language credit in one of the following languages.

Certificate in Chinese Studies
This certificate program offers students recognition for a course series related to contemporary China. Students receive an introduction to Chinese language and take other courses related to the program's purpose. Part of the program involves courses (ASC 205 and six credits of language) that can be taken at a university in China during the Simon Fraser University Chinese summer field school. The field school requires extra travel and living expenditures. It is, however, not a requirement for the certificate program.

The program is offered by the Asia-Canada Program/Department of Humanities and is administered by the program steering committee appointed by the Dean of Arts. Interested students should contact the program advisor. Those who plan to do part of their program in
China should contact the program advisor at least two semesters before the field school.

**Admission**
There are no special admission requirements for the certificate program. However, students who choose to attend the China Field School must apply to the International and Exchange Student Services office. Acceptance into this part will normally require that the student have completed 30 credit hours and be in good academic standing.

**Program Requirements**
Successful completion of at least 18 credit hours of which 12 credit hours are earned by completing four required core courses. The remaining six credit hours are selected from the list of electives below.

**Core (12 hours)**
Students must take one of
ASC 200-3 Introduction to Chinese Culture and History
ASC 205-3 Field Studies in Chinese Culture and all of
CHIN 100-3 Mandarin Chinese I
CHIN 101-3 Mandarin Chinese II
HIST 255-3 China Since 1800
Students who attend the field school and have completed the equivalent of CHIN 100 and 101 must take CHIN 200 and 201.

**Elective (6 hours)**
ASC 202-3 Studies in Chinese Culture
ASC 302-3 Selected Topics in Chinese Studies
CHIN 200-3 Mandarin Chinese III
CHIN 201-3 Mandarin Chinese IV
HIST 255-3 China to 1800
HIST 474-4 Modern Chinese Identities
HUM 203-3 Great Texts in the Humanities III*
HUM 382-4 Selected Topics in the Humanities II*
POL 335-3 Government and Politics: People’s Republic of China I
POL 336-3 Government and Politics: People’s Republic of China II
SA 275-4 China: Sociological and Anthropological Perspectives
*when the topic is China related. Consult the program advisor.
The program steering committee will approve other appropriate content courses that meet the requirements for this certificate. The following are examples of courses which may be offered with content appropriate for the certificate requirements.
ECON 496-3 Selected Topics in Economics
GEOG 263-3 Selected Regions
SA 201-4 Anthropology of Modern Life
SA 263-4 Peasants, Proletarians and the Global Economy
SA 293-4 Special Topics in Anthropology

**Latin American Studies Program**
5054 Academic Quadrangle, (604) 291-3146 Tel, (604) 291-5799 Fax, www.sfu.ca/IAS
Director
G. Otero BA (Monterrey), MA (Tex), PhD (Wis)
Associate Members
P.E. Boyer, History
J. Brohman, Geography
A. Ciria, Political Science*
A. Clapp, Geography
M. Escudero-Faust, Sociology
J. Garcia, Sociology and Anthropology*
M. Gates, Anthropology
P Landolt, Sociology
R. Newton, History*
G. Otero, Sociology
P.L. Wagner, Geography*
*emertius
Advisor
Ms. K. Payne, 5056 Academic Quadrangle, (604) 291-3726
The Latin American Studies Program, administered by the Department of Sociology and Anthropology, offers specialized courses in the study of contemporary Latin America from a multidisciplinary perspective. The programs provide a sound background for students intending to pursue careers in teaching, journalism, travel, community relations, law, diplomacy, government, international trade, international development projects, as well as those intending to pursue advanced scholarly work. An integral complement to the degrees offered is the multidisciplinary field school in Latin America.

**Minor Program**
Latin American studies is an interdisciplinary program designed to offer students the maximum opportunity to integrate their understanding of Latin America and its relationship with Canada, the Pacific Rim, and the world.

**Language Requirements**
Although all courses are taught in English, students must demonstrate a reading knowledge of Spanish (the equivalent of two college level courses) or Portuguese or, in exceptional circumstances, French. This ability is a recommended skill for upper division courses that frequently require independent investigation of specialized topics.

**Lower Division Requirements**
Students must complete 12 credit hours of Latin American Studies credit, including the following:
LAS 100-3 Images of Latin America
LAS 140-3 Cultural Heritage of Latin America
LAS 200-3 Introduction to Latin American Issues
The remaining three credit hours must be completed in other LAS or Latin American content courses.

**Upper Division Requirements**
Students must complete 15 upper division credit hours of Latin American studies, including at least 12 in LAS 300 and 400 division courses. The remaining three credit hours may be taken from upper division Latin American content courses.

**Extended Minor Program**
This program consists of the lower division requirements for a joint major and the upper division requirements for a minor. Students must have their program approved by the advisor for the extended minor program.

**Joint Major Programs**
An interdisciplinary joint major in Latin American studies is offered to combine with selected disciplines leading to a bachelor of arts or a bachelor of business administration. Courses used toward the upper division Latin American studies requirements may not be used as part of the other discipline’s credit requirements, or vice versa. The individual disciplines participating in the joint major program are anthropology, archaeology, business administration, communication, economics, geography, history, political science, and sociology.

**Language Requirements**
Students must complete the following four courses, or equivalents.
SPAN 102-3 Introductory Spanish I
SPAN 103-3 Introductory Spanish II
SPAN 201-3 Intermediate Spanish I
SPAN 202-3 Intermediate Spanish II

**Latin American Studies Requirements**

**Lower Division Requirements**
A minimum of 12 lower division hours is required including the following:
LAS 100-3 Images of Latin America
LAS 140-3 Cultural Heritage of Latin America
LAS 200-3 Introduction to Latin American Issues
The remaining three credit hours are taken from the approved list of Latin American content courses. See "Courses with Exclusive Latin American Content" on page 149. See "Courses with Partial Latin American Content" on page 149.

**Note**: Students must also satisfy the lower division requirements of the selected joint discipline. (Please consult with appropriate department.)

**Upper Division Requirements**
A minimum of 40 upper division credit hours is required, including at least 20 upper division credits in Latin American studies, and from 20 to 32 upper division credits in the joint discipline selected, as specified below.
Students must complete 20 upper division credit hours of Latin American studies credit, including at least 16 in both LAS 300 and 400 division courses. The remaining four credit hours may be taken from the approved list of Latin American content courses.

**Other Discipline Requirements**
To satisfy the requirements of the other joint major discipline, students must complete 20-32 credit hours, as indicated below for the specific discipline.

**Anthropology**
See "Joint Major in Sociology or Anthropology and Latin American Studies" on page 160.

**Archaeology**
Students must complete 20 credit hours in archaeology in the 300 and 400 division.

**Business Administration**
See "Joint Major in Business Administration and Latin American Studies" on page 169.

**Communication**
Students must complete 24 upper division credit hours in communication, including CMNS 347, CMNS 382, and CMNS 446. Students must also complete the faculty requirements of either the Faculty of Applied Sciences or of the Faculty of Arts, subject to the degree the student desires: bachelor of arts in the Faculty of Applied Sciences or bachelor of arts in the Faculty of Arts.

**Economics**
Students must complete 25 upper division credit hours including ECON 301, 305-5, and BUEC 333 and at least one 400 division ECON or BUEC course (excluding ECON 431, 435 and BUEC 433).

**Geography**
Students must complete 32 credit hours in Geography as specified: 20 credit hours of 300 division courses including at least one course from Section A; and 12 credit hours of 400 division courses including at least one regional course on Latin America.

**History**
Students must complete 30 credit hours in upper division history, as required for history majors.
Political Science
Students must complete 32 credit hours in upper division political science, as required for political science majors. (POL 337 may not be used to satisfy LAS requirements.)
Sociology
Students must complete 20 credit hours in upper division sociology. Students must fulfill the theory and methods requirements as specified for the sociology major program.

Courses with Exclusive Latin American Content
Students should consult Undergraduate Courses (see “Undergraduate Courses” on page 203) or the department concerned regarding prerequisites and descriptions for these courses. Because departments offer courses which are taught by faculty with different professional interests, credit will be given only when these courses are taught by instructors shown above as associated faculty. Other courses may be offered in addition to the ones below. Consult the Latin American studies advisor for a complete list each semester.
ARCH 273-3 Archaeology of the New World
ARCH 330-3 Prehistory of Latin America
BUS 439-3 North American International Trade Issues
GEOG 263-3 Selected Regions*
GEOG 466-4 Latin American Regional Development
HIST 208-3 Latin America: The Colonial Period
HIST 209-3 Latin America: The National Period
HIST 458-4 Problems in Latin American Regional History
HIST 459-4 Problems in the Political and Social History of Latin America
POL 337-4 Government and Politics: Selected Latin American Nations I
SA 263-4 Peasants, Proletarians and the Global Economy*
SA 321-4 Social Movements*
SA 363-4 Processes of Development and Underdevelopment*
SA 392-4 Latin America
SPAN 352-3 Texts of the Colonial Period
SPAN 456-5 Selected Topics in Modern Latin American Narrative
SPAN 457-5 Selected Topics in Modern Latin American Poetry and Theatre
*when the selected region is Latin America

Courses with Partial Latin American Content
Courses with partial Latin American content, or in which Latin America may be emphasized in a given semester, may fulfill program requirements when their content is appropriately focused on the Latin American region. In questionable situations, consult course outlines in the department’s general office and confer with the Latin American Studies Program advisor for specific authorization. Students wishing to take a special topics course for credit toward a program in Latin American Studies should have the course approved by the co-ordinator.
ARCH 379-3 American Southwest
CMNS 347-4 Communication in Conflict and Intervention
CMNS 444-4 Political Economy of International Communication
CMNS 446-4 The Communication of Science and Transfer of Technology
ECON 355-4 Economic Development
ECON 362-4 Economics of Natural Resources
GEOG 422-4 Geography of the Third World
HIST 104-3 History of the Americas to 1763
HIST 299-3 Problems in History
HIST 324-4 Slavery in the Americas
HIST 485-4 Studies in History I (Special Topics)
HIST 486-4 Studies in History II (Special Topics)
POL 342-4 Relations Between Developed and Developing Nations
POL 345-4 The Nation-State and the Multinational Corporation
POL 433-4 Comparative Developing Systems
SPAN 240-3 Introduction to Hispanic Literature
SPAN 460-3 Selected Topics

Field School
The LAS field school is unique in Canada, providing the opportunity to complete a full semester in Latin America and at the same time, to gain through direct experience a deeper insight into the culture, politics, and economy of this increasingly important region. Three faculty and up to 30 students travel every second year to a selected location.

Co-operative Education
The program is for qualified students who wish practical experience in Latin American studies related fields. For admission, students must have completed 30 semester hours with a minimum 2.75 CGPA. Prior to admission, students should complete LAS 100, 140, 200 and SPAN 102. Transfer students must complete at least 15 semester hours at SFU. See “Co-operative Education” on page 201 for further details. Arrangements for work semester are made through the Faculty of Arts co-op co-ordinator should be consulted at least one semester in advance.

Department of Linguistics
Chair
P. McFetridge BA, MA, PhD (S Fraser)
Professor Emeritus
J.A. Foley BA (Nebraska), PhD (MIT)
Professors
D.B. Gerds BA (Missouri), MA (Br Col), PhD (Calif)
E.W. Roberts BA (Wales), MA, PhD (Camb)
R. Saunders BA (Penn State), AM, PhD (Brown)
Associate Professors
R.C. DeArmond BA (Wash), MA, PhD (Chic)
P. McFetridge BA, MA, PhD (S Fraser)
Z. McRobbie PhD (Budapest), PhD (Manit)
M. Munro BEs, MSc, PhD (Alta)
T.A. Perry BA (Wabash), MA, PhD (Indiana), Associate Dean of Arts
Assistant Professors
N. Hedberg BA, PhD (Minn)
T. Heft I and II Staatsexamen (Germany), MA, PhD (S Fraser)
J.D. Mellow BA (Calg), MA (McG), PhD (Br Col)
L.M. Sosa ProfLat&Ling (Venezuela Central), MA (Lond), PhD (Mass)
Lab Instructor
L. Zuccolo BA (Arg), MA (S Fraser)
Lecturers
B. Ng BA (Int Christian, Japan), MA (Lond)
N. Omae MA (Osaka), MPhil (Exe)
Associated Faculty
F. Popowich, Computing Science
W. Turnbull, Psychology
J. Walls, Communication
M. Boelscher-Ignace, First Nations Studies, Sociology and Anthropology

Advisors
Ms. R. Parmar, 9200 Robert C. Brown Hall, (604) 291-5739
Mrs. H. Coleman, Certificate in First Nations Language Proficiency Advisor, 6189 Academic Quadrangle, (604) 291-5595

The Department of Linguistics offers honors, major, extended minor and minor programs in linguistics and participates in the interdisciplinary programs of the cognitive science program.
Program requirements for the honors, major, extended minor and minor programs are listed below. Students pursuing linguistics should seek advice early in their programs. General course descriptions are given in Undergraduate Courses.

Courses of Interest to Students Outside the Department
These general interest courses give insight into language and linguistics, and have no prerequisites.
LING 100-3 Communication and Language
LING 110-3 The Wonder of Words
LING 200-3 Introduction to the Description of English Grammar
LING 220-3 Introduction to Linguistics
LING 260-3 Language, Culture, and Society

The following courses, although they carry prerequisites, may interest those with particular language specialties (when they focus on the language of their interest).
LING 231-3 Introduction to an Amerindian Language I
LING 232-3 Introduction to an Amerindian Language II
LING 431-3 Language Structures I
LING 432-3 Language Structures II

The languages that are selected as a focus for these courses are given in the Course Timetable and Exam Schedule for the semester in which the course is offered.

Major Program

Lower Division Requirements
LING 130-3 Practical Phonetics
LING 220-3 Introduction to Linguistics
LING 221-3 Introduction to Phonology
LING 222-3 Introduction to Syntax
plus three additional credit hours in 200 level linguistics courses

Upper Division Requirements
LING 321-3 Phonology
LING 322-3 Syntax
plus any two of
LING 323-3 Morphology
LING 324-3 Semantics
LING 330-3 Phonetics
plus 18 additional credit hours in upper division linguistics courses

Honors Program

Lower Division Requirements
LING 130-3 Practical Phonetics
LING 220-3 Introduction to Linguistics
LING 221-3 Introduction to Phonology
LING 222-3 Introduction to Syntax
plus three additional credit hours in 200 level linguistics courses

Upper Division Requirements
LING 321-3 Phonology
LING 322-3 Syntax
LING 490-3 Honors Essay
plus any two of
LING 323-3 Morphology
LING 324-3 Semantics
LING 330-3 Phonetics
plus 35 additional hours chosen from upper division linguistics courses.

Minor Program

Lower Division Requirements
LING 130-3 Practical Phonetics
LING 220-3 Introduction to Linguistics
plus nine additional credit hours in 200 level linguistics courses

Upper Division Requirements
Students must complete 15 hours of upper division linguistics courses.

Note: General course descriptions are given in the Undergraduate Courses section of this Calendar.

Extended Minor Program

An extended minor consists of the lower division requirements for a major and the upper division requirements for a minor. Certain other criteria may be set by individual departments and programs. A student must have their program approved by the advisor for the extended minor program.

Joint Major in Linguistics and Sociology and Anthropology

Linguistics, sociology and anthropology are kindred disciplines, each concerned with culture, cognition and social relations. Students will acquire practical multidisciplinary expertise in the sociological or anthropological aspects of language study. The joint major is of special interest to those pursuing the certificate in First Nations language proficiency or the certificate in native studies research, as well as to students interested in the anthropology or sociology of language and in sociolinguistics, anthropological linguistics, or cognitive science.

Lower Division Requirements

Linguistics
Students must complete both of
LING 130-3 Practical Phonetics
LING 220-3 Introduction to Linguistics
and one of
LING 241-3 Languages of the World
LING 260-3 Language, Culture and Society
plus six additional credit hours in 200 division LING courses. Note that LING 221 and 222 are required for most upper division LING courses.

Sociology and Anthropology
Students must complete both of
SA 101-4 Introduction to Anthropology
SA 255-4 Introduction to Social Research
and one of
SA 100-4 Perspectives on Canadian Society
SA 150-4 Introduction to Sociology
and one of
SA 201-4 Anthropology of Modern Life
SA 263-4 Peasants, Proletarians and the Global Economy
SA 286-4 Aboriginal Peoples and British Columbia: Introduction (A)
SA 293-4 Special Topics in Anthropology
SA 294-4 Special Topics in Sociology and Anthropology

Certificate in First Nations Language Proficiency

This certificate program is intended for students who wish to acquire conversational and literacy skills in a particular First Nations language for purposes of teaching this language in elementary or secondary schools or to enhance their knowledge of a First Nations language for cultural reasons or professional objectives.

The certificate consists of 27 hours of course work. At least 12 of these must be earned by completing courses in the First Nations language itself.

The certificate can be taken on a full or part time basis. Advanced placement through course challenge to a maximum of nine credit hours is possible for those already fluent in their language. Credit may be applied to a specific language and is achieved by examination from an instructor in that language with the approval of the department.

Program Requirements

Students must complete or achieve equivalent credit for the following.
LING 130-3 Practical Phonetics
LING 220-3 Introduction to Linguistics
LING 231-3 Introduction to an Amerindian Language

"when an anthropology (A) listing
plus four additional credit hours in a 200 level SA course.

For students interested in pursuing a sociolinguistic focus, the following is recommended.
SA 250-4 Introduction to Sociolinguistic Theory
STAT 203-3 Introduction to Statistics for the Social Sciences

Upper Division Requirements

Linguistics
Students must complete three of
LING 321-3 Phonology
LING 322-3 Syntax
LING 323-3 Morphology
LING 324-3 Semantics
LING 330-3 Phonetics
LING 331-3 Description and Analysis of a First Nations Language I
and one of
LING 332-3 Description and Analysis of a First Nations Language II
LING 408-2 Field Linguistics
LING 409-3 Sociolinguistics
plus nine additional upper division LING credit hours.

The following courses are recommended.
LING 407-3 Historical Linguistics
LING 430-3 Native American Languages
LING 441-3 Linguistic Universals and Typology

Sociology and Anthropology
Students must complete both of
SA 301-4 Contemporary Ethnography (A)
SA 356-4 Ethnography and Qualitative Methods (SA)
plus 12 additional credit hours in upper division SA courses. The following courses are recommended.
SA 323-4 Symbol, Myth and Meaning
SA 386-4 Native Peoples and Public Policy
SA 401-4 The Politics of Culture in Contemporary Societies
SA 402-4 The Practice of Anthropology
SA 472-4 Anthropology and the Past
For students interested in pursuing a sociolinguistic focus, the following are highly recommended.
SA 350-4 Classical Sociological Thought
SA 355-4 Quantitative Methods

Certificate in Teaching ESL Linguistics

This certificate is for students preparing to teach English as a second language. While the certificate by itself is not a specific employment credential, it constitutes basic preparation for teaching English language skills in an environment in which some or all of the students are not native speakers of English. Those pursuing a career in teaching English as a second language (TESL) may wish to take more advanced studies upon completion of the program. The certificate provides preparation for further studies in applied linguistics and TESL.

The program generally requires at least four to five semesters to complete. The certificate may be earned concurrently with an honors, major, extended minor or minor in linguistics.

Monolingual students who have never studied any language other than English are strongly advised to take at least two courses (six credit hours) in a language other than English.

Admission Requirements

Students should apply in person to the undergraduate advisor. In addition to meeting the normal admission requirements of Simon Fraser University, Students must have an excellent command of spoken and written English. Prospective applicants are advised that this requirement is more stringent than the University’s minimum English language requirement.

An interview will be required of students whose primary language is not English.

Program Requirements

The program requires successful completion of 31 credit hours as set out below, with a minimum grade point average of 2.0 calculated on the basis of grades in the specified required courses. As part of this program, students must complete a supervised practicum (LING 363) which includes 25 to 30 hours of experience in an adult ESL classroom.

Lower Division

Required courses
LING 110-3 The Wonder of Words
LING 130-3 Practical Phonetics
LING 200-3 Introduction to the Description of English Grammar
LING 220-3 Introduction to Linguistics

(12 credit hours)

plus two of
EDUC 220-3 Introduction to Educational Psychology
LING 221-3 Introduction to Phonology
LING 241-3 Languages of the World
LING 260-3 Language, Culture, and Society

(6 credit hours)
Post Baccalaureate Diploma in Teaching English as a Second Language

The Department of Linguistics and the Faculty of Education jointly offer this program. Students should apply to the departmental advisor for admission to the diploma program and should seek admission to the University separately. Applicants will be admitted by the joint steering committee made up of members of the Department of Linguistics and the Faculty of Education under the following general requirements.

- completion of a bachelor’s degree
- demonstrated knowledge of spoken and written English. See "English Language Requirements" on page 28.
- an undergraduate concentration in one or more related disciplines such as linguistics, education, English or psychology. Completion of the certificate in TESL linguistics or an equivalent preparation is accepted as fulfilling this requirement. Students may be admitted on the condition that they take LING 310-6 in addition to the general requirements of the program.
- some academic training or demonstrated ability in a language other than English

Course Requirements

Students are required to complete a minimum of 31 credit hours chosen from the following three areas: linguistics, education, and individual and social development. The requirements are as follows.

Linguistics

The program requires an understanding of the general principles of linguistic theory and analysis, as well as the linguistic structure of the English language, and acquaintance with a wide range of structures typical of the languages of English learners.

Students must take 12 credit hours in upper division linguistics courses, consisting of any two of LING 321-3 Phonology
LING 322-3 Syntax
LING 323-3 Morphology
LING 324-3 Semantics
LING 330-3 Phonetics

Note: Students whose undergraduate record includes at least 12 credit hours from the above list or their equivalents must select approved substitutes from among 400 level linguistics courses to fulfill the requirement of six credit hours in this section.

plus any two of
LING 360-3 Linguistics and Language Teaching
LING 362-3 English as a Second Language: Theory
LING 408-3 Field Linguistics
LING 431-3 Language Structures I
LING 432-3 Language Structures II
LING 441-3 Language Universals and Typology
LING 480-3 Topics in Linguistics I (when offered with a suitable topic)
LING 481-3 Topics in Linguistics II (when offered with a suitable topic)

(6 credit hours)

Note: Students who have already received credit for courses in this list through previous programs may not take them for further credit.

Education

Students in the program should be conversant with the principles of language pedagogy and be able to apply these as needed to various classroom situations; they should also have an understanding of the principles of testing and assessment and be able to apply these in classroom settings. Students are further required to have practical experience which is designed to develop classroom skills specific to teaching English to non-native speakers.

Students are required to complete all of
EDUC 467-4 Curriculum and Instruction in Teaching English as a Second Language
EDUC 470-4 Experience in Teaching Students Who Have Limited English Proficiency

(8 credit hours)

Note: Only students who have a current teaching placement should enrol in EDUC 470. In exceptional circumstances, alternative arrangements may be made after consultation with the steering committee. plus 8-12 credit hours chosen from
EDUC 325-3 Assessment for Classroom Teaching
EDUC 341-3 Literacy, Education and Culture
EDUC 342-3 Contemporary Approaches to Literacy
EDUC 367-4 Teaching Children from Minority Language Backgrounds in Elementary Classrooms
EDUC 422-4 Learning Disabilities
EDUC 424-4 Learning Disabilities: Laboratory
EDUC 468-4 Cognition and Language in ESL

(8-12 credit hours)

Note: Students who have already received credit for courses in this list through previous programs may not take them again for further credit. Students who have prior credit for EDUC 467 or the equivalent will be required to select an alternative to that course from this list.

Individual and Social Development

Theories of human development and language use, their implications for the classroom, and of the sociocultural context of learners and speakers represents a basic component in the preparation for language teaching.

Students must complete any one of the following courses that has not been completed previously.
EDUC 320-3 Instructional Psychology
EDUC 326-3 Classroom Management and Discipline
EDUC 420-4 Cognitive Strategies in Learning
EDUC 422-4 Learning Disabilities
EDUC 425-4 School Counselling for the Classroom Teacher
EDUC 441-4 Multicultural Education
LING 350-3 First Language Acquisition
LING 409-3 Sociolinguistics
SA 400-4 Canadian Ethnic Minorities

(3-4 credit hours)

Language Training Institute

6188 Academic Quadrangle, (604) 291-4790 Tel,
www.sfu.ca/lti

Director
P. McFetridge BA, MA, PhD (S Fraser)

Associated Faculty
M. Escudero-Faust, Sociology and Anthropology
K. Hanson, Continuing Studies
T. Heift, Linguistics
L. Kitching, Humanities
B. Ng, Linguistics
N. Omae, Linguistics
L. Zuccolo, Linguistics

Advisor
Ms. L. Hill, 6204 Academic Quadrangle,
(604) 291-4790

The Language Training Institute within the Department of Linguistics promotes the acquisition of language skills across the University and provides facilities for the support of language instruction on campus through the Language Learning Centre. The Faculty of Arts and extension credit programs of Continuing Studies collaborate through the Language Training Institute to provide credit and non-credit instruction in language skills for languages which lie outside of departmental programs.

Departments providing language instruction include the Department of French (FREN and ITAL) (see “Department of French” on page 136) and the Department of Linguistics (LING, for First Nations languages) (see “Department of Linguistics” on page 149).

The Institute offers courses in a number of languages: Chinese (CHIN), German (GERM), Japanese (JAPN), Spanish (SPAN), as well as other languages as needed from time to time under the general language course offerings (LANG):
LANG 100-149 (1-5) Introduction to a World Language I
LANG 150-199 (1-5) Introduction to a World Language II
LANG 200-249 (1-5) Intermediate Language Study I
LANG 250-299 (1-5) Intermediate Language Study II

Contact the Language Training Institute general office for further information regarding current offerings in any specific languages.

Language Learning Centre

3020 Academic Quadrangle, (604) 291-4698 Tel,
www.sfu.ca/language-learning-centre

The centre provides instructional support for language teaching through its laboratory facilities and materials library, and through consultation with language instructors and students. A multimedia language laboratory provides integrated computer, audio, and video resources in separate classroom and drop-in facilities.

Spanish Language Courses

Course Challenge

Up to 12 lower division Spanish credit hours may be challenged for credit. These include only SPAN 102, 103, 201 and 202. Students wishing to challenge any or all of these courses must register in the courses to be challenged and in a Spanish language course for which the course(s) challenged is a prerequisite. A grade of at least C in the higher level course must be obtained to receive the challenge credit.

Language Course Placement

Students with knowledge of the Spanish language may take a short test in order to be placed in a language course best suited to their abilities in Spanish. The test is also used to advise students of the possibility of obtaining advance placement or challenge credit. Please note that students will not usually be able to take courses below the level in which they have been placed. Native speakers of Spanish or students who received their secondary education entirely within a Spanish speaking community will not normally be admitted to a 100 or 200 level Spanish language course.

Students who have completed the Spanish 12 program in Canadian high schools will not be admitted to Spanish 102.

Call the Language Learning Centre to make a placement test appointment.
Certificate in Spanish Language Proficiency

This certificate program is intended for elementary and secondary school teachers and undergraduate students who wish to improve their oral written proficiency in Spanish. Please note that Spanish is not considered a ‘teachable subject’ for application to the professional development program (secondary). It is also intended for anyone who wants to enhance their knowledge of the language for cultural reasons, professional needs, or who, for employment purposes, desire official certification of their proficiency in Spanish. This program, however, is not intended for native speakers of Spanish.

Courses are offered on campus during the day and evening, and may be taken on a full or part-time basis. Additionally, a sequential offering of courses is scheduled, subject to sufficient enrolment, at Simon Fraser University at Harbour Centre each fall, spring, and summer semester.

Requirements

Students must successfully complete all of:
- SPAN 102-3 Introductory Spanish I
- SPAN 103-3 Introductory Spanish II
- SPAN 201-3 Intermediate Spanish I
- SPAN 202-3 Intermediate Spanish II
- SPAN 303-3 Spanish Conversation and Composition
- SPAN 304-3 Advanced Spanish Conversation and Composition

plus two of:
- SPAN 305-3 Spanish for Business
- SPAN 307-3 Practical Spanish Phonetics
- SPAN 425-4 Teaching Spanish as a Second Language
- SPAN 461-3 Directed Studies

plus one of:
- LAS 100-4 Images of Latin America
- LAS 300-3 Latin American Literature
- LING 260-3 Language, Culture and Society

Notes: It is possible to obtain exemption, up to a maximum of 12 credit hours, from lower division Spanish language courses through Advanced Placement. Please note that the equivalent Spanish course number will vary based on the AP course taken. The AP course must be taken at a University of British Columbia or another recognized institution.

The department also maintains a committee of faculty advisors each year and their office hours are available through the Department of Mathematics and Statistics office. Students wishing to major in any of the programs sponsored by the Department of Mathematics and Statistics should seek advice early in their academic careers about program planning from department faculty advisors.

Course descriptions and prerequisites are in the Undergraduate Courses section of the Calendar.

The Department of Mathematics and Statistics offers a program of study within the Faculty of Arts leading to a bachelor of arts degree with a major or honors in mathematics. Students interested in a bachelor of science degree in mathematics should refer to the Faculty of Science section.

Requirements for the bachelor of arts in mathematics are set out below.

General Regulations

Students majoring in mathematics for a BA must satisfy the requirements found in the Calendar entry for the Faculty of Arts. They must also satisfy general University cumulative grade point average and credit hour requirements. Students seeking information on entry level course requirements and on the department’s workshops should see the Undergraduate Courses section of the Calendar for MATH and STAT courses.

Prerequisite Grade Requirement

To register in a course offered by the Department of Mathematics and Statistics, a student must obtain either a grade of C- or better in each prerequisite course, of a special waiver from the department.

Major and Honors Programs

Lower Division Requirements

CMPT 101-4 Introduction to Computer Programming
CMPT 201-4 Data and Program Abstraction
MACM 101-3 Discrete Mathematics I
MACM 201-3 Discrete Mathematics II
MACM 202-4 Mathematical Modeling and Computation
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 242-3 Introduction to Analysis
MATH 251-3 Calculus III
STAT 270-3 Introduction to Probability and Statistics

Note: With a grade of C or better in the relevant course, the following substitutions are permitted:
CMPT 104 for CMPT 101, MATH 154 or 157 for MATH 151, MATH 155 or 158 for MATH 152.
However, where possible, students should take MATH 151 and 152.

Upper Division Requirements

All students must take:

one of:
- MATH 308-3 Linear Programming
- MATH 343-3 Applied Discrete Mathematics
- one of:
- MATH 320-3 Advanced Calculus of one Variable
- MATH 322-3 Complex Variables
- one of:
- MATH 332-3 Introduction to Applied Algebraic Systems
- MATH 342-3 Elementary Number Theory
- and one of:
- MATH 310-3 Introduction to Ordinary Differential Equations
- MACM 316-3 Numerical Analysis I

Students majoring in mathematics for a BA must obtain at least 30 credit hours in upper division mathematics (MATH), statistics (STAT*), actuarial mathematics (ACMA), or mathematics and computing science (MACM) courses, or PHYS 413.

The 30 credit hour minimum total requirement for the mathematics major, at least 15 must come from MATH courses. At least three of the courses used to satisfy the 30 credit hour requirement must be 400 division courses. Students may not use a directed studies, job practicum or honors essay course to fulfill the 400 division requirement.

Honors Program Specific Requirements

In addition to the requirements for the major program listed above, students taking a BA with honors in mathematics must take MATH 252 and obtain at least 18 additional credit hours in upper division mathematics (MATH), statistics (STAT*), actuarial mathematics (ACMA), or mathematics and computing science (MACM) courses, or PHYS 413. Of this minimum total of 48 upper division credit hours, at least 24 must come from MATH courses.

At least five of the courses used to satisfy the 48 credit hour requirement must be from the 400 division. Students may not use a directed studies, job practicum or honors essay course to fulfill the 400 division requirement.

“None of STAT 301, 302 and 403 may be counted toward the 30 credit hours requirement for a major, or towards the required 30 credit hours for honors, although they may be counted as upper division elective credits.

Note: Mathematics students taking a major or honors are advised to take an upper division statistics course and an upper division MACM or CMPT course.

Majors and Honors Program Electives

In all cases the student’s overall program should include at least 65 credit hours in arts subjects.

When offered by the Department of Mathematics and Statistics, 80% of the following courses may be counted towards the upper division requirement.

Students taking a major must complete at least 45 upper division credit hours including the requirements for the major.

Students taking majors must complete at least 60 upper division credit hours including the requirements for honors.

Minor Program

Requirements for students completing a minor program in mathematics are listed under Department of Mathematics and Statistics in the Faculty of Science section.

Extended Minor Program

This program consists of the lower division requirements for a major and the upper division requirements for a minor. A student must have their program for the extended minor approved by the one of the department’s advisor.

Mathematics Program

K10512 Shrum Science Centre, (604) 291-3332, 3332 Tel, (604) 291-3332 Fax, www.math.sfu.ca

Advisors

Mrs. M. Falkboner BA (Occidental), MSc (S Fraser), K10511 Shrum Science Centre, (604) 291-4849/3332
Department of Philosophy


Chair (to be announced)

Professors Emeriti
R.D. Bradley BA, MA (NZ), PhD (ANU)
L. Resnick BA, PhD (C’nell),
N.M. Swartz BA (Harv), MA, PhD (Indiana)

Professors
S. Davis BA (Roch), MA, PhD (Ill)
R.E. Jennings BA, MA (Qu), PhD (Lond)

Associate Professors
K. Akins BA (Manit), PhD (Mich)
P.P. Hanson BA (Calg), MA, PhD (Prin)
J.H. Tietz BA (Pacific Lutheran), PhD (Claremont)
D. Zimmerman BA, MA, PhD (Mich)

Assistant Professors
S. Black BA (Concordia), PhD (Camb)
M. Hahn BA (S Fraser), MA (Br Col), PhD (Calif)

Senior Lecturer
P.T. Horban BA (Sask), MA, PhD (W Ont)

Advisor
Mr. D. Bevington, 4625 Diamond Building, (604) 291-4852

General Information

All 100 division courses (and PHIL 001) improve students’ skills in critical thinking, logical analysis and clarity of expression. One hundred division courses and PHIL 001 have no prerequisites, may be taken in any order by any student in any faculty and will acquaint students with some of the most important problems, perspectives and methods in philosophy. Moreover, all 100 division courses bear on particular problems and subjects encountered in other areas of study.

Two hundred division courses are slightly more advanced than 100 and are more specific in subject matter. It is recommended, but not mandatory, that students wishing to enrol in a 200 division philosophy course have completed 15 credit hours of university work or its equivalent. (PHIL 203 and 214 have additional prerequisites.)

For 300 and 400 division courses, students normally must have at least six credit hours of lower division philosophy before taking upper division courses. However, for those majoring in other departments who have a keen interest in a particular upper division course, this requirement may be waived by the department. Four hundred division courses are more advanced than 300 division courses (there is more reading, the reading is more difficult, and more writing is required). Students should take at least two 300 division courses before enrolling in a 400 division course.

Major Program

Lower Division Requirements
Students are required to complete at least 16 credit hours of lower division credit including all of
PHIL 100-3 Knowledge and Reality
PHIL 120-3 Introduction to Moral Philosophy
PHIL 203-3 Metaphysics
PHIL 210-4 Natural Deductive Logic
and one of
PHIL 150-3 History of Philosophy I
PHIL 151-3 History of Philosophy II

Upper Division Requirements
Students are required to complete at least 30 credit hours upper division credit including the following courses.
PHIL 301-3 Epistemology
at least one of
PHIL 320-3 Social and Political Philosophy
PHIL 321-3 Moral Issues and Theories
PHIL 421-4 Ethical Theories
at least one of
PHIL 341-3 Philosophy of Science
PHIL 343-3 Philosophy of Mind
PHIL 344-3 Philosophy of Language I
at least two of
PHIL 350-3 Ancient Philosophy
PHIL 353-3 Locke and Berkeley
PHIL 354-3 Descartes and Rationalism
PHIL 355-3 Hume and Empiricism
PHIL 451-4 Kant
PHIL 452-4 19th Century European Philosophy
PHIL 453-4 Background to Analytical Philosophy

Honors Program

This program is offered to those interested in advanced work in philosophy, and is strongly advised for students who plan a postgraduate degree in philosophy.

Course Requirements

Entering students must first complete 60 credit hours including 16 of philosophy, must fulfill lower division requirements for the philosophy major program listed above, and complete PHIL 301. A 3.0 GPA or higher for all philosophy courses is expected for entrance and continuation in the program but does not by itself guarantee either. Students proposing honors must submit an application (available in the department office), and consult the advisor.

After one honors program semester, a candidate must, in consultation with the advisor, devise a program of study. Consideration of the application and proposed program of studies will be based on the department’s assessment of the student’s potential for advanced work.

Students pursuing honors must
• fulfill the requirements of the philosophy major program
• complete a total of at least 50 credit hours of upper division courses in philosophy
• complete two honors tutorials in the last semester, or last two semesters, of the program

Tutorials offer sufficient time to examine in depth several philosophical topics in a general area such as ethics, metaphysics, philosophy of mind, etc. The honors candidate must achieve a grade of B or higher in each honors tutorial to receive the honors degree.

Minor Program

Course Requirements

Students must complete at least eight philosophy courses including at least five courses in the upper division. These courses may be either an individually designed program or those given in the core program below.

one of
PHIL 100-3 Knowledge and Reality
PHIL 110-3 Introduction to Logic and Reasoning
all of
PHIL 120-3 Introduction to Moral Philosophy
PHIL 203-3 Metaphysics
PHIL 301-3 Epistemology
plus at least four additional upper division courses

With the undergraduate advisor, a student may design a minor program with an emphasis that complements a special interest. For example, programs may be designed for students with an interest in law, language, natural or social science, history of ideas, social theory, value theory or logic.

Extended Minor Program

This program consists of the lower division requirements for a major and the upper division requirements for a minor. A student must have their program approved by the advisor for the extended minor program.

Joint Major in Philosophy and Humanities

See “Joint Major in Philosophy and Humanities” on page 153 for program information.

Seminars and Special Topics Courses

A student may not enrol in a philosophy seminar or selected topics course which deals with a general topic for which the student has received credit in another philosophy seminar or special topics course.

Reading Lists and Course Outlines

Reading lists and course outlines are available at the Department of Philosophy. The content of some courses varies considerably.

Program in Cognitive Science

Please see “Cognitive Science Program” on page 122 for program information.

Upper Division Courses

Listed by Field (partial listing)

Epistemology and Metaphysics

The following two courses are continuations of PHIL 100 and 203 at a more advanced level.
PHIL 301-3 Epistemology
PHIL 455-4 Contemporary Issues in Epistemology and Metaphysics

Logic

The following two courses offer concentrated work in logic and are continuations of PHIL 210 and 214.
PHIL 310-3 Modal Logic and Its Applications
PHIL 314-3 Topics in Logic I

Ethics and Aesthetics

The following are continuations of PHIL 120 and 220, and present a wide range of issues and topics in ethics, and in political and social philosophy.
PHIL 320-3 Social and Political Philosophy
PHIL 321-3 Moral Issues and Theories
PHIL 421-4 Ethical Theories

The following course is a continuation of PHIL 242.
PHIL 325-3 Philosophy of Art II

History of Philosophy

The following are continuations of PHIL 150 and 151, and examine, at a more advanced level, the philosophical foundations of Western culture.
PHIL 350-3 Ancient Philosophy
PHIL 353-3 Locke and Berkeley
PHIL 354-3 Descartes and Rationalism
PHIL 355-3 Hume and Empiricism  
PHIL 451-4 Kant  
PHIL 452-4 19th Century European Philosophy  
PHIL 453-4 Background to Analytical Philosophy  
PHIL 454-3 Twentieth Century European Philosophy

Methodology, Science, Mind, Language
The following five courses introduce special areas of philosophical interest.
PHIL 340-3 Philosophical Methods  
PHIL 341-3 Philosophy of Science  
PHIL 343-3 Philosophy of Mind  
PHIL 444-3 Philosophy of Language I  
PHIL 444-4 Philosophy of Language II

Department of Political Science
6067 Academic Quadrangle, (604) 291-4293 Tel, (604) 291-4786 Fax, www.sfu.ca/politics

Chair
S. McBride BSc (Lond), MA, PhD (McM)

Professors Emeriti
A. Ciria Abogado (Buenos Aires)  
E. McWhinney QC, LL.M., SJD (Yale)  
F.Q. Quo BA (Natnl Taiwan), MA (Oregon), PhD (S Illinois)  
M. Robin BA (Manit), MA, PhD (Tor)  
A.H. Somjee MA (Agra), PhD (Lond)

Professors
L.J. Cohen AB, MA (Ill), PhD (Col)  
T.H. Cohn BA (Mich), MA (Wayne), PhD (Mich)  
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M. Griffin Cohen BA (Iowa Wesleyan), MA (NY), PhD (York)*  
M. Howlett BScSci (Ott), MA (Br Col), PhD (Qu)  
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D. Laycock BA (Alt), MA, PhD (Tor)  
A. Moebs BA (Leht), MA (McM), PhD (Br Col)

Assistant Professors
J. Busumtwi-Sam BA, MA (Brock), PhD (Tor)  
T. Kawasaki LLB (Doshisha), MA (Tor), MA, PhD (Prin)**  

Advisors
Mrs. R. Jantzi, 6072 Academic Quadrangle, (604) 291-3588

*joint appointment with women's studies  
**joint appointment with interdisciplinary studies

The Department of Political Science offers several programs: honors, major, joint major, extended minor and minor programs. Students' programs must meet the Faculty of Arts breadth requirements. Please see "Breadth Requirements" on page 115.  

Students may not proceed to upper division courses until they have completed the appropriate lower division prerequisites. The specified prerequisites or departmental permission is required for entry into these courses. Students who fulfill the requirements may also take POL 498 and 499.

Fields of Study
The basic introductory course is POL 100. All other courses, with the exception of POL 498 and 499, are divided into five fields of study.

Field A Political Theory
POL 201-3 Research Methods in Political Science  
POL 210-3 Introduction to Political Philosophy  
POL 211-4 Politics and Ethics  
POL 311-4 History of Political Thought I  
POL 312-4 History of Political Thought II  
POL 313-4 Political Ideologies  
POL 314-4 Theory and Explanation in Political Science  
POL 315-4 Quantitative Methods in Political Science**  
POL 319-4 Selected Topics in Political Theory  
POL 411-4 Normative Political Theory  
POL 414-4 Theories of Political Development  
POL 415-4 The Liberal Tradition  
POL 416-4 Feminist Social and Political Thought  
POL 417-4 Human Rights Theories  
POL 418-4 Selected Topics in Political Theory I*  
POL 419-4 Selected Topics in Political Theory II*  
*These courses may require special prerequisites.  
**SA 355 may substitute for POL 315.

Field B Canadian Government and Politics
POL 221-3 Introduction to Canadian Government  
POL 222-3 Introduction to Canadian Politics  
POL 321-4 The Canadian Federal System  
POL 322-4 Canadian Political Parties  
POL 323-4 Provincial Government and Politics  
POL 324-4 The Canadian Constitution  
POL 327-4 Globalization and the Canadian State  
POL 329-4 Selected Topics in Canadian Government and Politics  
POL 347-4 Introduction to Canadian Foreign Policy  
POL 422-4 Canadian International Security Relations  
POL 423-4 BC Government and Politics  
POL 424-4 Quebec Government and Politics  
POL 426-4 Canadian Political Behaviour  
POL 427-4 The Legislative Process in Canada  
POL 428-4 Selected Topics in Canadian Government and Politics I*  
POL 429-4 Selected Topics in Canadian Government and Politics II*  
*These courses may require special prerequisites.

Field C Comparative Government and Politics
POL 231-3 Introduction to Comparative Government and Politics  
POL 330-4 Government and Politics: Selected West European Nations  
POL 332-4 Government and Politics: United States  
POL 333-4 Soviet and Post-Soviet Political Systems  
POL 334-4 East European Political Systems  
POL 335-4 Government and Politics: People's Republic of China I  
POL 336-4 Government and Politics: People's Republic of China II  
POL 337-4 Government and Politics: Selected Latin American Nations I  
POL 339-4 Selected Topics in Comparative Government and Politics  
POL 381-4 Government and Politics: Japan I  
POL 382-4 Government and Politics: Japan II  
POL 430-4 Government and Politics: Selected Asian Nations  
POL 431-4 Comparative Western European Systems  
POL 432-4 Comparative Communist and Post-Communist Political Systems  
POL 433-4 Comparative Developing Systems  
POL 435-4 Comparative Federal Systems  
POL 436-4 Elections, Parties and Government in Comparative Perspective  
POL 438-4 Selected Topics in Comparative Government and Politics I*  
POL 439-4 Selected Topics in Comparative Government and Politics II*  
*These courses may require special prerequisites.

Field D International Relations
POL 241-3 Introduction to International Politics  
POL 341-4 International Integration and Regional Association  
POL 342-4 Relations between Developed and Developing Nations  
POL 343-4 Global Political Economy  
POL 344-4 Public International Law  
POL 345-4 The Nation-State and the Multinational Corporation  
POL 346-4 International Organizations  
POL 347-4 Introduction to Canadian Foreign Policy  
POL 348-4 International Conflict Resolution  
POL 349-4 Selected Topics in International Relations  
POL 422-4 Canadian International Security Relations  
POL 441-4 Comparative Foreign Relations: Selected Political Systems  
POL 443-4 Nuclear Strategy, Arms Control and International Security  
POL 444-4 Politics and Foreign Policy of the European Union  
POL 445-4 American Foreign Policy: Processes, Issues  
POL 446-4 International Relations in East Asia  
POL 447-4 Theories of International Political Economy  
POL 448-4 Selected Topics in International Relations I*  
POL 449-4 Selected Topics in International Relations II*  
*These courses may require special prerequisites.

Field E Public Policy/Administration and Local Government
POL 151-3 The Administration of Justice  
POL 251-3 Introduction to Canadian Public Administration  
POL 252-3 Local Democracy and Governance  
POL 351-4 The Public Policy Process  
POL 352-4 Canadian Local and Urban Government and Politics  
POL 353-4 Public Sector Management  
POL 354-4 Comparative Metropolitan Governance  
POL 355-4 Governing Instruments  
POL 356-4 The Political Economy of Labor  
POL 357-4 Law and Politics  
POL 359-4 Selected Topics in Governance  
POL 451-4 Public Policy Analysis  
POL 454-4 Urban Public Policy Making  
POL 455-4 Issues in Economic and Social Policy  
POL 457-4 Controversies in Policy Innovation and Design  
POL 458-4 Selected Topics in Local and Urban Governance*  
POL 459-4 Selected Topics in Governance*  
*These courses may require special prerequisites.

Major Program

Lower Division Requirements
Students must complete
POL 100-3 Introduction to Politics and Government and one of
POL 201-3 Research Methods in Political Science  
ST A T 203-3 Introduction to Statistics for the Social Sciences

If a student plans to take both POL 201 and ST A T 203, a Field A credit may be claimed for POL 201. In this situation, it is recommended that POL 201 be taken before ST A T 203.

In addition, 12 lower division POL credit hours, covering at least three of the five fields of study, are required.
Upper Division Requirements
Students are required to complete 32 credit hours of upper division POL courses, covering at least three of the five fields of study. Eight of these 32 credit hours must be at the 400 level. This allows a student to concentrate course work in one field of study while attaining a broader understanding of the political science discipline.

Honors Program
Students with a CGPA of 3.0 and an upper division GPA of 3.33 are encouraged to apply for the honors program. Application forms are available from the departmental advisor. A complete application includes the essay proposal for POL 499 (Honors Thesis) and a letter of evaluation from the faculty member who agrees to supervise and evaluate the essay. Once the application is submitted, it is reviewed by the undergraduate studies committee in the semester prior to honors program entrance.

Lower Division Requirements
Students must complete one of POL 100-3 Introduction to Politics and Government POL 201-3 Research Methods in Political Science
and one of
POL 210-3 Introduction to Political Philosophy
POL 315-4 Quantitative Methods in Political Science (or equivalent)
If a student plans to take both POL 201 and STAT 203, a field A credit may be claimed for POL 201. In this situation, it is recommended that POL 201 be taken before STAT 203.
In addition, 12 lower division POL credit hours, covering at least three of the five fields of study, are required.

Upper Division Requirements
Students must complete 53 credit hours in upper division POL courses, covering at least three fields of study. Of these 53 credit hours, 16 must be concentrated in one field of study and five must be from POL 499 (Honors Essay). As well, 16 of these 53 credit hours must be at the 400 level.
An honors program option in each of the fields of study is not always offered. Current information is available from the departmental advisor.

Minor Program
Lower Division Requirements
Students must complete POL 100 and at least nine additional credit hours in lower division POL courses.

Upper Division Requirements
Students are required to complete 16 upper division credit hours in any of the fields of study.

Extended Minor Program
The extended minor program is based on the lower division requirements (100 and 200 level courses) of the major program and the upper division requirements (300 and 400 level courses) of the minor program.

Joint Major in French, History and Politics
Please see “Joint Major in French, History and Politics” on page 137 for information.

Joint Major in Political Science and Business Administration
The political science requirements are as follows: 15 credit hours in lower division POL courses, including POL 100, 151 and 251 and six credit hours in two Fields other than Field E; 24 credit hours in upper division POL courses including at least eight credit hours in field E and at least 16 credit hours in two other fields other than field E. Students are encouraged but not required to take POL 201 or STAT 203. Students must qualify for, receive admission to, and must remain qualified for continuance in the Faculty of Business Administration as well as being accepted by the Department of Political Science.
Students may opt for a Faculty of Arts or Faculty of Business Administration degree and must satisfy all the requirements of that faculty. For further information see the political science or business administration departmental advisor. See Faculty of Business Administration for details.

Joint Major in Political Science and Canadian Studies
The lower division requirements are identical to those of the political science major program except that students are encouraged but not required to take POL 201 or STAT 203. The political science requirements for upper division courses are as follows. A student must complete 32 credit hours in three of the five fields of study. Up to 12 credit hours that are available for credit in both political science and Canadian studies may count toward the upper division requirements of both departments.
For further information, see the political science or Canadian studies advisor. For complete details, see “Joint Major Program” on page 120.

Joint Major in Political Science and Economics
This program explores the fields of political science and economics, and develops an appreciation of the ways in which economic and political phenomena condition and interact in the modern world. Consult advisors in both departments.

Lower Division Requirements
Political Science
Students must complete all of
POL 100-3 Introduction to Politics and Government
POL 201-3 Research Methods in Political Science
POL 222-3 Introduction to Canadian Politics
POL 251-3 Introduction to Canadian Public Administration
plus one of
BUEC 232-3 Elementary Economic and Business Statistics I
CRIM 220-3 Research Methods in Criminology
POL 201-3 Research Methods in Political Science* PSYC 201-4 Research Methods in Psychology
SA 255-4 Introduction to Social Research
STAT 203-3 Introduction to Statistics for the Social Sciences
STAT 270-3 Introduction to Probability and Statistics
plus six lower division credit hours taken from at least one of the remaining fields of study (field A, C or D) for a total of 21 credit hours. *Recommended

Economics
Students must complete the following with a grade of at least C- prior to joint major program admission.
BUEC 232-3 Elementary Economic and Business Statistics I
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
MATH 110-3 Introductory mathematics for the Social and Management Sciences
MATH 157-3 Calculus for the Social Sciences (or equivalent)
plus
• two 200 division ECON or BUEC courses in addition to BUEC 232
• one 000, 100 or 200 ENGL or PHIL course
• one 100 or 200 level HIST or POL course (fulfilled by political science requirements listed above)
• one 100 or 200 level SA or PSYC course
• one 100 or 200 level BISC, CHEM or PHYS course

Upper Division Requirements
Political Science
Students must complete 24 credit hours from at least three political science fields of study, including a minimum of eight credit hours (two courses) in field E. Beyond field E, the following are highly recommended.
POL 313-3 Political Ideologies
POL 321-3 The Canadian Federal System
POL 342-4 Relations Between Developed and Developing Nations
POL 343-3 Global Political Economy
POL 345-4 The Nation-State and the Multinational Corporation
POL 427-4 The Legislative Process in Canada
POL 447-4 Theories of International Political Economy

Economics
Students are required to complete at least 25 credit hours of upper division credit in economics including all of
BUEC 333-3 Elementary Economic and Business Statistics II
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory
and at least one 400 division ECON or BUEC course (excluding ECON 431, 435 and BUEC 433).
Finally, to meet the Department of Economics’ group requirements for the economics major program, students must take at least one of
ECON 102-3 20th Century Economics
ECON 110-3 Foundations of Economic Ideas
ECON 208-3 History of Economic Thought
ECON 250-3 History of Economic Development (A)
ECON 252-3 History of Economic Development (B)
ECON 309-5 Introduction to Marxian Economics
ECON 353-5 Economic History of Canada
ECON 355-4 Economic Development
ECON 395-5 Comparative Economic Systems
ECON 404-3 Honors Seminar in Methodology of the Social Science
ECON 407-3 Seminar in Marxian Economics
ECON 409-3 Seminar in Economic Thought
ECON 450-3 Seminar in Quantitative Economic History
ECON 451-3 Seminar in European Economic History
ECON 455-3 Seminar in Economic Development

Joint Major in Political Science and Latin American Studies
Political science requirements are identical to the major program except that students are encouraged but not required to take POL 201 or STAT 203. POL 337 may not be used to satisfy Latin American studies requirements.
For further information see the political science or the Latin American studies departmental advisor. For complete details, see “Joint Major Programs” on page 148.
Joint Major in Political Science and Women's Studies

This program explores the political dimensions and context of women's experience, and the impact of women and feminist theory on the practice and study of politics. Consult advisors in both departments.

Lower Division Requirements

Political Science
POL 100-3 Introduction to Politics and Government
plus one of
BUEC 232-3 Elementary Economic and Business Statistics I
CRIM 220-3 Research Methods in Criminology
PSYC 201-1 Research Methods in Psychology
SA 255-4 Introduction to Social Research
STAT 203-2 Introduction to Statistics for the Social Sciences

STAT 270-3 Introduction to Probability and Statistics plus an additional nine credit hours of lower division courses taken from three of the five fields of study (field A, B, C, D and/or E), for a total of 15 lower division credit hours.

Recommended

Women's Studies

WS 101-3 Introduction to Women's Issues in Canada
WS 102-3 Introduction to Western Feminisms
plus three of
WS 200-3 Women in Cross Cultural Perspectives
WS 201-3 Women in Canada, 1900-1920
WS 202-3 Women in Canada, 1920 to the Present
WS 203-4 Female Roles in Contemporary Society
WS 204-3 Women, Science and Technology
WS 205-3 Women and Popular Culture
WS 206-3 Women's Issues in Health and Health Care

Upper Division Requirements

Political Science

Students must complete 24 upper division credit hours from at least three political science fields of study. It is strongly recommended that POL 412 be included in this selection.

Women's Studies

Twenty credits in upper division women's studies courses are required including one of WS 400, 411 or 412. Students who have taken WS 311 or 312 have met this requirement.

Co-operative Education Program

The department offers co-operative education for qualified students to obtain practical experience related to their political science studies. The program entails planned study semesters and employment, and is competitive. Not all applicants are able to participate in exactly the placements they choose, but the co-op program does endeavor to provide a placement to all qualified applicants.

To be eligible for admission, students must have completed 30 semester hours with a minimum CGPA of 3.0. Transfer students must complete at least 15 semester hours at Simon Fraser University.

For details, see "Co-operative Education" on page 201. Work semester arrangements are made with the Faculty of Arts co-op co-ordinator at least one semester in advance.

Department of Psychology

• a minimum CGPA of 3.33 over all Simon Fraser University courses
• completion of 15 Simon Fraser University psychology credit hours with a minimum CGPA of 3.0
• a minimum CGPA of 3.33 over PSYC 100, 102, 201 and 210
• completion of one course from each group
  Group A – PSYC 221, 280
  Group B – PSYC 241, 250, 260, 270
• completion of PSYC 301 with a minimum grade of C
• attendance at an honors information session
• approval and signature of a Department of Psychology faculty member willing to supervise the honors project

Continuation
• maintain a minimum 3.0 CGPA for all courses taken in each semester
• maintain a minimum 3.0 CGPA for all psychology courses taken in each semester
• attend the graduate research seminar in the appropriate graduate area while enrolled in PSYC 490/499.

Students not meeting the requirements may be dropped from the program, but may apply for readmission at a later date.

Completion
Complete 60 upper division credit hours, of which 50 must be in upper division PSYC courses, including one of PSYC 307-4 Historical Foundations of Psychology PSYC 308-4 History and Systems of Modern Psychology
all of...-

Students must also meet the honors graduation requirements of the University and the Faculty of Arts and obtain certification by the undergraduate studies committee that the program has been satisfactorily completed.

Minor Program
To be admitted to the minor program, students must obtain a final course grade of C (2.0) or better in each of the following courses.
PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
PSYC 201-4 Research Methods in Psychology

Note: The above requirement applies to courses transferred from other institutions as well as to courses taken at Simon Fraser University.

Students must complete one of PSYC 221, 241, 250, 260, 270 or 280 and a minimum of 15 credit hours of upper division psychology courses with a CGPA of 2.0. No more than 3 credit hours may be in directed studies courses. At least eight upper division credit hours must be taken at SFU.

Students who are approved majors or honors in criminology, intend to minor in psychology, and who have successfully completed CRIM 220 (with a final course grade of C [2.0] or better), may request a waiver for PSYC 201 by petitioning the psychology undergraduate advisor. If this waiver is granted, an additional three credit upper division psychology course must be selected to replace it.

Extended Minor Program
An extended minor consists of all lower division requirements for a major and all upper division requirements for a minor. A student must have their program approved by the advisor for the extended minor program.

Joint Major in Psychology and Criminology
This program explores relationships between the study of criminology and psychology. Students should consult advisors in both departments.

To be admitted, students must satisfy the admission requirements for majors in both criminology and psychology (refer to those sections of the Calendar).

To continue in the joint major, students must maintain a CGPA of 2.25, and will not be permitted to register in upper division criminology courses with a CGPA of less than 2.25. However, a student whose CGPA is between 2.00 and 2.25 may be eligible for a major in psychology.

Students who take CRIM 220 must obtain a Department of Psychology waiver of the PSYC 201 prerequisite for PSYC 210 and all 300/400 division PSYC courses, in advance of attempting to register for any of these courses. Students who take PSYC 201 must obtain from the criminology advisor a waiver of the CRIM 220 prerequisite for CRIM 320, in advance of attempting to register for this course.

Criminology Requirements

Group A Lower Division Requirements
both of
CRIM 100-5 Introduction to Criminology I
CRIM 102-5 Introduction to Criminology II
or all of
CRIM 101-3 Introduction to Criminology
CRIM 103-3 Psychological Explanations of Criminal and Deviant Behavior
CRIM 104-3 Sociological Explanations of Criminal and Deviant Behavior

plus all of
CRIM 131-3 Introduction to the Criminal Justice System — A Total System Approach
CRIM 135-3 Introduction to Canadian Law and Legal Institutions: A Criminal Justice Perspective
CRIM 220-3 Criminal Law

plus one of
PSYC 201-4 Research Methods in Psychology*

Group B Lower Division Requirements
SA 150-4 Introduction to Sociology

plus one of
POL 100-3 Introduction to Politics and Government
POL 151-3 The Administration of Justice

PHIL 001-3 Critical Thinking
PHIL 100-3 Knowledge and Reality
PHIL 110-3 Introduction to Logic and Reasoning
PHIL 120-3 Introduction to Moral Philosophy

PHIL 150-3 History of Philosophy I
PHIL 151-3 History of Philosophy II
PHIL 220-3 Introduction to Social and Political Philosophy
PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
PHIL 280-3 Introduction to Existentialism

Upper Division Requirements
all of
CRIM 300-3 Current Theories and Perspectives in Criminology
CRIM 320-5 Advanced Research Issues in Criminology
CRIM 330-3 Criminal Procedure and Evidence
plus a minimum of 12 credit hours of upper division criminology group A courses (excluding CRIM 369 and 462) and six credit hours of upper division non-criminology (group B) courses other than psychology.

Psychology Requirements

Lower Division Requirements
all of
PSYC 100-3 Introduction to Psychology I*
PSYC 102-3 Introduction to Psychology II*
PSYC 210-4 Data Analysis in Psychology*

plus one of
CRIM 220-3 Research Methods in Criminology*

plus one of
PSYC 221-3 Introduction to Cognitive Psychology
PSYC 280-3 Biological Bases of Behaviour

plus one of
PSYC 241-3 Introduction to Abnormal Psychology
PSYC 250-3 Child Psychology
PSYC 260-3 Introduction to Social Psychology
PSYC 270-3 Introduction to Personality

*students must obtain a final course grade of C (2.0) or better in each of these courses.

Upper Division Requirements
Students must complete a minimum of 21 credit hours of upper division psychology courses including either PSYC 307 or 308.

Joint Major in Psychology and Business Administration
For information see “Joint Major in Business Administration and Psychology” on page 169.

Joint Major in Psychology and Women’s Studies
For information, see “Joint Major in Psychology and Women’s Studies” on page 157.

Co-operative Education Program
The department offers co-operative education to qualified students who wish practical psychology experience. The program entails planned study semesters and employment in the area of the student’s choice.

Note: This program will not provide training in clinical psychology or therapeutic techniques, which can only be obtained through approved clinical psychology graduate programs.

For admission, 30 credit hours with a minimum 3.0 CGPA is required. Prior to admission, students must complete PSYC 100, 102, 201 and 210 or their equivalents. Transfer students must complete at least 15 credit hours at Simon Fraser University.

For details, see “Co-operative Education” on page 201. Arrangements for work semesters are made through the Faculty of Arts co-op co-ordinator
who should be consulted at least one semester in advance.

**Advice to Students from Other Departments**

Students who are not taking a psychology major, minor or honors may take psychology courses if they meet the prerequisites or special instructions. The listed prerequisites indicate the minimal background expected by instructors.

**Psychology and Statistics**

In most areas of psychology, a level of statistical sophistication is required before undertaking independent research or evaluating research of others. The department offers several courses in research methodology and data analysis: PSYC 201, 210, 301, 311, 410, 411. Students who have a special interest in more extensive statistical training to facilitate their work in psychology, should also consider courses from STAT 270 and above, and in particular, STAT 270, 302, 330, 403, 410 and 430.

**Directed Studies Courses (PSYC-493-498 inclusive)**

These courses enable an individual or small group to work with a faculty member on a reading or research project of mutual interest. Common reasons for a student requesting such a course are:

- the continuation of a reading or research project begun in a 400 level seminar
- covering material not covered in the regular course offerings
- the completion of a research or reading project which does not fall within the terms of reference of other courses

Directed studies courses may not duplicate material covered in other psychology courses. The minimum entry requirements are a B (3.0) average, at least 60 credit hours and department permission. Students taking a directed studies course must complete an application form (available in the department) in conjunction with the intended instructor.

Psychology major or honors students may count no more than eight directed studies credit hours toward the required upper division psychology credits.

**Department of Sociology and Anthropology**

5054 Academic Quadrangle, (604) 291-3146 Tel, (604) 291-5799 Fax, www.sfu.ca/sociology

Affiliation with the two divisions within the department is shown as follows: A – anthropology; S – sociology. LAS – Latin American studies

**Chair**

E. Gee BA, PhD (Br Col) – S

**Professors Emeriti**

H. Dickie-Clark BA (Rhodes), PhD (Natal) – S
J. Garcia Prof Lit (Peru), MA (Alta), DoctCert (Madrid) – LAS
H. Sharma MA (Delhi), MS (Cleveland), PhD (C’nell) – S
I.R. Whitaker MA (Camb), DPhil (Oslo) – A
R.W. Wylie BA (Leic) – S

**Professors**

H. Adam Dipl SocIal DrPhil (Fran), Habilitation – S
N. Dyck BA, MA (Sask), PhD (Manc) – A
E. Gee BA, PhD (Br Col) – S
M. Howard BA, MA, PhD (WAust) – A
M. Kenny BA, MA (Virginia), DipSocAnthrop, DPhil (Oxf) – A

**Associate Professors**

I. Angus BA, MA (Wat), PhD (York)*** – S
M. Boelscher-Ignace MA (Georg August Universitat), PhD (S Fraser)** – A
P. Dossa BA, MA (Edin), PhD (Br Col) – A
M. Gates BA (Sheff), MA, PhD (Br Col) – A
D. Lacombe BA (Sherbrooke), MA, PhD (Tor)* – S
A.T. McLaren BA (Br Col), MA (Iowa), PhD (Lond) – S
G. Otero BA (Monterrey), MA (Tex), PhD (Wis) – S
S. Pigg BA, MA, PhD (C’nell) – A
J. Pulkingham BA, MA, PhD (Edin) – S
G.B. Teeple BA, MA (Tor), DPhil (Sus) – S
J.M. Whitworth BA (Leic), DPhil (Oxf) – S

**Assistant Professors**

D. Culhane BA, PhD (S Fraser) – A
K. Froschauer BA, MA (Br Col), PhD (Carl) – S
B. Mitchell BA, MA (Wat), PhD (McM)**** – S
G.P. Nicholas BA (Franklin Pierce Coll), MA (Missouri), PhD (Mass)**** – A

**Adjunct Professors**

R. Bateman BA, MA (Oklahoma), PhD (Johns Hopkins)
G. Rush BA (Br Col), PhD (Oregon)

**Lab Instructor**

C. Szafnicki MA (Lodz), PhD (Warsaw) – A

**Lecturers**

M. Escudero-Faust BA, MA (S Fraser) PhD (Br Col) – LAS
P. Landolt BA, MA (York), MA (Johns Hopkins) – S

**Advisor**

Ms. N. Payne, 5056 Academic Quadrangle, (604) 291-3726

Note: To assist students to plan an interdisciplinary program, courses listed in the Undergraduate Courses are designated as follows.
A – anthropology
S – sociology
An SA course can be counted as either sociology or anthropology.

**Major Programs**

**Lower Division Requirements**

Lower division requirements provide a broad introduction to both disciplines, to critical analysis of Canadian society, to basic logic and methods used in social research, and to the application of these methods to topics of special interest to students.

Students should complete all lower division requirements before taking upper division courses.

**Anthropology Major**

SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 201-4 Anthropology of Contemporary Life
SA 255-4 Introduction to Social Research
plus one additional ‘A’ course at the 200 level

**Sociology Major**

SA 100-4 Perspectives in Canadian Society
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 250-4 Introduction to Sociological Theory
SA 255-4 Introduction to Social Research
STAT 203-4 Introduction to Statistics for Social Sciences

Note: Students with an equivalent post secondary statistics course are exempt from STAT 203. It is, however, highly recommended that students take SA 255 before taking STAT 203.

**Upper Division Requirements**

Students must meet theory and methods requirements (see program options following for specific requirements). In our information based society, many employers and most graduate schools require considerable knowledge of the processes involved in conceptualizing research problems, information gathering, analysis and presentation. Students are strongly urged to prepare by balancing management, health care fields, and international development projects.

Courses provide students specializing in other disciplines with an appreciation of social and cultural processes that will complement their specialization. Especially appropriate are SA 100, 101, 150, 201, 263, 286, 292 and 293, which require no prerequisites. A number of other courses dealing with important contemporary issues such as SA 202, 203, 216, 217, 218 and 260 are open to students with one introductory course.
theory courses with methods courses over and above the required minimum. Beyond this, they may choose to range broadly across the two disciplines or to focus on a special interest. Courses fall broadly into the following groups.

**Anthropological Theory and Institutions of Social Life**
- SA 301-4 Contemporary Ethnography
- SA 323-4 Symbol, Myth and Meaning
- SA 332-4 The Anthropology of Childhood
- SA 364-4 Urban Communities and Cultures
- SA 371-4 The Environment and Society
- SA 401-4 The Politics of Culture in Contemporary Societies
- SA 402-4 The Practice of Anthropology

**Anthropology and the Past**
- SA 467-4 Anthropology of the Self
- SA 472-4 Anthropology and the Past (highly recommended)

**Canadian Native Peoples and Other Minority Indigenous Peoples**
- SA 386-4 Native Peoples and Public Policy
- SA 388-4 Comparative Studies of Minority Indigenous Peoples
- SA 486-4 Aboriginal Peoples and British Columbia: Advanced Seminar

**Health and Society**
- SA 318-4 The Anthropology of Medicine
- SA 319-4 Culture, Ethnicity and Aging
- SA 320-4 Population and Society
- SA 420-4 The Sociology of Aging

**Social Policy and Social Policy Analysis**
- SA 316-4 Tourism and Social Policy
- SA 320-4 Population and Society
- SA 340-4 Social Issues and Social Policy Analysis
- SA 371-4 The Environment and Society
- SA 386-4 Native Peoples and Public Policy
- SA 447-4 Selected Issues in Social Policy Analysis

**Sociological Theory and Institutions of Social Life**
- SA 300-4 Canadian Social Structure
- SA 304-4 Social Control
- SA 322-4 Sociology of Religion
- SA 325-4 Political Sociology
- SA 327-4 Sociology of Knowledge
- SA 333-4 Schooling and Society
- SA 350-4 Classical Sociological Thought
- SA 351-4 Classical Marxist Thought
- SA 358-4 The Philosophy of the Social Sciences
- SA 362-4 Society and the Changing Global Division of Labor
- SA 416-4 Sociology of Art Forms
- SA 450-4 Advanced Sociological Theory

**Third World Studies**
- SA 363-4 Processes of Development and Underdevelopment
- SA 374-4 South Africa: Socio-Political Development
- SA 392-4 Latin America
- SA 463-4 Special Topics in Development Studies

**Joint Major Programs**

**Joint Major in Archaeology and Anthropology**
Please see “Joint Major in Archaeology and Anthropology” on page 119.

**Joint Major in Art and Culture Studies and Anthropology**
Please see “Joint Major in Anthropology or Sociology, and Art and Culture Studies” on page 128.

**Joint Major in Sociology or Anthropology and Canadian Studies**
Please see “Joint Major Program” on page 120.

**Lower Division Anthropology Requirements**
Students must complete all of SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 255-4 Introduction to Social Research

Students must complete one of SA 204-4 Anthropology of Contemporary Life
SA 245-4 Cultures and Images

and one of CMNS 260-3 Introduction to Empirical Communication Research Methods

**Lower Division Communication Requirements**
Students must complete all of SA 100-4 Perspectives on Canadian Society
SA 301-4 Introduction to Anthropology
SA 315-4 Introduction to Sociology
SA 255-4 Introduction to Sociological Theory
SA 255-4 Introduction to Social Research

**Note:** Students with equivalent post secondary statistics courses are exempt from STAT 203 but should take SA 255 before taking STAT 203.
CMNS 110-3 Introduction to Communication Studies
CMNS 130-3 Explorations in Mass Communication
plus one of
CMNS 260-3 Introduction to Empirical Communication Research Methods
CMNS 261-3 Documentary Research in Communication
plus three additional lower division CMNS courses

**Upper Division Anthropology Requirements**
Students must complete a minimum of 20 upper division credit hours in anthropology or SA courses (five courses) which must include the following.
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods
Recommended
SA 401-4 The Politics of Culture in Contemporary Societies
SA 402-4 The Practice of Anthropology

**Upper Division Sociology Requirements**
Students must complete a minimum of 20 upper division credit hours in sociology or SA courses (five courses) which must include the following.
SA 350-4 Classical Sociological Thought and one of
SA 355-4 Quantitative Methods
SA 356-4 Ethnography and Qualitative Methods

**Upper Division Communication Requirements**
Students must complete a minimum of 24 upper division credit hours in communication, including the following. Directed study and field placement courses may not be used to meet this requirement.
one of
CMNS 362-4 Evaluation Methods for Applied Communication Research
CMNS 363-6 Approaches to Media and Audience Research

**Joint Major in Sociology or Anthropology and Criminology**
Sociology/anthropology and criminology have some common methods and theoretical concerns; for example, the relationship between such variables as class, gender, ethnicity and crime; the social construction of deviance; the law as a social phenomenon; and the general social, political, and economic frameworks of society that condition the nature and perception of social problems. This joint major is recommended for students who share these concerns.

Admission is contingent upon the enrolment limitation requirements of the School of Criminology. Application for admission must follow the general procedures established by the school.

A grade of 1.67 (C-) or better is required in all non-elective courses.

The department offers degrees in sociology or anthropology and a joint degree in sociology and anthropology. Students interested in a joint program in sociology or anthropology and criminology should contact both department advisors.

**Anthropology Requirements**

*Lower Division Requirements*
For the joint major in anthropology and criminology, students must complete all of
SA 100-4 Perspectives on Canadian Society
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 201-4 Anthropology of Contemporary Life
plus one of
CRIM 220-3 Research Methods in Criminology
SA 255-4 Introduction to Social Research
plus one of
SA 203-4 Comparative Ethnic Relations
SA 218-4 Illness, Culture and Society
SA 286-4 Aboriginal Peoples and British Columbia: Introduction
SA 293-4 Special Topics in Anthropology
SA 294-4 Special Topics in Sociology and Anthropology*

*If course has anthropological content

**Upper Division Requirements**
Students must complete a minimum of 20 upper division credit hours including
both of
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods
plus two of
SA 318-4 The Anthropology of Medicine
SA 345-4 Issues in Canadian Ethnic Relations
SA 364-4 Urban Communities and Cultures
SA 386-4 Native Peoples and Public Policy
SA 387-4 Canadian Native Peoples
SA 388-4 Comparative Studies of Minority Indigenous Peoples
SA 400-4 Canadian Ethnic Minorities
SA 401-4 The Politics of Culture in Contemporary Societies
SA 402-4 The Practice of Anthropology
plus one other SA course as an elective

**Sociology Requirements**

*Lower Division Requirements*
For the joint major in sociology and criminology, students must complete all of
SA 100-4 Perspectives on Canadian Society
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 250-4 Introduction to Sociological Theory
plus one of
CRIM 220-3 Research Methods in Criminology
SA 255-4 Introduction to Social Research
plus one of
SA 202-4 Post-Industrial Society
SA 203-4 Comparative Ethnic Relations
SA 260-4 Individual and Society
SA 286-4 Aboriginal Peoples and British Columbia: Introduction

**Upper Division Requirements**
Students must complete a minimum of 20 upper division credit hours including
SA 304-4 Social Control
SA 350-4 Classical Sociological Thought
SA 355-4 Quantitative Methods
SA 356-4 Ethnography and Qualitative Methods (SA)
plus one additional upper division SA course.

**Criminology Requirements**
For either the joint major in sociology and criminology, or in anthropology and criminology, students must complete the following criminology lower division requirements totaling a minimum of 60 credit hours with a 2.25 CGPA. The 60 upper division requirements also have the same CGPA stipulation.

Students must complete all criminology lower division requirements before application, and before formal admittance is granted to undertake upper division criminology courses.

CRIM 369 or 462 may not be used for credit towards this joint major.

**Lower Division Requirements**
all of
CRIM 131-3 Introduction to the Criminal Justice System — A Systemic Approach
CRIM 135-3 Introduction to Canadian Law and Legal Institutions: A Criminal Justice Perspective

CRIM 203-3 Historical Reactions to Crime and Deviance
CRIM 230-3 Criminal Law

either both of
CRIM 102-5 Introduction to Criminology II
CRIM 105-3 Introduction to Criminology
or all of
CRIM 101-3 Introduction to Criminology
CRIM 103-3 Psychological Explanations of Criminal and Deviant Behavior
CRIM 104-3 Sociological Explanations of Criminal and Deviant Behavior

plus one of
CRIM 220-3 Research Methods in Criminology*
SA 255-4 Introduction to Social Research*
plus one other CRIM course as an elective
plus one of
PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
plus one of
POL 100-3 Introduction to Politics and Government
POL 151-3 The Administration of Justice
plus both of
SA 255 prerequisite for SA 355 and 356 in advance of registering for these courses. Students who take SA 255 must obtain from the criminology advisor a waiver of the CRIM 220 prerequisite for CRIM 320 in advance of registering for this course.

**Upper Division Requirements**
Students must complete a minimum of 25 upper division credit hours including all of
CRIM 300-3 Current Theories and Perspectives in Criminology
CRIM 320-5 Advanced Research Issues in Criminology
CRIM 330-3 Criminal Procedure and Evidence
CRIM 332-3 Sociology of Law
CRIM 369 and 462 are not permitted.

**Additional Electives**
The remaining semester hours may be selected at the student’s discretion. Faculty of Arts breadth requirements must be completed so general electives should be considered for that purpose.

**Joint Major in Sociology or Anthropology and Latin American Studies**

**Lower Division Sociology Requirements**
SA 100-4 Perspectives on Canadian Society
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 250-4 Introduction to Sociological Theory
SA 255-4 Introduction to Social Research
STAT 203-3 Introduction to Statistics for the Social Sciences

**Lower Division Anthropology Requirements**
These requirements are the same as for sociology except that SA 250 is not required. In addition, two 200 level anthropology or SA courses are required.
Upper Division Sociology Requirements
Students must complete 20 credit hours in sociology or SA courses, which must include
SA 350-4 Classical Sociological Thought
and one of
SA 355-4 Quantitative Methods
POL 315-4 Quantitative Methods in Political Science
and one of
SA 356-4 Ethnography and Qualitative Methods
SA 357-4 Survey Research

Upper Division Anthropology Requirements
Students must complete 20 credit hours in anthropology or SA courses, which must include
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods
For complete requirements, see “Joint Major Programs” on page 159.

Joint Major in Sociology and Anthropology and Linguistics
For requirements, see “Joint Major Programs” on page 159.

Joint Major in Sociology or Anthropology and Women’s Studies
For requirements, see “Joint Major in Sociology or Anthropology and Women’s Studies” on page 164.

Honors and Joint Honors Programs

Sociology Honors Program
In addition to the specified lower division requirements (see Major Programs above), students must complete 52 credit hours in upper division SA, 32 of which must be in sociology, with the remaining 20 in anthropology.
A 3.33 GPA in all SA courses is required for admission to, and graduation from, the honors program. Also, honors students must complete SA 499.

Theory Requirements
Please refer to Theory Requirement, Sociology Major Program. Theory requirements should be taken as early as possible in the upper divisions.

Methods Requirements
Please refer to Methods Requirements, Sociology Major Program. Methods requirements should be taken as early as possible in the upper division program.

Note: Students are strongly urged to balance theory courses with methods courses over and above the required minimum.

Anthropology Honors Program
In addition to the lower division requirements specified earlier (see Major Program, General Requirements), students must complete 52 credit hours in upper division SA courses, 32 credit hours of which must be in anthropology, with the remaining 20 credit hours in sociology. A GPA of 3.33 in all SA courses is required for admission to, and graduation from, the honors program. Also, honors students must complete SA 499.

Theory Requirements
Please refer to Theory Requirement, Anthropology Major Program. Theory requirements should be taken as early as possible in the upper division program.

Methods Requirements
Refer to Methods Requirements, Anthropology Major Program. Methods requirements should be taken as early as possible in the upper division program.

Note: Students are strongly urged to balance theory courses with methods courses over and above the required minimum.

Joint Honors in Sociology and Anthropology
In addition to the lower division requirements specified earlier (see Major Program, General Requirements), students must complete 60 credit hours in upper division SA courses, 32 credit hours of which must be in one discipline, with the remaining 28 credit hours in the other discipline.
A 3.33 GPA in all SA courses is required for admission to, and graduation from, the honors program. Honors students must complete SA 499.

Theory Requirements
Please refer to Theory Requirements, Joint Major in Sociology and Anthropology. Theory requirements should be taken as early as possible in the upper division program.

Methods Requirements
Refer to Methods Requirements, Joint Major in Sociology and Anthropology. Theory requirements should be taken early in the upper division program.

Note: Students are strongly urged to balance theory courses with methods courses over and above the required minimum.

Joint Honors in Sociology or Anthropology and Canadian Studies
For requirements, see “Joint Honors Program” on page 160.

Minor Programs

Anthropology Minor Program
Students must complete 12 lower division credit hours including
SA 101-4 Introduction to Anthropology
SA 201-4 Anthropology of Contemporary Life
plus one additional 100 or 200 level SA designation or A designation course.

Note: unassigned transfer credit cannot be used instead of SA 101 or 201.

Students must also complete 16 upper division credit hours including
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods
plus two additional (four credit) upper division courses, at least one of which must be an A designation course at the 400 level.

Sociology Minor Program
Students must complete 12 lower division credit hours, of which eight must be an S designation or SA designation, and 16 upper division semester hours, all of which must be in S or SA designation courses.

Note: those upper division courses with an A designation will not be allowed for a sociology minor.

Extended Minor Program
An extended general minor consists of lower division requirements for a major and upper division requirements for a minor. Certain other criteria may be set by individual departments and programs. A student must have their program approved by the advisor for the extended minor program.

Southwest Asia Field School
Field School Leader:
M. Howard BA, MA, PhD (WAust)

Through study and travel in Vietnam and Thailand, this field school serve as an introduction to Southeast Asia for undergraduate students.
The program is approximately 13 weeks and consists of three courses (12 credit hours). Arrangements can be made for students who have taken one or more of these courses, to receive credit for other suitable courses. Arrangements can also be made for graduate students to participate.
All instruction will be in English, however there will be a brief introduction to the Thai language.
The field school is generally held every other year, with the next field school running in the summer semester 2002. Admission to the program is by application. Students must be in good academic standing and have completed an introductory anthropology course. Information can be obtained either from the Department of Sociology and Anthropology or from International & Exchange Student Services.

Post Baccalaureate Diploma Programs

Post Baccalaureate Diploma in Ethnic and Intercultural Relations
This program, for students who have already completed a bachelor’s degree, may be completed through a combination of distance education courses, on campus and SFU at Harbour Centre.
Ethnic and intercultural relations is the study of ethnically defined conflicts and problems of migration. Such conflicts arise from the ascription of demeaning characteristics to groups of people and, more importantly, result from exclusion. The program explores the causes of unequal treatment, to compare ethnic antagonisms internationally and to develop strategies to improve intergroup relations in Canada in light of this knowledge.
The program is intended for human services professionals (social workers, educators, police, counsellors, personnel managers, health practitioners or civil servants) to perform effectively with clients from a variety of cultural and linguistic backgrounds. It fosters better understanding of the nature of our multi-ethnic society.
For information about the post baccalaureate diploma program general regulations, refer to Continuing Studies.

Program Requirements
Successful completion of an approved program of 30 credit hours of third and fourth year courses.

Required Courses
SA 340-4 Social Issues and Social Policy Analysis
SA 345-4 Issues in Canadian Ethnic Relations
and two of
CRIM 311-3 Minorities and the Criminal Justice System
EDUC 441-4 Multicultural Education
HIST 322-4 Atlantic Migration
POL 481-3 Ethnic Politics and National Identity: Comparative Perspectives
SA 303-4 Ethnic Conflicts
Studies.

SA 300-4 Canadian Social Structure
POL 451-4 Public Policy Analysis
SA 300-4 Canadian Social Structure
SA 304-4 Social Control

Optional Courses
CMNS 347-4 Communication in Conflict and Intervention
CRIM 335-3 Human Rights and Civil Liberties
CRIM 419-3 Native North Americans: Crime, Deviance and Criminal Justice
GEOG 420-4 Comparative Cultural Geography
HIST 326-4 The History of Native People in Canada
SA 319-4 Culture, Ethnicity, and Aging
SA 374-4 South Africa: Socio-Political Development
SA 387-4 Canadian Native Peoples
SA 388-4 Comparative Studies of Minority Indigenous Peoples
WS 309-4 Gender and Development

Subject to approval of the steering committee, students will be able to take relevant special topics and other courses which may become available. Please consult the sociology and anthropology departmental assistant for information.

Completion of the diploma must be within five years of admission. Students must maintain a GPA of 2.5 on courses applied toward this diploma.

Acceptance of general Simon Fraser University admission does not automatically guarantee admission to the post baccalaureate diploma program. Students must apply for entry directly to the Department of Sociology and Anthropology.

Post Baccalaureate Diploma in Social Policy Issues

This program is for students who hold a bachelor’s degree. It may be completed through distance education, on campus and at Simon Fraser University at Harbour Centre. The program applies recent developments in social theory and research methods to the investigation of a range of social programs and social policy issues. As well as featuring courses which examine substantive social policy issues, the program provides the critical perspectives needed to grasp the processes by which social problems are defined, understood, and acted upon in Canada and other societies.

For information about the post baccalaureate diploma program general regulations, refer to Continuing Studies.

Program Requirements

Students must successfully complete an approved program comprised of 30 credit hours of third and fourth year courses, at least 16 are to be taken from the set of core courses described below.

Core Courses
Students must complete at least four of the following courses, one of which must be SA 340.
SA 303-4 Ethnic Conflicts
SA 316-4 Tourism and Social Policy
SA 319-4 Culture, Ethnicity, and Aging
SA 320-4 Population and Society
SA 333-4 Schooling and Society
SA 335-4 Gender Relations and Social Issues
SA 340-4 Social Issues and Social Policy Analysis
SA 363-4 Processes of Development and Underdevelopment
SA 386-4 Native Peoples and Public Policy
SA 420-4 Sociology of Aging

Optional Courses
An additional four courses from the following list would complete the requirements for the program.
POLL 321-4 The Canadian Federal System
POLL 322-4 Canadian Local and Urban Government and Politics
POLL 451-4 Public Policy Analysis
SA 300-4 Canadian Social Structure
SA 304-4 Social Control
SA 321-4 Social Movements
SA 325-4 Political Sociology
SA 362-4 Society and the Changing Global Division of Labor
SA 401-4 The Politics of Culture in Contemporary Societies
SA 404-4 Canadian Ethnic Minorities
SA 402-4 The Practice of Anthropology
SA 463-4 Special Topics in Development Studies

To fulfill the optional course requirement, students may instead take additional core courses, or upon the program steering committee’s recommendation, select a course not included among listed options, but with content appropriate to the program.

Acceptance of general SFU admission does not automatically guarantee admission to this program. Students must apply for entry directly to the Department of Sociology and Anthropology.

Certificate Programs

Certificate in Family Studies

This program facilitates the study of families from an interdisciplinary perspective. Students gain an understanding of families from the perspectives of psychology, sociology, gerontology and health. Students may supplement core courses with electives in relevant disciplines such as communications, education, history, and women’s studies.

Admission Requirements

In addition to normal University admission requirements, students must complete PSYC 100, 102, and SA 150 prior to formal admission to the program. GER0 300 is highly recommended. Students can be admitted under regular entry or special entry requirements.

Program Requirements

• successful completion of 30 credit hours, of which 13 are earned by completing four required core courses. The remaining 17 hours are selected from a set of three courses from which the students select one, and 13 hours of elective credit. Some have prerequisites that are not included in the certificate program.
• minimum grade point average of 2.25 calculated on all courses applied to the certificate. Duplicate courses are counted once.
• completion of the certificate normally within five years of admission to the certificate program.

Core Courses (17 credit hours)
PSYC 208-3 Families and Aging
PSYC 250-3 Child Psychology
SA 231-4 The Sociology of Domestic Life
and one of:
KIN 110-3 Human Nutrition: Current Issues
KIN 140-3 Contemporary Health Issues
and one of:
HIST 310-4 Women and the Family in Modern Europe
SA 331-4 Politics of the Family
SA 332-4 Anthropology of Childhood

If students choose more than one of these courses, they may be applied to their elective courses.

Elective Courses (13 credit hours)
Students must complete 13 credit hours from the following.
CMNS 205-3 Introduction to Interpersonal Communication
CMNS 320-4 Children, Media and Culture
CRIM 210-3 Law, Youth and Young Offenders
EDUC 425-4 School Counselling for the Classroom Teacher
HIST 329-4 Canadian Family History
PSYC 355-3 The Psychology of Adolescence and Youth
PSYC 357-3 Psychology of Adulthood and Aging

Co-operative Education

The co-operative education program provides practical experience in the social sciences. The program entails planned study semesters and employment in an area of the student’s choice.

Requirements

To be admitted into the program, students must have completed 29 hours with a minimum CGPA of 2.75. Prior to admission, students must complete all of:
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 255-4 Introduction to Social Research
and one of:
SA 201-4 Anthropology of Contemporary Life
SA 250-4 Introduction to Sociological Theory
and one of:
SA 202-4 Post-Industrial Society
SA 203-4 Comparative Ethnic Relations
SA 263-4 Peasants, Proletarians and the Global Economy

College transfer students must complete at least 15 credit hours at SFU before being eligible for admission, and must satisfy the requirements above or equivalents. College transfer students who participated in co-op programs elsewhere may be credited with semester(s) already taken. The applicability of such semesters depends on the evaluation of the Department of Sociology and Anthropology.

Arrangements for the work semesters are made through the Faculty of Arts and the department’s co-op co-ordinators. To continue in the co-op program, students must maintain a minimum cumulative GPA of 2.75 in their course work.

For details, refer to Co-operative Education. Interested students should contact the Department of Sociology and Anthropology for information.

Statistics Program

Director of Statistics
C.B. Dean BSc (Sask), MMath, PhD (Wit)
Professors Emeriti
M.A. Stephens BSc (Brist), AM (Harv), PhD (Tor)
C. Villegas Ing Ind (Uruguay)
Associated Faculty within Department of Mathematics and Statistics
C.B. Dean
J. Graham
R.A. Lockhart

162 Faculty of Arts –
Prerequisite Grade Requirement
A grade of C- or better in prerequisites for courses offered by the Department of Mathematics and Statistics is required.

Faculty of Arts Requirements
Students planning to complete a bachelor of arts with a major or honors in statistics must satisfy the Faculty of Arts requirements.

Major Program
A major in statistics requires 120 credit hours, of which at least 65 must be within the Faculty of Arts and the Department of Mathematics and Statistics. Please see ‘Bachelor of Arts Degree’ on page 114 concerning general regulations, breadth requirements, upper division credit and other requirements. In addition to the requirements for a major, candidates for a statistics honors must obtain credit for the following.

a) Lower Division Requirements
Mathematics
Students must complete one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences
MATH 157-3 Calculus for the Social Sciences I
plus one of
MATH 152-3 Calculus II
MATH 155-3 Calculus II for the Biological Sciences
MATH 158-3 Calculus for the Social Sciences II
plus both of
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III

Statistics
Students must complete both of
STAT 270-3 Introduction to Probability and Statistics
STAT 280-3 Applied Probability Models

b) Upper Division Requirements
Mathematics and Computing Science
Students must complete
MACM 316-3 Numerical Analysis I

Probability and Statistics
Students must complete all of
STAT 330-3 Introduction to Statistical Inference
STAT 350-3 Linear Models in Applied Statistics
STAT 402-3 Generalized Linear and Nonlinear Modelling
STAT 410-3 Statistical Analysis of Sample Surveys
STAT 430-3 Statistical Design and Analysis of Experiments
STAT 450-3 Statistical Theory

c) Minor Program
Students are also required to complete a minor in another discipline other than mathematics or statistics. The certificate in actuarial mathematics may be used to fulfil this requirement.

d) Faculty of Arts Requirements
Faculty of Arts requirements stipulate that at least three other upper division courses be taken in mathematics, statistics, and actuarial mathematics or mathematics/computing science. See a department advisor before selecting these courses. STAT 340, 420 and 460 are recommended. Neither STAT 301 nor 302 may be used to fulfil this requirement.

Honors Program
This bachelor of arts program requires 132 credit hours, of which at least 65 must be within the Faculty of Arts and Department of Mathematics and Statistics. Please see ‘Bachelor of Arts Degree’ on page 114 concerning general regulations, breadth requirements, upper division credit and other requirements. In addition to the requirements for a major, candidates for a statistics honors must obtain credit for the following.

d) Additional Mathematics Requirements
Students must complete all of
MATH 242-3 Introduction to Analysis
MATH 320-3 Advanced Calculus of One Variable
MATH 322-3 Complex Variables
plus one of
MATH 332-3 Introduction to Applied Algebraic Systems
MATH 339-3 Groups and Symmetry
MATH 439-3 Linear Algebra

e) Additional Statistics Requirements
Students must complete both of
STAT 420-3 Non-Parametric Statistics
STAT 460-3 Decision Analysis and Bayesian Inference

Minor Program
Statistics minor program requirements are listed in Department of Mathematics and Statistics in the Faculty of Science section.

Extended Minor Program
According to faculty regulations, an extended minor must contain the lower division requirements for a major program, plus the upper division requirements for a minor. At least seven upper division hours counted toward this requirement must be taken at Simon Fraser University. For a statistics extended minor, students complete all course requirements for a minor plus
Joint Major in English and Women's Studies

This joint major is an inter-departmental program for students who are interested in exploring the various relationships between the study of English literature and women's studies.

Interested students must plan their program in consultation with the department advisors and should consult the Guidelines for Course Selection available from each department.

Advisors
Ms. B. Thorburn, Department of English,
6133 Academic Quadrangle, (604) 291-4835
Ms. B. Korstrom, Department of Women's Studies,
5249 Robert C. Brown Hall, (604) 291-4840
Students are encouraged to consult advisors from both departments.

Lower Division Requirements
English
Students must complete the lower division requirements of the English major program.
Women's Studies
WS 101-3 Introduction to Women's Issues in Canada
WS 102-3 Introduction to Western Feminisms
plus any three of
WS 200-3 Women in Cross-Cultural Perspective
WS 201-3 Women in Canada, 1600-1920
WS 202-3 Women in Canada, 1920 to the Present
WS 203-3 Female Roles in Contemporary Society
WS 204-3 Women, Science and Technology
WS 205-3 Women and Popular Culture
WS 206-3 Issues in Women's Health and Health Care
WS 207-3 Introduction to Feminist Theory
WS 208-3 Researching Women's Issues
(15 credit hours)

Upper Division Requirements
English
Students should select courses which focus on women writers and/or offer an explicit feminist perspective. Students must complete 20 upper division English credit hours as follows: one from the series ENGL 300-308, one from the series ENGL 310-322 and the remainder from anywhere in the series ENGL 300-394 and ENGL 441-446.

The following are recommended if the student is interested in critical theory:
ENGL 364-4 History and Principles of Literary Criticism
ENGL 366-4 Studies in Critical Approaches to Literature
Women's Studies
Twenty credit hours in upper division women's studies courses are required including one of WS 400, 405, or 412. Those who have taken WS 311 or 312 have met this requirement. Students may substitute up to eight hours of upper division credit offered by other departments and approved by women's studies.

Joint Major in Political Science and Women's Studies

For requirements, see "Joint Major in Political Science and Women's Studies" on page 156.

Joint Major in Women's Studies and Psychology

Advisors
Ms. H. Rhodes, Department of Psychology,
5252 Robert C. Brown Hall, (604) 291-3359
Ms. B. Davino, Department of Psychology,
5249 Robert C. Brown Hall, (604) 291-4840
Ms. B. Korstrom, Department of Women's Studies,
5105 Academic Quadrangle, (604) 291-3593

Students are encouraged to consult advisors from both departments. This joint major is an interdepartmental program that explores relationships between psychology and women's studies. Joint major students (or prospective students) must plan their program in consultation with department advisors.

Lower Division Requirements
Psychology
To be admitted to the psychology program, a final course grade of C (2.0) or better in each of the following courses is required.

all of
PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
PSYC 201-4 Research Methods in Psychology
PSYC 210-4 Data Analysis in Psychology

Note: the above requirement applies to courses transferred from other institutions as well as to courses taken at Simon Fraser University.

plus two of
PSYC 221-3 Introduction to Cognitive Psychology
PSYC 241-3 Introduction to Abnormal Psychology
PSYC 250-3 Child Psychology
PSYC 260-3 Introduction to Social Psychology
PSYC 270-3 Introduction to Personality
PSYC 280-3 Biological Bases of Behavior

Women's Studies
all of
WS 101-3 Introduction to Women's Issues in Canada
WS 102-3 Introduction to Western Feminisms
WS 203-3 Female Roles in Contemporary Society
plus any two of
WS 200-3 Women in Cross-Cultural Perspective
WS 201-3 Women in Canada, 1600-1920
WS 202-3 Women in Canada, 1920 to the Present
WS 204-3 Women, Science and Technology
WS 205-3 Women and Popular Culture
WS 206-3 Issues in Women's Health and Health Care
WS 208-3 Researching Women's Issues

(18 credit hours)

Joint Major in Sociology or Anthropology and Women's Studies

The Departments of Sociology and Anthropology, and Women's Studies have common interests in women's issues and social sciences teaching and research. This joint major program is for those students who share these interests.

Lower Division Requirements
Sociology
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 250-4 Introduction to Sociological Theory
SA 255-4 Introduction to Social Research
STAT 203-3 Introduction to Statistics for the Social Sciences

SA 231 is highly recommended.

Anthropology
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 255-4 Introduction to Social Research
STAT 203-3 Introduction to Statistics for the Social Sciences

SA 201-4 Anthropology of Contemporary Life
SA 263-4 Peasants, Proletarians and the Global Economy
SA 286-4 Aboriginal Peoples and British Columbia: Introduction
SA 293-4 Special Topics in Anthropology
SA 231 is highly recommended.

Women's Studies
WS 101-3 Introduction to Women's Issues in Canada
WS 102-3 Introduction to Western Feminisms
WS 200-3 Women in Cross-Cultural Perspectives
plus two of
WS 201-3 Women in Canada, 1600-1920
WS 202-3 Women in Canada 1920 to the Present
WS 203-3 Female Roles in Contemporary Society
WS 204-3 Women, Science and Technology
WS 205-3 Women and Popular Culture
WS 206-3 Issues in Women's Health and Health Care
WS 208-3 Researching Women's Issues

(20 credit hours)

Upper Division Requirements
Sociology
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 255-4 Introduction to Social Research
STAT 203-3 Introduction to Statistics for the Social Sciences

SA 231 is highly recommended.

Anthropology
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 255-4 Introduction to Social Research
STAT 203-3 Introduction to Statistics for the Social Sciences

SA 201-4 Anthropology of Contemporary Life
SA 263-4 Peasants, Proletarians and the Global Economy
SA 286-4 Aboriginal Peoples and British Columbia: Introduction
SA 293-4 Special Topics in Anthropology
SA 231 is highly recommended.

Women's Studies
WS 101-3 Introduction to Women's Issues in Canada
WS 102-3 Introduction to Western Feminisms
WS 200-3 Women in Cross-Cultural Perspectives
plus two of
WS 201-3 Women in Canada, 1600-1920
WS 202-3 Women in Canada 1920 to the Present
WS 203-3 Female Roles in Contemporary Society
WS 204-3 Women, Science and Technology
WS 205-3 Women and Popular Culture
WS 206-3 Issues in Women's Health and Health Care
WS 208-3 Researching Women's Issues

(20 credit hours)
Students must also complete an additional 12 credit hours of upper division SA credit.

**Anthropology Requirements**
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods

Students must also complete an additional 12 credit hours of upper division SA credit.

The following are highly recommended for both sociology and anthropology:
SA 319-4 Culture, Ethnicity and Aging
SA 356-4 Ethnography and Qualitative Methods
SA 332-4 The Anthropology of Childhood
SA 335-4 Gender Relations and Social Issues
SA 340-4 Social Issues and Social Policy Analysis
SA 420-4 Sociology of Aging

**Women's Studies**

Twenty upper division women's studies credit hours are required including one of WS 400, 405 or 412. Students who have taken WS 311 or 312 have met this requirement. Exceptionally and only with department permission, one course designated as women's studies credit offered by another department may be substituted for one WS course.

**Minor Program**

A women's studies minor program may be taken with any major or honors bachelor's degree, or with a bachelor of general studies. The program is designed to offer students the maximum opportunity to integrate their understanding of the role of women in their society and culture.

**Lower Division Requirements**

Students must complete nine credit hours including WS 101 and 102 or approved equivalents.

**Upper Division Requirements**

Students complete 16 credit hours, including one of WS 400, 405 or 412. Students who have taken WS 311 or 312 have met this requirement. Those pursuing a minor normally must fulfill lower division requirements before enrolling in 400 division courses, except with permission of the department.

Additional courses in various departments are designated for inclusion in the minor; a list is available from the department. Other courses which may have high women's studies content will be considered for designated credit toward the women's studies minor upon application by the student to the department. Only five credit hours of designated courses will count toward the minor.

Candidates for a history honors or major may count either or both of WS 201 and 202 toward the 18 lower division history credits that are required.

**Extended Minor Program**

An extended minor consists of the lower division major requirements and the upper division minor requirements in a subject area. For further information, refer to the Faculty of Arts Extended Minor Program section.

**Certificate Program**

This program provides academic training in women's studies and practical training in community work on behalf of women. It is open to all who meet university requirements for admission.

**Lower Division Requirements**

Eighteen credit hours including WS 101 or 102 are required.

**Upper Division Requirements**

Twelve credit hours from any 300-400 division WS courses is required. One course in another department or program may fulfill this requirement, if the course is designated for women's studies credit.

**Practicum**

The practicum consists of satisfactory completion of supervised training and work in a community group which promotes the well-being of women (no grade is given). The practicum's terms are arranged by the women's studies faculty advisor, the community group and the student. Students work at the practicum two and a half days a week for 13 weeks. At the end, the women's studies curriculum committee, in consultation with the community group and student, evaluates the student's performance. Those who have experience in an appropriate community group, and/or who are working in an appropriate community group while in this program, may apply to count that work toward partial or full completion of the practicum. The practicum's purpose is to gain skills and experience in applying the knowledge acquired in academic women's studies courses to community work and/or applying community work experiences to academic work.

**Co-operative Education**

Women's studies students may participate in co-operative education through the co-operative education program in liberal arts.
Faculty of Business Administration


Dean (until August 31, 2000)
J.H. Waterhouse BSc, MBA (Alta), PhD (Wash)

Associate Deans
L.N. Meredith BA, MA, PhD (S Fraser)
D.M. Shapiro BA (Calg), MA, PhD (C'nell)

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L.D. Etherington BEd (Alta), MBA, PhD (Wash)
J.P. Herzog BS, PhD (Calif)
R.A. Holmes BA, MA (Sask), PhD (Indiana)
B. Schoner BEng (McG), MBA (W Ont), PhD (Stan)
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M.N. Stark, QC, BA, LLB (Br Col)

Ming and Stella Wong Endowed Chair, Professor in International Business
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G. Poltras BA (Dal), MA (McM), MPhil, PhD (Col)
D.M. Shapiro BA (Calg), MA, PhD (C'nell)
R.L. Tung BA (York), MBA, PhD (Br Col), FRS(C)
A.R. Vining LLB (London), MBA, MPP, PhD (Calif)
J.H. Waterhouse BSc, MBA (Alta), PhD (Wash)
W.C. Wedley BComm (Br Col), MBA, PhD (Col)
M.N. Wexler BA (McG), MA (W Ont), PhD (York, Can)
R.G. Wyckham BA, MBA (W Ont), PhD (Mich State)
J.L. Zaschokowsky BHE (Br Col), MSc (Guelph), PhD (Calif)

Associate Professors
M.F. Abdel Magid BComm (Alexandria), MSc, PhD (Ill)
A. Bick BSc, MSc (Tel Aviv), MBA (Jerusalem), PhD (Calif)
G.W. Blazenko BA (S Fraser), MA (W Ont), PhD, (Br Col)
G.R. Bushe BA (C'dia), PhD (Case W Reserve)
C.P. Egri BComm, MSc, PhD (Br Col)
C.E.N. Emby BComm (Manit), MBA (Br Col), PhD ( Alta), CA
A.M.G. Gelardi Cert in Educ (Keele), MSc (Miami, Fla), PhD (Arizona), CA
I.M. Gordon BA, MA, PhD (S Fraser), CGA
J.W. Heaney BA, MSc (Sask), MA, PhD (S Fraser), PhD (Alta)
D.C. Parker BComm, MBA (Calg), PhD (W Ont)
J.G. Richards BA (Sask), BA (Camb), MA, PhD (Wash, Mo)
B.H. Reich BA, MSc, PhD (Br Col)
R.W. Schwindt AB, PhD (Calif)*
J.P. Sheppard BS (Penn State), MBA (Indiana), PhD (Wash)
C.F. Smart BComm, MBA, PhD (Br Col)
D.C. Thomas BSc (Appalachian State), MBA (N Carolina), PhD (S Carolina)
A.R. Warburton BA (Br Col), MSc (Montr), PhD (Br Col)

Assistant Professors
N.A.R. Abramson BA (Sask), MA, MBA, PhD (W Ont)
E.W. Bukszar, Jr. BA (J Carroll), MBA, PhD (Arizona)
C.M. Collins-Dodd BComm, PhD (Alta)

K.T. Dirks BBA, MS (Iowa State), PhD (Minn)
M. Favere-Marchesi BSc, MSc (Brigham Young), PhD (S Calif)
J.N.P. Francis BSc (Wl), MBA (York), PhD (Wash)
A.C. Gemino BA, MA, MBA (S Fraser), PhD (Br Col)
P.C. Klein BSc, LLB, MBA (W Ont), PhD (Tori), CFA
R. Kreider BSc, MSc, PhD (Br Col)
B.A. Lautsch BA (Regina), MIR (Qu), PhD (MIT)
N. MacKay BMath, MASC (Wat), PhD (Can)
H. Merchant BComm (Bom), MBA (Claron), PhD (Purdue)
K.E. Vandezande BS (N Colorado), PhD (NY)

Adjunct Professors
A. Svendsen, BA, MA (Br Col)
R.C. Wilband, MBA (S Fraser), CGA
Z.G. Zhang BSc, MA (Nankai, China), MBA (York), PhD (Wat)

Senior Lecturers
A. Duncan, BA (Qu), MBA (York, Can), CA
B.J. Edwards BA, MA (Wat), CA
M.R. Fizzell BEd, BComm, MSc (Sask), CMA

Lecturers
D.L. Patien LLB (Lond), MBA (Br Col)
K.G. Stewart BA (McM), MA (Br Col)
R.A. Yates LLB, MBA (Br Col)

Instructors
M.J. Brydon BEng, MEng (Royal Military College)
J.C-W. Chang BA, MEng (C'nell)
C.E. Zietsma BA (W Laur), MBA (S Fraser)

*joint appointment with economics

Undergraduate Degrees Offered
Bachelor of Business Administration (Honors) Bachelor of Business Administration

Programs Offered
BBA – General Program
Major in Business Administration
Joint Major in Business Administration and Communication
Joint Major in Business Administration and Economics
Joint Major in Business Administration and Geography
Joint Major in Information Systems in Business Administration and Computing Science
Joint Major in Business and Latin American Studies
Joint Major in Business Administration and Psychology

BBA – Honors Program
Honors in Business Administration
Joint Honors in Business Administration and Economics

Undergraduate Programs
Director
M.R. Fizzell, BEd, BComm, MSc (Sask), CMA

Advisors
Ms. C. Hamblin BA (S Fraser), undergraduate program co-ordinator, 2389 Lohn Building,
(604) 291-4624 Tel, (604) 291-5571 Fax

Ms. M. Czornobay, undergraduate program advisor, 2389 Lohn Building, (604) 291-3708 Tel,
(604) 291-5571 Fax, www.bus.sfu.ca/ugrad

Introduction
The faculty offers honors, major and minor programs, in co-operation with the Faculties of Applied Sciences and Arts. The faculty also offers joint programs. For a complete list, please see Programs Offered above.

The value of a broadly based education is emphasized. Because of this objective, students will take mainly non-business courses during the first 60 hours. During that period students will complete three categories of courses. The first category consists of lower division requirement courses. These are mainly tool courses to prepare for more advanced upper division business courses. The second category consists of group requirements which roughly correspond to humanities, social sciences and sciences. In the third category, students choose their own courses based on intellectual interest or usefulness in achieving academic goals. The first two categories should be completed during the first 60 hours of the degree program.

The University Calendar in effect at the time the student’s honors or major is approved establishes the degree requirements for the graduation of that student. All students should confirm with the undergraduate program co-ordinator the details of the requirements.

Admission Information

Criteria
Students will be selected competitively from one of four streams.

Category 1 – direct from secondary school
A portion of the annual admission will be selected from secondary school graduates based on the general Simon Fraser University admission requirements plus mathematics 12.*

Category 2 – direct from college
A portion of the annual admission will be selected from students transferring from community colleges or technical institutes. These students must have completed all of the required lower division courses (except BUS 207 and 254 which may be completed after faculty admission**). Students will be selected competitively based on the Simon Fraser University admission grade point average.

Category 3 – all courses at Simon Fraser University
A portion of the annual admission will be selected from students who have completed all of their courses at Simon Fraser University including the lower division requirement courses (except BUS 207 and 254 which may be completed after faculty admission**). Students will be selected competitively based on the cumulative grade point average.

Category 4 – some SFU and other post-secondary courses
A portion of the annual admission will be selected from students who have completed some courses at Simon Fraser University and some courses at other post-secondary institutions including the lower division requirement courses (except BUS 207 and 254 which may be completed after faculty admission**). Students will be selected competitively based on a grade point average which will be a combination of grades earned at Simon Fraser University and other institutions.

To be considered for admission to the faculty, students in categories 2, 3 and 4 must have completed each lower division requirement course with a minimum C grade. The number of undergraduate students granted entry to the faculty is limited to 400 to 600 new students per academic year.

*or equivalent advanced placement or international baccalaureate courses as listed under General
Admission Requirements for British Columbia Secondary Schools.

"If BUS 207 and/or 254 have been taken, they will be calculated into the GPA used for admission to the faculty.

Application Procedures

Students applying under category 1 or 2 should apply to the faculty at the same time that they apply for admission to the University.

Students applying under category 3 or 4 should apply to the faculty after completing their 30th credit hour and before completing the 60th credit hour. Students should apply during the semester in which the lower division requirements, as listed below (except BUS 207 and 254) are completed. Students not accepted upon initial application may reapply. Unsuccessful applicants may appeal through the faculty appeals committee.

Application Deadlines

April 1* for summer semester
August 1* for fall semester
December 1* for spring semester
*application earlier in the semester is recommended

Application forms are available in the undergraduate program offices in the second month of each semester.

Non-Majors Access to Business Courses

Priority in upper division business courses is given to students who are approved in a business program. (A business program is defined as major, minor, honors and joint programs.) Students are permitted to undertake the lower division business courses without formal admission to the faculty.

Students other than those accepted into a program in business administration may take upper division business administration courses contingent upon

• space available at the end of the first week of classes
• meeting the prerequisites for the individual course requested

First bachelor's degree candidates in other Simon Fraser University faculties may have specific course requirements modified by the faculty, upon request.

General Requirements

In addition to the specific requirements for major, minor, honors and joint programs, all students should note the following.

In addition to normal university grade point average requirements, the faculty requires for continuance in all programs a minimum CGPA of 2.25 and a minimum CGPA of 2.00 in all business administration courses.

For a course to be accepted as fulfilling a prerequisite, or for a lower division requirement, or for a core course to be accepted in a student's program in business administration, a student must have obtained a minimum grade of C-(G minus).

Students with fewer than 60 credit hours may enroll in a maximum of 16 credit hours per semester. Those with 60 credit hours or more may enroll in a maximum of 18 credit hours.

Major Program

Students must complete at least 120 credit hours which must include a minimum of 50 credit hours outside the Faculty of Business Administration.

Courses taken as part of group requirements (see "Group Requirements" below) or non BUS or non BUEC courses taken as part of the lower division requirements may count toward the 50 credit hours outside business administration.

Lower Division Requirements

BUEC 232-3 Elementary Economic and Business Statistics I
BUS 207-3 Managerial Economics* (or ECON 301)
BUS 237-3 Introduction to Computers and Information Systems in Business (or a 200 level CMPT course)
BUS 251-3 Financial Accounting I
BUS 254-3 Managerial Accounting I*
BUS 272-3 Behavior in Organizations
ECON 103-3 Principles of Microeconomics
eCON 105-3 Principles of Macroeconomics
MATH 157-3 Calculus for the Social Sciences I (or MATH 151 or 154)
and two of
ENGL 101-3 Introduction to Fiction
ENGL 102-3 Introduction to Poetry
ENGL 103-3 Introduction to Drama
ENGL 104-3 Introduction to Prose Genres
ENGL 105-3 Introduction to Issues in Literature and Culture
ENGL 199-3 Introduction to University Writing
PHIL 001-3 Critical Thinking
PHIL 100-3 Knowledge and Reality
PHIL 120-3 Introduction to Moral Philosophy
*courses with an asterisk (BUS 207 and 254) may be completed following admission to the faculty.

Note: ECON courses listed as part of a concentration will fulfill a requirement but will not count as part of the required upper division hours in business administration.

Group Requirements

To satisfy the three group requirements (groups A, B and C), students must complete the following.

Group A

Students must complete four courses from at least two departments from the following: English, general studies, history, humanities, languages, linguistics, philosophy.

Group B

Students must complete four courses from at least two departments from the following: archaeology, Asia-Canada, Canadian studies, communication, criminology, economics, education, geography (excluding all physical geography courses), gerontology, Latin American studies, political science, psychology, sociology and anthropology, women's studies.

Group C


Note: courses selected to meet the group requirements may be upper or lower division and need not be completed prior to application to the faculty.

Upper Division Requirements

In the last 60 credit hours, students must take a minimum of 45 credit hours in upper division courses, of which a minimum of 36 hours must be in business administration or BUEC courses.

The 36 upper division credit hours in business administration must include the following.

• all core courses (see Core Courses below)
• an area of concentration (see Areas of Concentration below)
• at least three 400 division BUS or BUEC courses (excluding practicum courses and BUS 478). These courses may count toward the requirements for the area(s) of concentration.

Further upper division courses in any discipline must be completed to bring the total upper division credit to 45 credit hours minimum.

Students may not register in upper division (300 and 400 level) business administration courses before completing the first 60 lower division credit hours, with two exceptions:

• approved business majors and minors may take upper division BUS courses after the completion of 45 credit hours.
• all students may take BUEC 333 before completion of 60 credit hours.

Any 300 or 400 division course taken before the completion of 60 credit hours will not count as fulfilling the 45 upper division credit hours required in the final 60 hours of the program, or as part of the upper division hours for the major or minor.

Note: ECON courses listed as part of a concentration will fulfill a requirement but will not count as part of the required upper division hours in business administration.

Core Courses

Students majoring in business administration are required to complete all of

BUEC 333-3 Elementary Economic and Business Statistics II
BUS 303-3 Business, Society and Ethics
BUS 312-4 Introduction to Finance
BUS 336-4 Management Science
BUS 343-3 Introduction to Marketing
BUS 360-3 Business Communication
BUS 393-3 Commercial Law
BUS 478-3 Seminar in Administrative Policy

and one of

BUS 374-3 Organization Theory
BUS 381-3 Introduction to Human Resource Management

It is recommended that students complete BUS 360 before their 75th credit hour.

Areas of Concentration

Students must complete a concentration within one or more of the following areas by completing the courses specified below.

Accounting

BUS 251-3 Financial Accounting I
BUS 254-3 Managerial Accounting I
BUS 319-3 Integrative Financial and Managerial Accounting
BUS 320-3 Financial Accounting: Assets
BUS 321-3 Financial Accounting: Equities
BUS 421-3 Accounting Theory
BUS 424-3 Managerial Accounting II

Finance

BUS 312-4 Introduction to Finance
BUS 315-4 Investments
BUS 316-3 Derivative Securities
and two of
BUS 410-3 Financial Institutions
BUS 413-4 Corporate Finance
BUS 418-3 International Financial Management

Human Resource Management

two of
BUS 374-3 Organization Theory
BUS 381-3 Introduction to Human Resource Management
BU EC 384-3 Industrial Relations
and two of
BU EC 485-3 Collective Bargaining
BUS 432-3 International Human Resources Management
BUS 481-3 Human Resource Planning and Staffing Development
BUS 482-3 Reward Systems and Employee Development
BUS 483-3 Human Relations in Business

International Business
BUS 346-3 International Business
BUS 380-3 Comparative Management
BUS 435-3 Management of International Firms
and two of
BUS 418-3 International Financial Management
BUS 431-3 Business with East Asian Countries
BUS 432-3 International Human Resources Management
BUS 447-3 International Marketing Management

Other upper division courses deemed to have significant international business relevance may, with prior faculty permission, be substituted for the above courses. These may be offered in another faculty.

Note: students concentrating in international business are strongly advised to consider combining it with another business concentration.

Management Information Systems
BUS 362-4 Information Analysis and Systems Design
BUS 364-3 Information Systems in Organizations and Society
BUS 468-3 Management Issues in Information Systems
and one of
CM PT 110-3 Event Driven Programming in Visual Basic
CM PT 117-3 Internet Programming Using JAVA
and two of
BUS 462-4 Management Support Systems
BUS 486-3 Managing Data Communications
BUS 492-496-3 Selected Topics courses

Management Science
BUS 336-4 Management Science
BUS 473-4 Operations Management
and two of
BU EC 433-5 Forecasting in Business and Economics
BUS 437-3 Decision Analysis in Business
BUS 440-4 Simulation in Management Decision Making
BUS 445-3 Analysis of Data for Management
BUS 462-4 Management Support Systems

Marketing
BUS 343-3 Introduction to Marketing
BUS 347-3 Consumer Behavior
BUS 442-3 Introduction to Marketing Research
and two of
BUS 344-3 Business to Business Marketing
BUS 445-3 Analysis of Data for Management
BUS 446-4 Marketing Strategy
BUS 447-3 International Marketing Management
BUS 448-4 Advertising and Sales Promotion
BUS 449-3 Marketing and Society

Honors Program
After the completion of 15 upper division credit hours in business administration, students can apply to enter the honors program. Both the CGPA and GPA for upper division BUS and BU EC courses must be at least 3.00 (or 3.50 for honors first class) for entry into and continuance in the honors program.

Honors students must meet all the requirements of the major program. The honors program requires 12 credit hours of 400 division courses beyond the 120 hours required for the major degree. These hours must be in 400 division BUS or BU EC courses or in other faculties that are approved by the area co-ordinator. These 12 credit hours are in addition to those required for the area of concentration and core course requirements for the major program. Approvals in advance by the area co-ordinator and the faculty are required for these 12 credit hours.

In the student’s upper level (normally the last 72 hours of the honors program), the student must take a minimum of 57 upper division credit hours, of which 42 must be in BUS or BU EC courses.

Minor Program
Lower Division Requirements
BU EC 232-3 Elementary Economic and Business Statistics I
BUS 237-3 Introduction to Computers and Information Systems in Business
BUS 251-3 Financial Accounting I
BUS 254-3 Managerial Accounting I
BUS 273-3 Behavior in Organizations
BU EC 103-3 Principles of Microeconomics
BU EC 105-3 Principles of Macroeconomics
MAT H 157-3 Calculus for the Social Sciences I
*may be completed after admission to the faculty

Upper Division Requirements
Students should note that, if permission is granted to take any 300 or 400 level BUS or BU EC course before the completion of 60 credit hours, then those courses will not count toward fulfilling the 16 upper division hours for the minor.

At least 16 credit hours of upper division BUS or BU EC credit hours are required including the following.
BUS 312-4 Business Finance
BUS 343-3 Introduction to Marketing
and one of
BUS 374-3 Organization Theory
BU EC 381-3 Introduction to Human Resource Management

Joint Major in Business Administration and Communication

Communication Lower Division Requirements
CM NT 110-3 Introduction to Communication Studies
CM NT 130-3 Explorations in Mass Communication
and five additional lower division courses for a total of 21 hours in communication including all of
CM NT 211-3 Media and Audiences
CM NT 260-3 Introduction to Empirical Communication Research Methods
CM NT 261-3 Documentary Research in Communication

Communication Upper Division Requirements for Marketing Concentration
Required
Students must complete 24 credit hours of upper division courses in communication including both of
CM NT 323-4 Cultural Dimensions in Advertising
CM NT 425-4 Applied Communication for Social Issues

Directed studies (readings) and field placement credit will not count as part of the upper division hours required by communication for the joint major. The completion of a course in basic science or social science methods, as required for the communication major, will be deemed fulfilled by the requirements for a major in business administration.

Joint Major in Information Systems in Business Administration and Computing Science

Students must qualify for and receive admission to, and must remain qualified for continuance in, the Faculty of Business Administration, and must be accepted as a computing science joint major.

Lower Division Requirements
BU EC 232-3 Elementary Economic and Business Statistics I (or STAT 270)
BUS 251-3 Financial Accounting I
BUS 254-3 Managerial Accounting I
BUS 273-3 Behavior in Organizations
CM PT 101-4 Introduction to Computer Programming (or CM PT 104)
CM PT 150-3 Introduction to Computer Design
CM PT 201-4 Data and Program Abstraction
CM PT 275-4 Software Engineering
BU EC 103-3 Principles of Microeconomics
BU EC 105-3 Principles of Macroeconomics
MA CM 101-3 Discrete Mathematics I
MA CM 201-3 Discrete Mathematics II
ECON 102-3 Contemporary World Economies

Students must complete one 485. and at least one 400 division economics or BUEC.*

Students must also complete at least 25 upper courses may be within the area of concentration. (excluding practicum courses and BUS 478) *These courses may be within the area of concentration. Students must also complete at least 25 upper division credit hours in economics or BUEC* including ECON 301-5 Intermediate Microeconomic Theory and at least one 400 division economics or BUEC* course (excluding ECON 431, 435, BUEC 433 and 485).

Joint Major in Business Administration and Economics

Students must complete at least 29 upper division credit hours in business administration or BUEC,* including the core courses with the following exceptions.

• BUS 207 and 303 are waived.
• BUEC 333, which must be taken, will count as upper division economics hours rather than as upper division business administration hours.

Three courses beyond the core must be completed within the requirements of a single concentration. At least two 400 division BUS or BUEC courses* (excluding practicum courses and BUS 478) *These courses may be within the area of concentration. Students must also complete at least 25 upper division credit hours in economics or BUEC* including ECON 301-5 Intermediate Microeconomic Theory ECON 305-5 Intermediate Macroeconomic Theory and at least one 400 division economics or BUEC* course (excluding ECON 431, 435, BUEC 433 and 485).

Economics Group Requirements

Students must complete one ECON 102-3 Contemporary World Economies ECON 110-3 Foundations of Economic Ideas ECON 208-3 History of Economic Thought ECON 250-3 History of Economic Development A ECON 252-3 History of Economic Development B ECON 309-3 Introduction to Marxian Economics ECON 355-5 Economic History of Canada ECON 395-5 Comparative Economic Systems ECON 404-3 Honors Seminar in Methodology of the Social Sciences ECON 407-3 Seminar in Marxian Economics ECON 409-3 Seminar in Economic Thought ECON 450-3 Seminar in Quantitative Economic History ECON 455-3 Seminar in Economic Development *BUEC courses may count only once as business administration credits or as economics credits.

Joint Major in Business Administration and Geography

Business Administration Requirements

The student must successfully complete the core courses and complete one additional 400 division course in the Faculty of Business Administration.

Geography Requirements

The student must successfully complete a minimum of 15 credit hours of lower division geography courses including the following.

GEOG 100-3 Human Geography
GEOG 111-3 Physical Geography
GEOG 221-3 Economic Geography

The student must successfully complete a minimum of 24 credit hours of upper division geography courses including the following.

12 credit hours at the 300 division courses
12 credit hours at the 400 division courses

Joint Major in Business Administration and Latin American Studies

Business Administration Requirements

The student must successfully complete the core courses (which must include BUS 346) and two of the following courses.

BUS 380-3 Comparative Management
BUS 434-3 Foreign Market Entry
BUS 435-3 Management of International Firms
BUS 439-3 Management of International Firms
BUS 438-3 North American International Trade Issues
BUS 447-3 International Marketing Management

With the permission of the international business area co-ordinator and the faculty, another course may be substituted for one the seven listed above.

Latin American Studies Requirements

Lower Division

Students must demonstrate reading and speaking competence in Spanish or Portuguese equivalent to successful completion of three college level courses.

A minimum of 12 hours is required including the following. LAS100-3 Images of Latin America LAS 140-3 Cultural Heritage of Latin America LAS 200-3 Introduction to Latin American Issues

The remaining three credit hours are taken from the approved list of Latin American content courses in the Latin American Studies Program section of the Calendar.

Upper Division

Students are required to complete 20 upper division credit hours of Latin American studies credit, including at least 16 credit hours in both LAS 300 and 400 division courses. The remaining four credit hours may be taken from the list of approved Latin American content courses.

Joint Honors in Business Administration and Economics

Economics Group Requirements

Students must include at least one ECON 102-3 Twentieth Century Economies ECON 110-3 Foundations of Economic Ideas ECON 208-3 History of Economic Thought ECON 250-3 History of Economic Development A ECON 252-3 History of Economic Development B ECON 309-3 Introduction to Marxian Economics ECON 355-5 Economic History of Canada ECON 395-5 Comparative Economic Systems ECON 404-3 Honors Seminar in Methodology of the Social Sciences ECON 407-3 Seminar in Marxian Economics ECON 409-3 Seminar in Economic Thought ECON 450-3 Seminar in Quantitative Economic History ECON 455-3 Seminar in Economic Development

Lower Division Requirements

The requirements are the same as for the joint major in business administration and economics. Refer to that section.
Upper Division Requirements
• at least 35 credit hours of upper division credit in business administration including the core courses, with the exception of BUEC 333, which is counted as economics upper division credit hours rather than business administration upper division credit hours.
• an area of concentration
• at least three 400 division courses (excluding practicum courses and BUS 478). These courses may be within the area of concentration.
• plus at least 32 credit hours of upper division credit in Economics or BUEC including:
  BUEC 333-3 Elementary Economics and Business Statistics II
  ECON 301-5 Intermediate Microeconomic Theory
  ECON 305-5 Intermediate Macroeconomic Theory
  ECON 331-5 Introduction to Mathematical Economics
  ECON 402-3 Advanced Topics in Microeconomics (or 403)
  ECON 435-5 Quantitative Methods in Economics
  ECON 499-6 Honors Seminar in Economics

Exchange Programs
Contacts
C. Hamblin, undergraduate program co-ordinator,
2389 Lohn Building, (604) 291-4624
D. Hucl, student exchange co-ordinator,
International & Exchange Student Services, 1200
Maggie Benston Student Services Centre,
(604) 291-5887
The faculty participates in undergraduate student exchange agreements with the following institutions.

Australia
Swinburne University of Technology

Canada
Laval University

Korea
Yonsei University

Mexico
Instituto Tecnologico Autonomo de Mexico (ITAM)
Instituto Tecnologico y de Estudios Superiores de Monterrey (ITESM)
Universidad de Las Americas-Puebla
Universidad de Guadalajara

Netherlands
Hanzehogeschool Groningen

Norway
Norwegian School of Management

Scotland
Heriot-Watt University

Thailand
Thammasat University

Turkey
Koc University

United States
San Diego State University
University of Maine

For more information, contact the above listed individuals. Also, see “International & Exchange Student Services” on page 12.

Co-operative Education Program
2310 Lohn Building, (604) 291-3619 Tel,
(604) 291-5922 Fax, www.sfu.ca/coop
The Faculty of Business Administration offers co-operative education to qualified students.
co-operative education formally integrates a student’s academic studies on campus with relevant work experience. Employers from business, industry and government support and participate in the program.
This ‘hands-on’ approach to education extends the learning process beyond the limits of the classroom and into the working world by alternating full time study semesters with full time paid work semesters of career-related practical experience.
For those seeking a professional accounting designation (CA, CGA, CMA) arrangements have been made with respective accounting organizations so that work experience obtained during the program may be recognized toward the required practical experience.

Admission
Admission to the Faculty of Business Administration is generally required before application to the co-operative education program is considered.
A student must remain in good academic standing in the Faculty of Business Administration to continue in the program.
Admission to the program will normally be based on a student’s academic record and a personal interview with one of the business co-op program’s co-ordinators.

Withdrawal
Admitted students who fail to secure a placement through job competition in two consecutive semesters may be required to withdraw from co-operative education. This withdrawal does not necessarily effect continuance in the Faculty of Business Administration. Normally, withdrawal from a work semester constitutes withdrawal from co-operative education.

Practicum Course Requirements
To qualify for the bachelor of business administration with a major in business administration and a co-operative education designation, students must meet University and Faculty of Business Administration graduation requirements.
In addition, students who choose the chartered accountancy option must complete five work semesters. A co-operation education designation requires four work semesters and a certificate requires three work semesters.
During study semesters a student must maintain full time status. A brochure which outlines program features is available from the business administration co-op education program co-ordinators.

Employment and Career Services
2321 Lohn Building, www.bus.sfu.ca/ecs, bus-ecs@sfu.ca
Co-ordinator
Ms. J. Martin BA, MBA (S Fraser),
(604) 291-4075 Tel, (604) 291-3312 Fax
Program Assistant
Ms. A. Santos, (604) 291-3541 Tel,
(604) 291-3312 Fax
The Employment and Career Services office assists students in preparing for their business careers and provides access to full time, part time, on-going and temporary work opportunities. In addition to one-on-one assistance, extensive career information and resources are available on the Faculty of Business Administration Employment and Career Services website, which is accessible 24 hours a day from any computer with an Internet connection.

Council for North American Business Studies
2307 Harbour Centre, (604) 291-5106 Tel,
(604) 291-5098 Fax
This centre provides a focal point for the study and analysis of commercial issues of importance to business and government in Canada, the US and Mexico. The general economic integration of North America presents new opportunities and challenges. By establishing an on-going forum for business, government and academic leaders, by providing expert analysis and by disseminating information and research findings, the centre will provide a service contributing to the success of North American business in meeting the competitive challenges of this decade and the 21st century.

Scotiabank Resource Centre for Women Entrepreneurs
2400 Harbour Centre, (604) 291-5214 Tel,
(604) 291-5122 Fax
Director
C.F. Smart BCom, MBA, PhD (Br Col)
This centre assists women entrepreneurs in established businesses and women starting new businesses. Initiatives launched by the centre include business education programs, advising and mentoring activities, and networking opportunities. By supporting entrepreneurship, the centre will provide women business owners with the expertise to meet and respond to industry changes, and to improve business opportunities. It is the intention of the centre to be a continuing resource and a contributing factor in the success of businesses started and run by women.
Faculty of Education

D.A. Bell BA (S Fraser), PhD (Lond)
Laboratory Instructors
J. Van Aalst BEd (WOnt), MSc (Alta), PhD (T or)
J. Sugarman BA (Wat), MA, PhD (S Fraser)
Laboratory Instructors
D.A. Bell BA (S Fraser)

E. Samier BA (Sask), MA (New Br), MEd, PhD
W. Cassidy BA, MEd (S Fraser), PhD (Chic)
H. Bai BA (Calg), PhD (Br Col)

Associate Professors
M. Zola BA (Brist), MEd (Leeds), MEd (Qld), PhD (Alta)
S.J. Smith DipT, BEd (Kelvin Grove CAE), BHMS, G.P. Sampson AB (Chic), MA, PhD (Mich)
T.J. O'Shea BEng (McG), BEd (Sask), MA (Manit), EdD (Br Col)
L. Kanevsky BA (S Fraser), MASpEd (San Diego), MPhil (Col), PhD (Col)
C. Kenny BA, AA (Loyola), MA (Br Col), PhD (Fielding)
L. LaRocque BEd (McG), MA (Vic, BC), MA, PhD (Br Col)
R.D. Gehbach BA, MS (Ill), PhD (Tor)
A.O. Horvath BA (Sir G Wms), MEd (McG), EdD (Br Col)
L. Kanavsky BA (S Fraser), MAspEd (San Diego), MPhil (Col), PhD (Col)
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C. Kenny BA, AA (Loyola), MA (Br Col), PhD (Fielding)
L. LaRocque BEd (McG), MA (Vic, BC), MA, PhD (Br Col)
R.D. Gehbach BA, MS (Ill), PhD (Tor)
A.O. Horvath BA (Sir G Wms), MEd (McG), EdD (Br Col)
Lower Division Requirements
Students must complete at least 20 credit hours from the following.
CMPT 101-4 Introduction to Computer Programming
CMPT 201-4 Data and Program Abstraction
MACM 101-3 Discrete Mathematics I
MACM 201-3 Discrete Mathematics II
MATH 113-3 Geometry
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 154-3 Calculus I for the Biological Sciences
MATH 155-3 Calculus II for the Biological Sciences
MATH 171-1 Computer Explorations in Calculus I
MATH 172-1 Computer Explorations in Calculus II
MATH 190-4 Principles of Mathematics for Teachers*
MATH 232-3 Elementary Linear Algebra
MATH 242-3 Introduction to Analysis
STAT 270-3 Introduction to Probability and Statistics
*Students who have taken, or are currently taking, any calculus course may not take MATH 190 for further credit.

Upper Division Requirements
Students must also complete at least 30 credit hours from the following.
CMPT 320-3 Social Implications of a Computerized Society
CNS 491-3 Technology and Canadian Society
HIST 360-4 History of Science: 1100-1725
MACM 316-3 Numerical Analysis I
MATH 308-3 Linear Programming
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 332-3 Introduction to Applied Algebraic Systems
MATH 339-3 Groups and Symmetry
MATH 342-3 Elementary Number Theory
MATH 343-3 Applied Discrete Mathematics
MATH 380-3 History of Mathematics
MATH 439-3 Algebraic Systems
MATH 447-4 Coding Theory
STAT 330-3 Linear Models in Applied Statistics

Minor Programs

Minor in Curriculum and Instruction
This minor will provide a general, flexible course of studies for students who desire a theoretical and practical expertise in contemporary approaches to curriculum development and instructional design.

Lower Division Requirements
Students must complete two of
EDUC 220-3 Introduction to Educational Psychology
EDUC 230-3 Introduction to Philosophy of Education
EDUC 240-3 Social Issues in Education
EDUC 250-3 Studies in the History of Education in the Western World

Upper Division Requirements
Students must complete
EDUC 471-4 Curriculum Development: Theory and Practice
plus 11 upper division education credit hours and/or education professional courses for a total of 15 credit hours.

Minor in Early Childhood Education
This minor provides a focus for students wishing to work with children aged three through eight.

Lower Division Requirements
PSYC 250-3 Child Psychology

Upper Division Requirements
Students must complete a minimum of 15 hours as specified below.
EDUC 464-4 Early Childhood Education
plus two of
EDUC 459-4 Instructional Activities in Physical Education

Education
EDUC 465-4 Children’s Literature
EDUC 477-4 Designs for Learning: Art
EDUC 478-4 Designs for Learning: Music
plus one of
EDUC 422-4 Learning Disabilities
EDUC 441-4 Multicultural Education
EDUC 472-4 Designs for Learning: Language Arts
EDUC 473-4 Designs for Learning: Reading
EDUC 474-4 Designs for Learning: Social Studies
EDUC 475-4 Designs for Learning: Mathematics
EDUC 476-4 Designs for Learning: Natural Sciences
LING 362-3 English as a Second Language

Minor in Educational Psychology
Educational psychology has two main items on its agenda: (1) theoretical and experimental inquiries into how students learn from instruction, how they acquire and express motivation in educational settings, and how they develop skills in school subjects and for learning, and (2) studies how this first line of inquiry contributes to designs for instructional experiences that promote a full spectrum of students’ achievements.

This minor consists of required courses that develop a broad background in educational psychology supplemented by electives that deepen fundamentals. For a teaching career, it provides a research based foundation in the psychology of teaching and learning underlying a program of professional studies. For others, the minor articulates a study of applied psychology serving one of our society’s most important aims, education of people of all ages.

Lower Division Requirements
EDUC 220-3 Introduction to Educational Psychology
EDUC 222-3 Educational Psychology Laboratory

Upper Division Requirements
Students must complete a minimum of 17 hours as specified below.
EDUC 320-3 Instructional Psychology
EDUC 325-3 Assessment for Classroom Teaching
EDUC 326-3 Classroom Management
plus two of
EDUC 422-4 Learning Disabilities
EDUC 425-4 School Counselling for the Classroom Teacher
EDUC 428-4 Nature and Nurture of Gifted Students
EDUC 464-4 Early Childhood Education

Minor in Physical Education
This minor program provides students in the professional development program with competence to teach physical education.

Prerequisite Courses
Prospective students should complete at least three of the following courses (or approved transfer courses from community colleges or other universities) prior to enrolling in EDUC 401. Students should choose those courses which are prerequisites to the upper division courses they will take for the minor.
EDUC 220-3 Introduction to Education Psychology
EDUC 230-3 Introduction to Philosophy of Education
EDUC 240-3 Social Issues in Education
FPA 120-3 Introduction to Contemporary Dance
KIN 105-3 Fundamentals of Human Structure and Function
KIN 110-3 Human Nutrition: Current Issues
KIN 140-3 Contemporary Health Issues
KIN 142-3 Introduction to Kinesiology
KIN 143-3 Exercise Management
KIN 205-3 Introduction to Human Physiology
KIN 241-3 Sports Injuries — Prevention and Rehabilitation

This minor is normally available to fall semester entry PDP students only. All minor candidates must complete designated curriculum seminars and workshops during EDUC 402 and a specified teaching assignment in physical education during EDUC 405. Details of these requirements are available during EDUC 401. The minor in elementary school physical education may not be declared on a student's program until all prerequisites, including a practicum placement in EDUC 405, are met.

Upper Division Requirements
Students must complete a minimum of 14 hours as specified below.
EDUC 459-4 Instructional Activities in Physical Education
EDUC 479-4 Designs for Learning: Physical Education
plus two of
EDUC 330-3 Movement Language Elements for Dance in Education
EDUC 457-4 Education and Drama
KIN 343-3 Active Health: Assessment and Promotion

Secondary School Physical Education
Only under exceptional circumstances will PDP consider secondary physical education applicants who have obtained a kinesiology major or minor (in addition to one other teachable area) at SFU. For further information, contact the director of professional programs at (604) 291-4326 or the assistant to the dean at (604) 291-3620.

Minor in Environmental Education
This minor develops teachers' skills in the design and operation of environmental and outdoor education programs from kindergarten through grade 12, and in the organization and operation of residential and day centre outdoor education, wilderness outdoor recreation, and other interdisciplinary environmental school programs.

Prerequisite Courses
Students must complete a minimum of nine hours selected from below.
BISC 102-4 General Biology
BISC 204-3 Introduction to Ecology*
EDUC 240-3 Social Issues in Education
GEOG 100-3 Human Geography
GEOG 111-3 Physical Geography
GEOG 215-3 Biogeography*
GEOG 241-3 Social Geography
KIN 142-3 Introduction to Kinesiology
PHIL 001-3 Critical Thinking
PHIL 120-3 Introduction to Moral Philosophy
PSYC 106-3 Social Issues
SA 150-4 Introduction to Sociology
SA 202-4 Post-Industrial Society
*Students with credit for GEOG 215 may not receive credit for BISC 204.

Required Courses
Students must complete a minimum of 14 hours as specified below.
EDUC 452-8 Environmental Education
plus two of
BISC 304-3 Animal Ecology
Minor in Learning Disabilities
This minor enhances understanding of learning disabilities and provides competence in identification and non-clinical treatment of learning disabilities.

Lower Division Requirements
EDUC 220-3 Introduction to Education Psychology
Recommended Lower Division Courses
It is strongly recommended that students intending to complete this minor program complete at least one of the following courses.

KIN 110-3 Human Nutrition: Current Issues
PSYC 100-3 Introductory Psychology I
PSYC 102-3 Introduction to Psychology II
PSYC 221-3 Introduction to Cognitive Psychology
PSYC 250-3 Child Psychology

Upper Division Requirements
Students must complete a minimum of 14 credit hours as specified below.

EDUC 422-4 Learning Disabilities
EDUC 424-4 Learning Disabilities: Laboratory
plus two of
EDUC 430-3 Interventional Psychology
EDUC 473-4 Designs for Learning: Reading
plus one of
EDUC 320-3 Instructional Psychology
EDUC 473-4 Designs for Learning: Reading
plus one of
EDUC 326-3 Classroom Management and Discipline
EDUC 367-4 Teaching Children from Minority Language Backgrounds in Elementary Classrooms
EDUC 428-4 Nature and Nurture of Gifted Students
EDUC 467-4 Curriculum and Instruction in Teaching English as a Second Language
EDUC 475-4 Designs for Learning: Mathematics
PSYC 325-4 Memory
PSYC 355-3 The Psychology of Adolescence and Youth

Certificate in Literacy Instruction
Contact the Undergraduate Advising Office, 8625 Education Building, (604) 291-3488.
This certificate prepares students to teach literacy skills to adult learners. By combining courses from different disciplines with opportunities for guided practice, it provides historical and contextual perspectives on literacy, acquaints students with current field practices and develops practical skills.
Completion of the certificate is normally within five years of admission to the program.

Program Requirements
Students must complete 29 credit hours, of which 23 are in the following seven required courses.

EDUC 240-3 Social Issues in Education
EDUC 341-3 Literacy, Education and Culture
EDUC 342-3 Contemporary Approaches to Literacy Instruction
EDUC 343-5 Literacy Practicum
ENGL 210-3 Advanced University Writing

Field Programs
Director
T. O’Shea, BEng (McG), BEd (Sask), MA (Manit), EdD (Br Col)
The broad mission of Field Programs is to enhance teacher continuing education through collaboration with other educational agencies in British Columbia.
All courses and programs offered by Field Programs are located at sites other than the Burnaby Mountain or Harbour Centre campuses. Courses offered through Field Programs can be seen under the Education Professional listing of undergraduate courses and are identified by the EDPR prefix.
Field Programs also offers a graduate diploma in advanced professional studies in education.
See "Graduate Diploma in Advanced Professional Studies in Education" on page 354.
Field Programs works with associations to co-develop ongoing professional in-service opportunities for teachers, including annual conferences and theme-specific non-credit in-service series.

Professional Programs
8531 Education Building, (604) 291-4326 Tel, (604) 291-5891 Fax, www.educ.sfu.ca/pdp
Director
Dr. S. Smith DipT, BEd (Kelvin Grove CAE), BHMS, MEd (Qld), PhD (Alta)
Admissions Advisor
Ms. D. Kelso, 8624 Education Building, (604) 291-3620/3149
External Programs Admissions Advisor
Ms. J. Bicknell, 8625 Education Building, (604) 291-3798/3488

Professional Development Program (PDP)
Applicants to this program must be attending Simon Fraser University or be admissible to the University See "Admission and Readmission" on page 25.
• All candidates are required to submit the Professional Development Program application form to the PDP office in the Faculty of Education.
• Candidates who have not attended Simon Fraser University previously, or who have not attended in any of the three semesters prior to intended registration, must submit to the PDP office an application for university admission, See "Admission and Readmission" on page 25.
• All applications must be submitted to the PDP admissions office by January 15 for the fall semester and May 15 for the spring semester.
• All applicants must pay the PDP application fee directly to the PDP admissions office, Faculty of Education.

Elementary Applicants
Elementary applicants must, by the date of application, have completed a minimum of 76 credit hours of courses acceptable for credit at Simon Fraser University (should include 16 credit hours of upper division coursework) including the following prerequisite courses.
• six credit hours in English,
• one course (three credit hours) in each of Canadian history, Canadian geography, mathematics (MATH 190 is recommended), and laboratory science

Secondary Applicants
Applicants who plan to teach at the secondary level must fulfill the requirements of a teachable major subject or two teachable minor subjects. These
requirements must be completed prior to commencing PDP.

**Teachable Majors or Minors**

- biology
- chemistry
- computing science (minor only)
- dance (FPA) (minor only)
- earth sciences
- English
- English and French literatures (joint major)
- First Nations (minor only)
- French
- French, history and politics (joint major)
- geography (social studies)
- history
- humanities (minor only)
- kinesiology (contact PDP)
- mathematics
- music (FPA)
- physics
- theatre (FPA) (minor only)
- visual art (FPA)

All students who plan to teach at the secondary level are required to have completed their degree requirements prior to commencing PDP. The exception to this is the BEd candidates who cannot complete their degree until they have successfully completed PDP. These BEd candidates must have completed the academic requirements of one teachable major or two teachable minors prior to commencing PDP. Students from other institutions may apply prior to the completion of their degree, but are required to have completed the degree one full semester prior to commencing PDP.

Secondary applicants must complete six credit hours of English one full semester prior to commencing PDP.

**All Applicants**

- A minimum of two reference letters, and no more than three (one should describe the candidate’s experience in teaching/instructional related functions) must be submitted.
- A written analysis of a teaching situation (described further in the PDP application package) may be required.
- A resume must also be submitted by all applicants (refer to PDP application package for additional information).
- Before admission to the program, applicants are required to demonstrate competence in written and oral English (and written and oral French in the case of French immersion and French as a second language programs).
- Students may be asked to submit evidence of good health before being considered for admission to the program.
- Students may be required to have an interview before being considered for admission to the program.
- If the number of applicants to PDP exceeds facilities and staffing capabilities, the admissions committee will select those candidates considered to be best qualified.
- Preference in selection of candidates for admission is generally given to students whose applications show experience with and commitment to some community service that may include teaching or other helping roles.
- Given the number of well-qualified applicants who present their credentials for admission to the professional development program each year, it is most improbable that candidates who have been unsuccessful in four previous competitions will be considered favorably in any subsequent competition. Therefore, candidates who have been unsuccessful in gaining entry to the program on at least four occasions are discouraged from making further application.

**Program Description**

The professional development program is three semesters in duration. Professional studies and activities are arranged in the following sequence.

**First Semester of Professional Development Program**

- EDUC 401-8 Introduction to Classroom Teaching* EDUC 402-7 Studies of Educational Theory and Practice*

*not offered in summer semester

EDUC 401 and 402 are offered as an integrated program, combining theory and practice in both on campus seminars and in-school practice in the first semester of PDP. This is accomplished by alternating blocks of classroom teaching with workshops and instruction on campus.

During EDUC 401, students are assigned to a teacher (school associate) identified by school authorities and supervised by a faculty associate appointed by the University. Students observe, teach and participate in school routines and programs. During EDUC 402, students participate in the study of teaching, learning to make meaning of the complex world of educational practice, informed by extensive study of pedagogical literature.

**French Education**

- The fall semester only, French immersion, programme cadre and basic French for kindergarten to grade 12 are normally available. The majority of the program in immersion and programme cadre is in French.

**Physical Education**

- The elementary school physical education minor is available in the fall semester only. Secondary physical education is available in the fall and spring semesters, subject to the admission requirements of secondary applicants.

**Special Focus Modules**

Special focus modules are offered during fall and spring semesters. Entry to these programs may be competitive.

**EDUC 405-15 Teaching Semester**

(Not offered in summer semester) Prerequisites: EDUC 401 and 402.

A semester of classroom experience supervised by University appointed faculty associates. The school placement is appropriate to the educational level and subject specialties in which the student expects to obtain certification. Students assume a large measure of responsibility and participate in a wide range of teaching and supervisory activities.

School placements in EDUC 405-15 are made in school districts throughout the Lower Mainland. Grading in EDUC 401, 402 and 405 is on a pass/withdrawal basis.

**EDUC 404-0 Semester on Campus**

(Normally taken in the summer semester) Prerequisites: EDUC 401 and 402.

Course programming in this semester is in consultation with undergraduate programs, faculty members, and the student’s faculty associate to ensure that professional, academic and certification requirements are satisfied or to satisfy the educational requirements of designated PDP modules. Students undertake 14 credit hours of studies in education.

**Note:** Students completing degrees from the Faculties of Applied Sciences, Arts, Business Administration or Science may apply credit for EDUC 404 towards that degree.

To be recommended for certification, the student must achieve in EDUC 404 a GPA at least equivalent to that required for a degree in the University.

**General Regulations**

EDUC 401, 402, 405 are to be regarded as full-time professional studies and may not be taken in conjunction with other academic or professional courses.

Students must complete normal Simon Fraser University registration procedures before commencing studies in any semester of the professional development program.

Students must meet program goals, as outlined in the Professional Development Handbook.

- This program is normally completed in three consecutive semesters. However, those with valid reasons may be given permission by the director of professional programs to interrupt their program participation. A formal request must be submitted in writing to the director.
- A program interruption requested by a student may normally last no longer than two years.
- Students who indicate their intention to undertake a given semester of the professional development program and who do not honor this commitment are considered to have withdrawn from the program. Permission to re-enter is not given automatically.

**Readmission**

Students who withdraw from EDUC 401/402 must reapply to the admissions committee.

A student may apply for re-entry into EDUC 405 by completing a re-entry application and submitting the application and supporting documents to the director of professional programs. Deadlines for re-application are as follows: April 15 for the fall semester; October 15 for the spring semester.

Permission to re-enter the program will be granted if:

- the student has satisfactorily met the conditions for re-entry established when he/she interrupted or withdrew from the program.
- space is available in the semester for which the student applies.

Students who re-enter PDP should apply for re-entry within two years of withdrawal. Students who do not re-enter within the specified time may be required to complete additional course work before readmission.

Students who wish to re-enter EDUC 404 must apply to re-enter the program not later than six weeks prior to the beginning of the semester. An application for re-entry to PDP must be completed.

**Recommendation for Certification**

The academic and professional records of all students who have completed the three semesters of the professional development program will be subject to review by the faculty before a recommendation for certification is forwarded to the College of Teachers.

**Special Professional Program Opportunities**

**EDUC 405-15 Course Challenge**

Students with a minimum of one year of full-time teaching experience in Canada or in a school setting where English or French was the normal language of instruction, and where the curriculum was reasonably similar to a Canadian public school curriculum, may challenge EDUC 405 subject to the following.

- Course challenge applicants will be considered according to generally established requirements and procedures. See "Registration" on page 35.
- N.B. that candidates can register in course challenge for EDUC 405 only register in EDUC 401/402. Additional full fees will be levied for challenging EDUC 405 regardless of whether the challenge is successful.
• Course challenge credit for EDUC 405 will not be granted before successful completion of EDUC 401/402.
• Application forms are available from the director of professional programs and must be submitted by: May 15 for the fall semester; September 15 for the spring semester.

**External Professional Development Programs**

There are three external professional development programs that operate under the auspices of a consortium of local community colleges, northern school districts and Simon Fraser University. The consortium invites applications from students with strong local northern connections. (Deadlines and admission procedures are different from the Lower Mainland application.)

AHCOTE – Alaska Highway Consortium on Teacher Education (Fort St. John, Dawson Creek). Telephone 1-604-785-6981 local 51 for information.

NEW CALTEC – New Caledonia Teacher Education Consortium (Prince George, Quesnel, Nechako Lakes). Telephone 291-3488 for information.

NWTEC – Northwest Teacher Education Consortium (Terrace, Kitimat, Prince Rupert, Bulkley Valley [subject to funding]). Telephone (604) 291-3488 for information.

**HEART (Helping Expand Access for Returning Teachers)**

EDUC 406-12 (HEART) Supervised Observation and Teaching

This EDUC 406 option within professional programs is a supervised orientation/observation and teaching sequence of about 12 weeks in a BC public school. This practicum offers educators, who do not meet BC certification requirements, an opportunity to familiarize themselves with the British Columbia school system and to update teaching skills to acquire certification.

EDUC 406 is normally offered in the fall and spring semesters only and space is limited.

Grading is on a pass/withdraw basis.

Applicants to HEART must be attending Simon Fraser University or be admissible to the University. See “Admission and Readmission” on page 25. Candidates who have not attended Simon Fraser University previously, or who have not attended in any of three semesters prior to intended registration in EDUC 406, must submit the application for undergraduate admission form to the Office of the Registrar.

Applicants for the HEART program should be received by: April 15 for the fall semester; September 15 for the spring semester. An interview is normally required.

**Certification**

Simon Fraser University does not confer teaching certificates. The College of Teachers is the only body in British Columbia authorized to grant such certificates. Under July 1, 1974 regulations, qualified students from provincial universities, upon making application and submitting birth or baptismal certificate as proof of name and age, will receive a non-expiring teaching credential.

**Note:** Persons convicted of a criminal offence and considering a teaching career should write to the College of Teachers for clarification of their status before undertaking a teacher education program.

**Types of Certificates**

There are two types of teaching certificates. The standard certificate is awarded after successful completion of an acceptable four year program. Included in the acceptable four year program are both academic and professional studies. The professional certificate is awarded after successful completion of an acceptable five year program of professional and academic studies culminating in a degree.

The standard certificate requires a minimum of 76 credit hours (five semesters) in applied sciences, arts, business administration, science, or education, plus the professional development program (three semesters). The standard certificate (a minimum of 120 credit hours of academic and professional credit) will normally qualify for Teacher Qualification Service category four.

**Notes Regarding Requirements for Teaching Certificates**

The following are required for teacher certification:

• a minimum of six credit hours in the Department of English
• effective September 1, 2000, students must meet the BC College of Teachers acceptable degree policy restricting the academic preparation acceptable for qualifying teachers. Contact the Faculty of Education for further information.

**Applying for a Certificate**

The Faculty of Education sends the College of Teachers a list of students who have completed their teacher certification requirements. Each student is given or mailed an application for teacher’s certificate of qualification form. Students must forward the completed form to the College of Teachers for formal evaluation for certification. Applications for upgrading of certificate (e.g., when a teacher wishes to convert a standard certificate to a professional certificate) must also be made to the College of Teachers.

**Note:** There is a delay between the completion of the professional development program and the forwarding to the College of Teachers of documented recommendation for a teaching certificate.

Applicants for certification on completion of a degree should note the University regulations in this Calendar relating to final deadlines for submission of applications for graduation. Exceptions cannot be made.

**Teacher Qualification Service**

This service is sponsored jointly by the BC Teachers’ Federation and the BC School Trustees Association and is an advisory service to teachers and school boards in evaluating the academic and professional preparation of teachers.

At present, the service assists teachers who are newly certified, new to a school district, or who are upgrading their certificates. Request for evaluation forms are available from the Teacher Qualification Service, 106-1525 West 8th Avenue, Vancouver, BC, V6T 1T5, or from the PDP admissions office, Faculty of Education, Simon Fraser University.
Faculty of Science

P9451 Shrum Science Centre, (604) 291-4590 Tel, (604) 291-3424 Fax, www.sfu.ca/~science

Dean
W.S. Davidson BSc (Edin), PhD (Qu)

see “Faculty of Science” on page 356 for research interests of faculty members.

Undergraduate Degrees Offered
Bachelor of Science (Honors)
Bachelor of Science

Diplomas and Certificates Offered
Certificate in Actuarial Mathematics
Post Baccalaureate Diploma in Biological Sciences
Post Baccalaureate Diploma in Environmental Toxicology

Major Program
A major program provides a broad general education in several fields and some specialization in one field known as the major. Optional programs, which include double majors or majors and minors, are possible. General regulations are in Faculty of Science requirements for the BSc (major). For specific requirements, refer to the academic department concerned. Students not pursuing a specialization may undertake a bachelor of science (general science) degree. Information may be found in the General Science Program requirements.

Requirements for Major
Students must complete 120 credit hours including the following.
• minimum of 28 credit hours of upper division credit courses numbered 300 and 400 as specified by the major program
• additional credit hours of upper division credit bringing the total to a minimum of 44 credit hours of upper division credit
• a minimum of 12 credit hours in subjects taken outside the Faculty of Science (excluding EDUC 401 to 407) including a minimum of 6 credit hours taken in the Faculty of Arts
• a grade point average of 2.00 in the upper division courses required in the program

Additional requirements, as specified by the major program and in General Information, may be required and

For students enrolled at the University beginning fall 1991 or later
• upper division grade point average (GPA) and cumulative grade point average (CGPA) as specified in the General Information section of this Calendar

For students enrolled at the University before fall 1991
• a graduation GPA of 2.00 calculated on the required 120 credit hours, or on the last 60 credit hours taken including the 44 credit hours of upper division credit
• a 2.00 GPA in the required upper division courses

Honors Program
This program provides in-depth study in a single field and requires the student to concentrate his/her studies in the fifth to eighth levels in the chosen field. This program is recommended for students who intend to proceed to advanced degrees, provided that they meet the entrance requirements and maintain the required standing.

Students applying for honors program admission will normally have a cumulative grade point average of 3.00 (B standing) and are expected to maintain this standard to continue in the honors program.

Requirements for Honors and Honors First Class
Students must complete 132 credit hours of credit as prescribed by the honors program which include the following.
• a minimum of 48 hours of upper division credit in one subject area
• additional credit hours of upper division credit bringing the total to a minimum of 60 credit hours of upper division credit
• a minimum of 12 credit hours in subjects taken outside the Faculty of Science (excluding EDUC 401 to 407) including a minimum of six credit hours taken in the Faculty of Arts

Students must also complete additional requirements as specified by the honors program and in the General Information, see “General Information” on page 21.

Program Guidelines
• At the outset, students are requested to indicate their intended major so as to facilitate counselling.
• Students who have not determined a major or intend to transfer to a professional school (i.e., medicine, dentistry, etc.) should seek advice from the Academic Resource Office, the Office of the Dean of Science.
• Declaration of major or honors must be officially accepted by that department, prior to the completion of 60 credit hours.
• New students intending to take more than 15 credit hours in their first semester of studies should seek advice from the Academic Resource Office or the Office of the Dean of Science.
• Normally, the graduation requirements, as published in the Calendar at the time of formal declaration of major or honors, will apply.
• In any combination of science programs (honors/ minor, major/major, minor/major, minor/minor) the student may not use the same upper division course for formal credits towards both programs. One course might fulfil content requirements of two related areas, but in such a case additional replacement credits in upper division work satisfactory to one of the departments or program committees must be taken in one of the subjects to fulfill overall credit for the two programs involved.
• Programs totalling more than 18 hours of credit per semester require the approval of the dean.

Minor Program
Consult advisors in appropriate departments when deciding on course selection. Suggested programs and prerequisites are given in each department’s Calendar entry. An average grade of at least 2.00 is required in those upper division courses used to satisfy the requirements for a minor.

General Science Program
This program, consisting of 120 credit hours, provides a broad general education in several fields with some specialization in at least two fields. It requires two minors, one of which must be chosen from within the Faculty of Science. The groupings of courses from which the two minors can be chosen are given under the General Science Program section in the Calendar, along with the general course requirements for this degree. It should be noted that all lower division requirements for the two chosen minors must also be completed.

Co-operative Education Programs
These programs are available in biological sciences, biochemistry, chemistry, earth sciences, environmental science, geography, mathematics and physics. Details are given in the departmental sections and in the Co-operative Education section.

Withdrawal of Program Approval
A student whose progress, in the judgment of the department, is below the standard for graduation from a program may be refused entry to, or required to withdraw from, that program in the department.

Transfer Credit and Bachelor of Science Degrees for Students Who Successfully Complete First Year Medical Science Professional Training
Students who complete at least 90 credit hours in a science degree program and are accepted into an accredited professional program in medicine, dentistry, optometry or veterinary medicine are eligible for a bachelor of science degree from Simon Fraser University after successful completion of the first year of professional study. To be acceptable, courses taken in the professional program must not duplicate courses already taken at Simon Fraser University and must be acceptable for transfer credit in a major or honors degree program. Candidates must apply for transfer credit and a bachelor’s degree through the Office of the Registrar, Simon Fraser University. Since official transcripts of the work completed in the first year of the professional program are required for transfer credit purposes, application for graduation should be delayed until the summer semester following the completion of requirements.

Requirements for Students Wishing to Transfer into Professional Schools
To transfer into professional schools, contact the professional school admissions office to confirm the course requirements.

Engineering Transfer Program
Advisors
Undergraduate curriculum chair, School of Engineering Science, 8815 Applied Sciences Building, (604) 291-4371
Dr. G.A.C. Graham, Department of Mathematics and Statistics, 10527 Shrum Science Centre, (604) 291-3337
Dr. R. Frintz PEng, Department of Physics, P8466
Shrum Science Centre, (604) 291-3161

Engineering Study in BC
To complete engineering degree studies in British Columbia, students studying in the Engineering Transfer program at Simon Fraser University must transfer to an Engineering program at Simon Fraser University, the University of British Columbia or the University of Victoria.
Transfer to the University of British Columbia's Engineering Program

Students who have taken two semesters of science at SFU may be considered for admission to first year engineering at the University of British Columbia if they have an overall GPA of at least 2.5, including all attempted courses. A GPA of at least 2.7 must also be achieved in mathematics, physics and chemistry with a grade of not less than C in these subjects.

Students who complete the following courses and who meet the University of British Columbia Faculty of Applied Science admission standards will be eligible to be considered for admission to second year engineering, provided they have an overall GPA of 2.5, including all attempted courses. For such students, the University of British Columbia course ASPC 151, Computer Aided Engineering Graphics, must be taken along with the normal second year program at the University of British Columbia.

CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CMPT 101-4 Introduction to Computer Programming
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 223-3 Elementary Linear Algebra
MATH 262-3 Applied Mathematics – Statics
PHYS 120-3 Physics I
PHYS 121-3 Physics II
PHYS 131-2 General Physics Laboratory B

Additional Transfer Credit

Additional courses, which will reduce the number of courses that must be taken subsequently at the University of British Columbia, may also be transferable; in particular, the following Simon Fraser University courses.

MATH 251-3 Calculus III
MATH 252-3 Vector Calculus
MATH 263-3 Applied Mathematics – Rigid Body Dynamics
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 314-3 Boundary Value Problems

These courses have a University of British Columbia counterpart, respectively: MATH 253, 254, PHYS 270, MATH 255, 257. Each is required by several of the second (or subsequent) year University of British Columbia engineering programs. The associate dean of the engineering program at the University of British Columbia must be consulted if these courses are included in the transfer credit request to UBC.

Faculty of Dentistry at the University of British Columbia requires the following courses which are prerequisites for applying to enter the first year of dentistry (DMD).

ENGL 101 and 102 or 103 or 104, 121 or 122 or 126, MBB 222 and 321
BISC 101 and 102
CHEM 121, 122, 126, 281, 282, 286
MATH 151 and 152
PHYS 101, 102, 130 (or 120, 121, 131)

Additional courses are required to complete six semesters (90 credit hours); these should be chosen in accordance with a specific SFU degree program but students are advised to select some courses from disciplines in the humanities and social sciences.

Contact address
For student admissions: Faculty of Dentistry – Admissions, University of British Columbia, 350 – 2194 Health Sciences Mall, Vancouver, BC, V6T 1Z3. Telephone (604) 822-3416, Fax (604) 822-4532, toothadms@unixg.ubc.ca

Faculty of Forestry at the University of British Columbia

The Faculty of Forestry offers four year degree programs in forest resources management, forest operations, forest science, natural resources conservation, and wood products processing. The curricula allows two admission pathways: one directly from high school; the other follows a year of science at the University of British Columbia or its equivalent at another post-secondary institution. If first year science is taken at Simon Fraser University, the following courses are required.

ENGL one of 101 or 102 or 103 plus ENGL 104 or 199
BISC 101 and 102
CHEM 121, 122, 126
MATH 151 and 152
PHYS 101, 102, 130 (or 120, 121, 131)

Students who apply after one year of science need three or four years after completion of the first year of science to fulfill the forestry degree requirements, depending on the forestry program chosen.

Contact address
Co-ordinator of Student Services, Faculty of Forestry, University of British Columbia, Forest Science Centre, room 2615, 2424 Main Mall, Vancouver, BC, V6T-124 Telephone (604) 822-3547, helens@interchg.ubc.ca

Faculty of Medicine at the University of British Columbia requires the following courses which are prerequisites for applying to enter the first year of medicine.

English: any two of ENGL 101, 102, 103, 104, 199 (199 recommended)
Chemistry: all of CHEM 121, 122, 126, 281, 282, 286
Biochemistry: both MBB 222 and 321 (MBB 221 is a prerequisite for 222)
Biology: both of BISC 101 and 102

Official admission requirements are defined in the UBC School of Medicine Calendar and may be subject to change.

Early medical school admission is available at several Canadian universities (including UBC) but applications considerably exceed spaces. Students planning to enter medicine after the sixth level at SFU (i.e. after completing 90 credit hours) should arrange their program so that in the event they are not accepted into medical school, they can complete their major program at SFU in a timely fashion.

Contact address
For the admissions office: Faculty of Medicine, University of British Columbia, 317 – 2194 Health Sciences Mall, Vancouver, BC, V6T 1Z3. Telephone (604) 822-4482, admissions.md@ubc.ca, www.med.ubc.ca

Faculty of Pharmaceutical Sciences at the University of British Columbia requires the following courses which are prerequisites for applying to enter the first year of pharmacy.

ENGL any two of 101, 102, 103, 104, 199
CHEM 121 / 122 / 126
MATH 151 / 152 (or 154 / 155)
BISC 101 / 102 and
PHYS 101 / 102 / 130 (or 120 / 121 / 131)

Refer to a current University of British Columbia Calendar for specific information. Also, students should consult the Faculty of Pharmaceutical Sciences at the University of British Columbia.

Contact address

The School of Rehabilitation Sciences at the University of British Columbia offers programs in occupational therapy and physical therapy. The following courses are prerequisites.

Occupational Therapy (30 credit minimum)
BISC 101 and 102
one of ENGL 199 (recommended) or 101 or 102 or 103
PSYC 100 and/or 102 or 280 or 221 or 241
SA (3-6 credits at the 100 or 200 level)
STAT 270 or 101 or 301
Electives 3-15 credits
CHEM 121, 122, 126 recommended

Physical Therapy (30 credit minimum)
BISC 101 and 102
CHEM 121, 122, 126
ENGL (3-6 credits), ENGL 199 recommended
PSYC 100 and/or 102 or 280 or 221 or 241
SA 100 or 102 or 280 or 221 or 241
Electives (3-12 credits)
physics 11 and physics 12 (or first year university physics)

A minimum of 70 hours of experience with disabled persons is required by February 28. An orientation session is offered in November. Intending applicants should contact the school in September. These are guidelines only. Contact the School of Rehabilitation Sciences in writing for current prerequisites.

Contact address
The School of Rehabilitation Sciences, University of British Columbia, T325 – Koerner Pavilion, 2211 Wesbrook Mall, Vancouver, BC, V6T 2B5 admissions@rehab.ubc.ca, www.rehab.ubc.ca

Western College of Veterinary Medicine at the University of Saskatchewan, Saskatoon, requires the following courses as prerequisites for applying to enter this program.

ENGL any two of 101, 102, 103 or 104
MBB 221 and 222
BISC 101, 102, 202, 303
CHEM 121, 122, 126, 281
MATH 151, 152 (or 154, 155 or 157, 158) STAT 301 may be substituted for MATH 152, or 155 or 158
PHYS 101, 102, 130 (or 120, 121, 131)
Electives 15 credit hours

Electives should be based on the program in which the student is enrolled, and may include non-science related subjects. Students are encouraged to choose electives that broaden perspectives. The electives should not include courses which are equivalent to BC high school grade 12, or which are general education courses at the 000 division.

Contact address
Admission Office, Western College of Veterinary Medicine, University of Saskatchewan, 52 Campus Drive, Saskatoon, Saskatchewan, S7N 5B4
General Note
All course requirements should be completed by the end of the spring semester preceding the proposed date of entry to a professional school.

The Western College of Veterinary Medicine requires a minimum 70% cumulative average for veterinary program admission. Grades are converted to a common scale for comparative purposes and this converted average will be used.

The Western College of Veterinary Medicine has recently, with Saskatchewan Human Rights Commission approval, introduced an Educational Equity Program for Aboriginal students. A defined number of seats have been allocated for self-identified Aboriginal descent applicants who will be ranked among themselves and not against the general applicant pool. Proof of Aboriginal ancestry is required and must be provided at the time of application. For the purpose of admission the accepted documents for Aboriginal ancestry prove are in the University of Saskatchewan Calendar.

Teaching Careers
Students interested in elementary or secondary teaching should consult the Faculty of Education regarding requirements for entry into the professional development program and teacher certification before entering the upper divisions of their programs. Please see “Faculty of Education” on page 171.

Languages other than English
Most graduate schools require proficiency in a language other than English. If you intend to graduate work at another university, include at least six course work hours in languages other than English. The most useful languages for reading research papers are German, French and Russian.

General Interest Science Courses
Several courses have no prerequisite and convey a broad perspective of scientific outlook for non-specialists science students. They follow.

Biological Sciences
BISC 004-3 Apmiculture: An Introduction to Bees and Beekeeping

Chemistry
CHEM 003-3 Chemistry, Technology and Society
CHEM 004-3 Pollution, Energy and Resources

General Science
SCI 300-3 Science and its Impact on Society

Physics
PHYS 190-3 Introduction to Astronomy

In addition, a course is offered on forefront, interdisciplinary topics in contemporary science for both science and non-science students.

SCI 010-1, 2, or 3 Contemporary Topics in the Natural Sciences

This course may be offered for one, two or three credit hours. A student may acquire a maximum of three. This course may be offered by any of the Faculty of Science departments or may be taught by faculty members from across the faculty.

Actuarial Science Program
K10512 Shrum Science Centre, (604) 291-3331/3332
Tel, (604) 291-4947 Fax, www.math.sfu.ca

Assistant Professor
J. L. Wirch BCom, BSc (Qu), MSc (Conn), PhD (Wah)
The Department of Mathematics and Statistics offers a program of study leading to a Bachelor of Science with a major or honors in Actuarial Science. These programs train students in the mathematical foundations of financial risk management.

Grade Requirements for Prerequisites
Unless otherwise stipulated, students must have a grade of C or better in prerequisites for courses labelled ACMA.

Faculty of Science Requirements
For major and honors, students must satisfy Faculty of Science requirements regarding upper division credit, breadth and grade point average.

Major Program
Students will be required to obtain credit for the following courses.

Lower Division Requirements
Students must complete all of
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 251-3 Calculus III
MATH 232-3 Elementary Linear Algebra
STAT 270-3 Introduction to Probability and Statistics
STAT 280-3 Applied Probability Models
plus two of
BUS 207-3 Managerial Economics
BUS 251-3 Financial Accounting
BUS 254-3 Managerial Accounting
ECON 210-3 Money and Banking
ECON 290-3 Canadian Microeconomics
ECON 291-3 Canadian Macroeconomics
plus two CMPT and two ENGL or PHIL courses.

Upper Division Requirements
Students must complete all of
ACMA 310-3 Mathematics of Compound Interest
ACMA 315-3 Credit Theory and Loss Distribution
ACMA 320-3 Actuarial Mathematics I
ACMA 335-3 Risk Theory
ACMA 425-3 Actuarial Mathematics II
ACMA 445-3 Survival Models
STAT 330-3 Linear Models in Applied Statistics I
STAT 350-3 Linear Models in Applied Statistics II
STAT 450-3 Statistical Theory
plus at least nine credit hours chosen from
BUS 312-4 Introduction to Finance
BUS 315-4 Investments
BUS 316-4 Derivative Securities
ECON 301-5 Intermediate Macroeconomic Theory
MACM 316-3 Numerical Analysis I
MATH 308-3 Linear Programming
MATH 310-3 Introduction to Ordinary Differential Equations

To satisfy Faculty of Science requirements, students must complete additional upper division credit to bring the upper division total to 44 credit hours. Job practicum courses, STAT 301 or STAT 302 may not be used to fulfill this requirement. Under University regulations, students must complete at least 120 credit hours to receive the major degree.

Honors Program
Under University regulations, an honors requires completion of 60 upper division credit hours in courses number 300 and above, including at least 50 upper division credit hours in the honors program, and completion of at least 132 credit hours. Honors students must achieve a 3.0 graduation GPA.

For honors, students must complete the following upper division requirements in addition to the lower and upper division requirements for the major program as specified above.

STAT 380-3 Introduction to Stochastic Processes
and two of
ACMA 455-3 Graduation of Life T ables
ACMA 465-3 Mathematics of Demography
BUEC 433-5 Forecasting in Business and Economics
BUS 410-3 Financial Institutions
BUS 413-4 Corporate Finance

Students must also complete upper division courses in any course labelled ACMA, BUS, BUEC, CMPT, ECON, MATH, MACM and/or STAT to total 50. BUEC 333 may not be used to satisfy this requirement.

Co-operative Education
Students are strongly advised to participate in the Co-operative Education program. Please see “Co-operative Education” on page 201.

Applied Mathematics Program
K10512 Shrum Science Centre, (604) 291-3331/3332
Tel, (604) 291-4947 Fax, www.math.sfu.ca

Professors Emeriti
G.N. Bojadziev PhD (Sofia Mech Eng Inst)
A. Das BSc, MSc (Calc), PhD (NU)
R.W. Lardner BA, PhD, ScD (Camb)
S. Singh AB, MA (Punj), MSc, PhD (Brown)

Associated Faculty with Department of Mathematics and Statistics
J.M. Borwein
R. Choksi
G.A.C. Graham
M.C.A. Kropinski
D. Muraki
E. Pechlaner
K. Promislow
R.D. Russell
S. Ruuth
C.Y. Shen
M.R. Trummer

Advisors
Mrs. M. Farkboner BA (Occidental), MSc (S Fraser),
K10511 Shrum Science Centre, (604) 291-4849

The department maintains a committee of faculty advisors. Their office hours are available through the Mathematics and Statistics general office.

Students wishing to major in any of the programs sponsored by the Department of Mathematics and Statistics should seek advice early in their academic careers about program planning from departmental faculty advisors.

Applied mathematics consists of areas of mathematics which are closely related to such traditional fields as the physical sciences and engineering, but nowadays sophisticated mathematical tools are used over a wide spectrum of disciplines. With the rapid development of computers in recent years, applied mathematics is becoming increasingly computationally oriented. Applied mathematicians are in demand and the good student in the field is virtually sure of an interesting career whether she/he chooses industrial research, government laboratory or university.

The Department of Mathematics and Statistics offers sufficient undergraduate courses to specialize in applied mathematics. Details for applied mathematics of physics and engineering are given below. Also, there are joint honors in mathematics and computer science and in mathematical physics. Both include a
substantial number of applied mathematics courses. A concentration in applied mathematics will provide an excellent basis for a career in engineering, and Simon Fraser’s engineering science program make considerable use of courses in this area. Required courses are as follows.

Major Program

Lower Division Requirements
(36-37 credit hours plus electives)
one of
CMPT 101-4 Introduction to Computer Programming
CMPT 102-3 Introduction to Scientific Computer Programming
all of
MACM 202-4 Mathematical Modeling and Computation
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 242-3 Introduction to Analysis
MATH 251-3 Calculus III
MATH 252-3 Vector Calculus
PHYS 120-3 Modern Physics and Mechanics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 211-3 Intermediate Mechanics
STAT 270-3 Introduction to Probability and Statistics
*to be completed by end of year 2

Upper Division Requirements
(48 credit hours plus electives)
MACM 316-3 Numerical Analysis I
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 313-3 Differential Geometry
MATH 314-3 Boundary Value Problems
MATH 320-3 Advanced Calculus of One Variable
MATH 322-3 Complex Variables
MATH 361-3 Mechanics of Deformable Media
MACM 316-3 Numerical Analysis I
at least one of
MATH 308-3 Linear Programming
MATH 416-3 Numerical Analysis II
STAT 380-3 Introduction to Stochastic Processes
at least four of
MATH 309-3 Continuous Optimization
MATH 408-3 Discrete Optimization
MATH 415-3 Ordinary Differential Equations
MATH 418-3 Partial Differential Equations
MATH 419-3 Linear Analysis
MATH 424-3 Applications of Complex Analysis
MATH 438-3 Linear Algebra
STAT 330-3 Linear Models in Applied Statistics
at least four of
MATH 462-3 Fluid Dynamics
MATH 466-3 Tensor Analysis
MATH 467-3 Vibrations
MATH 470-3 Variational Calculus
MATH 471-3 Special Relativity
PHYS 413-3 Advanced Mechanics
Choices from the above must include at least five
400 level courses and total at least 132 credit hours, of which at least six must be in the Faculty of Arts. At least six further hours must be in a faculty other than science, and at least 60 must be at the upper division.

Department of Biological Sciences
88255 Shrum Science Centre, (604) 291-4475 Tel, (604) 291-3496 Fax, www.sfu.ca/biology
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N.H. Haunerland MSc, PhD (Mün)*
Professors Emeriti
T. Finlayson BA (Tor)
F.J.J. Fisher BSc, MSc (Cant), PhD (NZ)
J.P.M. Mackauer DrPhilNat (Fran), FESC
L.M. Srivastava BSc, MSc (Ald), PhD (Calif)
A.L. Turnbull BSc MF (Br Col), DPhil (Oxf)
N.A.M. Verbeek BSc (Br Col), MSc (Montr), PhD (Calif)
W.E. Vidaver AB (San Francisco), PhD (Stam)

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B.P. Brandhorst AB (Harv), PhD (Calif)**
F. Cooke BA, MA, PhD (Camb)
L.M. Dill BSc, MSc, PhD (Br Col)
L.D. Druehl BSc (Wash State), MSc (Wash), PhD (Br Col)
A.P. Farrell BSc (Bath), PhD (Br Col)
F.C.P. Law BSc, MSc (Alta), PhD (Mich)
R.W. Mathewes BSc (S Fraser), PhD (Br Col)
B.A. McKeown BSc (Br Col), PhD (S Fraser)
Z.K. Punja BSc (Br Col), MS, PhD (Calif)
J.E. Rahe BSA, PhD (Purdue)
B.D. Rolfberg BSc (S Fraser), MSc (Br Col), PhD (Mass)
M.J. Smith BSc (St Mary’s, Calif), PhD (Br Col)
N.A.M. Verbeek BSc (Br Col), MSc (Montr), PhD (Calif)
J.M. Webster BSc, PhD, DSc (Lond), ARCS, DIC
M.L. Winston BA, MA (Boston), PhD (Kansas)
R.C. Ydenberg BSc (S Fraser), DPhil (Oxf)

Associate Professors
F. Breden BA (S Florida), MS (Georgia), PhD (Chic)
A.H. Burr AB (Hamilton), PhD (Rockefeller)
B.J. Crespi BSc (Chic), PhD (Mich)
K.R. Delaney BSc (Br Col), MA, PhD (Prin)
P.V. Fankboner BS (Calif), MSc (Pacific), PhD (Vic, BC)
G.J. Gries PhD (Göttingen)
A.S. Harestad BSc, MSc, PhD (Br Col)
E.B. Harwick BSc, MSc (Tor), PhD (Br Col)
B.P. Brandhorst AB (Harv), PhD (Mich)*
H.L. Ching BA, MSc (Oregon State), PhD (Neb)
G.J. Gries PhD (Göttingen)
S.P. Lee BSc (Alta), PhD (Oregon)**
R.L. Goettel BSc (Calif), DPhil (Oxf)**
A.R. Moore BSc (McG), DPhil (Oxf)
A.L. Plant BSc, PhD (Nott)**
J.M. Quarumby BSc, MSc (Br Col), PhD (Conn)
G. Tibbits, Kinesiology
E. Verheyen BA (C’Neill), MPhil, PhD (Yale)

Adjunct Professors
N.D. Allender BSc, PhD (S Fraser)
P. Belton BSc (London), PhD (Glas), ARCS
S. Boyd BSc, MSc (Dalhousie), PhD (S Fraser)
R.W. Butler BSc, MSc (S Fraser), PhD (Br Col)
H.L. Ching BA, MSc (Oregon State), PhD (Neb)
R. Einer BSc (Newcastle, UK), PhD (Bangor, UK)
W.G. Friend BSc (McG), PhD (Calif)
D. Gillespie BSc, MSc, PhD (S Fraser)
M. Goettel BSc (Concordia), MSc (Ott), PhD (Alta)
G.J.R. Judd BSc, MPM, PhD (S Fraser)
K.K. Klein DipAgr, BSA, MSc (Sask), PhD (Purdue)
B.B. Lank BS (Mari), MS (Minn), PhD (C’Neill)
R.S. Vernon BSc, MPM, PhD (S Fraser)
I.R. Walker BSc (Mt Alison), MSc (Wat), PhD (S Fraser)

Associated Faculty
C. Crawford, Psychology
B. Galdikas, Archaeology
C. Krieger, Kinesiology
G. Tibbits, Kinesiology

Laboratory Instructors
M. Fernando BSc (Sri Lanka), MSc, PhD (Br Col)
N. McGregor BSc (Ou), MSc (Calif)
T. McCallum BSc, MPM (S Fraser)
J. Sharp BA, BSc (McG), MSc (Br Col)
C. Thong BSc (Singapore), PhD (S Fraser)
D.R. Wilson BSc, MSc (S Fraser)
Upper Division Requirements and Electives

All biological sciences majors will complete a minimum of 12 upper division BISC/BICH courses. The following three courses form an upper division core required of all BISC major/honors students.

- BISC 329-4 Introduction to Experimental Techniques
- BISC 333-3 Developmental Biology
- BISC 400-3 Evolution

Students should choose their remaining requirements in an area of specialization. Currently, six streams of biology are offered: cell and molecular biology, animal physiology, plant biology, ecology, marine biology and general biology. General stream courses will provide broad biological sciences training, or may be used to specialize in an area not offered in the streams. The course requirements for each stream are as follows.

Cell and Molecular Biology

Students must complete one physiology course from

- BISC 305-3 Animal Physiology
- BISC 366-3 Plant Physiology

and one organism lab course from

- BISC 303-3 Microbiology
- BISC 306-3 Invertebrate Biology
- BISC 316-3 Vertebrate Biology
- BISC 326-3 Biology of Non-vascular Plants
- BISC 337-3 Plant Biology

plus the following lab course

- BISC 302-3 Genetic Analysis

plus the following two mandatory courses

- BISC 331-3 Molecular Biology
- MBB 322-3 Molecular Physiology

plus two additional lab courses from

- BISC 405-3 Cell Physiology
- BISC 429-3 Experimental Techniques I: Separation Methods
- BISC 431-3 Molecular Biotechnology
- BISC 457-3 Plant Molecular Biology and Biotechnology
- BISC 498-3 Undergraduate Research I (or 499)

plus two additional courses from

- BISC 402-3 Molecular Genetics
- BISC 453-3 Advanced Developmental Biology
- BISC 498-3 Undergraduate Research
- MBB 412-4 Enzymology
- MBB 421-3 Nucleic Acids
- MBB 422-3 Biomembranes
- MBB 423-3 Protein Structure and Function

or special topics courses appropriate for the selected stream or alternative courses as approved by the program advisor.

Animal Physiology

Students must complete the following physiology course

- BISC 305-3 Animal Physiology
- plus one organism lab course from
- BISC 306-3 Invertebrate Biology
- BISC 316-3 Vertebrate Biology
- BISC 326-3 Biology of Non-Vascular Plants
- BISC 337-3 Plant Biology

plus the following lab course

- BISC 307-3 Animal Physiology Lab

plus the following two mandatory courses

- MBB 321-3 Intermediary Metabolism
- MBB 322-3 Molecular Physiology

plus two additional lab courses from

- BISC 405-3 Cell Physiology
- BISC 429-3 Experimental Techniques I: Separation Methods
- BISC 449-3 Experimental Techniques II: Histochemistry
- BISC 416-3 Fish Biology
- BISC 498-3 Undergraduate Research I (or 499)

plus two additional courses from

- BISC 313-3 Environmental Toxicology II
- BISC 445-3 Environmental Physiology of Animals
- BISC 455-3 Endocrinology
- BISC 498-3 Undergraduate Research

or special topics courses appropriate for the selected stream or alternative courses as approved by the program advisor.

Plant Biology

Students must complete the following physiology course

- BISC 366-3 Plant Physiology

plus the following organism lab course

- BISC 337-3 Plant Biology

plus the following lab course

- BISC 367-3 Plant Physiology Laboratory

plus the following two mandatory courses

- BISC 356-3 Plant Development
- BISC 404-3 Plant Ecology

plus two additional lab courses from

- BISC 429-3 Experimental Techniques I: Separation Methods
- BISC 430-3 Plant Pathology
- BISC 449-3 Experimental Techniques III: Histochemistry
- BISC 457-3 Plant Molecular Biology and Biotechnology
- BISC 498-3 Undergraduate Research I (or 499)

plus two additional courses from

- BISC 310-3 Natural History of British Columbia
- BISC 326-3 Biology of Non-Vascular Plants
- BISC 434-3 Paleocology and Palynology
- BISC 498-3 Undergraduate Research

or special topics courses appropriate for the selected stream or alternative courses as approved by the program advisor.

Ecology

Students must complete one physiology course from

- BISC 305-3 Animal Physiology
- BISC 366-3 Plant Physiology

plus one organism lab course from

- BISC 306-3 Invertebrate Biology
- BISC 316-3 Vertebrate Biology
- BISC 326-3 Biology of Non-Vascular Plants
- BISC 337-3 Plant Biology

plus one lab course from

- BISC 405-3 Cell Physiology
- BISC 498-3 Undergraduate Research I (or 499)

plus two additional courses from

- BISC 402-3 Molecular Genetics
- BISC 453-3 Advanced Developmental Biology
- BISC 498-3 Undergraduate Research
- MBB 412-4 Enzymology
- MBB 421-3 Nucleic Acids
- MBB 422-3 Biomembranes
- MBB 423-3 Protein Structure and Function

or special topics courses appropriate for the selected stream or alternative courses as approved by the program advisor.

Programs that are offered by the Department of Biological Sciences include the following: major, honors, minor; environmental toxicology, minor; post baccalaureate diploma. Co-operative education is available to students in major and honors programs.

Academic Advising

Biological sciences majors should contact an advisor before registration. Those in a pre-profession program (e.g. pre-medicine, pre-veterinary medicine, pre-dentistry, etc.) should advise the department and an advisor familiar with the professional program requirements will be assigned.

Major Program

Basic credit hour requirements underlying all areas of emphasis follow.

<table>
<thead>
<tr>
<th>Lower Division Core</th>
<th>Upper Division Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>BISC/MBB (lower division)</td>
<td>20 credit hours</td>
</tr>
<tr>
<td>non BISC/MBB (lower division)</td>
<td>27 credit hours</td>
</tr>
<tr>
<td>BISC/MBB (upper division)</td>
<td>37 credit hours</td>
</tr>
<tr>
<td>*electives</td>
<td>36 credit hours</td>
</tr>
<tr>
<td>total (minimum)</td>
<td>120 credit hours</td>
</tr>
</tbody>
</table>

*Electives must include a minimum of 12 credit hours in subjects taken outside the Faculty of Science (excluding EDUC 401, 402, 405, and 406). A minimum of six of these credit hours must be from the Faculty of Arts. Additional upper division credit must be included in the program to complete the BSc requirement of a minimum of 44 credit hours of upper division credit.

Six credit hours of English should be completed by all major/honor students in biological sciences.

Lower Division Core

Normally all biological sciences majors must complete the following, or equivalents, within the first 60 hours (four semesters) of their programs.

Courses in the Faculty of Science

- all of BISC 101-4 Introduction to Biology
- BISC 102-4 Introduction to Biology
- BISC 202-3 Genetics
- BISC 204-3 Introduction to Ecology
- CHEM 121-4 General Chemistry and Laboratory I
- CHEM 122-2 General Chemistry II
- CHEM 281-4 Organic Chemistry and Laboratory I
- CHEM 282-2 Organic Chemistry II
- MBB 221-3 Cell Biology and Biochemistry
- MBB 222-3 Molecular Biology and Biochemistry
- STAT 301-3 Statistics for the Life Sciences
- and one of MATH 151-3 Calculus I
- MATH 154-3 Calculus I for the Biological Sciences
- and one of MATH 152-3 Calculus II
- MATH 155-3 Calculus II for the Biological Sciences
- and one of PHYS 101-3 General Physics I
- PHYS 120-3 Modern Physics and Mechanics
- and one of PHYS 102-3 General Physics II
- PHYS 121-3 Optics, Electricity and Magnetism
- Total 50 lower division credit hours

Students are encouraged to take a full year of organic chemistry. Medical, dental or veterinary school applicants should include all chemistry courses above. Also, see “Requirements for Students Wishing to Transfer into Professional Schools” on page 176.
CHEM 121-4 General Chemistry and Laboratory I
BISC 102-4 Introduction to Biology
Semester 1
typical program for the first four semesters. Although there are many variations, the following is a special topics courses appropriate for the stream or alternatives as approved by the program advisor.

**Marine Biology**
Students must complete one physiology course from BISC 305-3 Animal Physiology
BISC 366-3 Plant Physiology
plus one organism lab course from
BISC 306-3 Invertebrate Biology
BISC 316-3 Vertebrate Biology
MACS 410-6 Marine Invertebrate Zoology
plus one lab course from
BISC 307-3 Animal Physiology Laboratory
BISC 367-3 Plant Physiology Laboratory
MACS 445-3 Biology of Marine Mammals
plus the following two mandatory courses
BISC 406-3 Marine Biology and Oceanography
BISC 326-3 Biology of Non-Vascular Plants
plus two additional lab courses from
BISC 414-3 Limnology
BISC 415-3 Ornithology
BISC 416-3 Fish Biology
MACS 412-6 Biology of Fishes
MACS 413-3 Biology of Marine Molluscs
MACS 440-6 Biology of Marine Birds
BISC 498-3 Undergraduate Research I (or 499)
plus two additional courses from
BISC 304-3 Animal Ecology
BISC 303-3 Microbiology
BISC 498-3 Undergraduate Research
MACS 411-6 Comparative Embryology of Marine Invertebrates
MACS 445-3 Biology of Marine Mammals
MACS 446-3 Comparative Ethology
or special topics courses appropriate for the selected stream or alternative courses as approved by the program advisor.

**General Biology**
Students must complete one physiology course from
BISC 305-3 Animal Physiology
BISC 366-3 Plant Physiology
plus one organism lab from
BISC 303-3 Microbiology
BISC 306-3 Invertebrate Biology
BISC 316-3 Vertebrate Biology
BISC 326-3 Biology of Non-Vascular Plants
BISC 337-3 Plant Biology
plus one lab course from
BISC 302-3 Genetic Analysis
BISC 307-3 Animal Physiology Laboratory
BISC 367-3 Plant Physiology Laboratory
MACS 445-3 Biology of Marine Mammals
plus two additional lab courses from any upper division BISC or MACS lab course or one of
BISC 498-3 Undergraduate Research I
BISC 499-3 Undergraduate Research II
plus four additional BISC or MACS upper division or special topics courses appropriate for the stream or alternatives as approved by the program advisor.

**Typical Lower Division Core Program**
Although there are many variations, the following is a typical program for the first four semesters.

**Semester 1**
BISC 102-4 Introduction to Biology
CHEM 121-4 General Chemistry and Laboratory I
MATH 154-3 Calculus I for the Biological Sciences
PHYS 101-3 General Physics I

**Semester 2**
BISC 101-4 Introduction to Biology
CHEM 122-2 General Chemistry II
CHEM 281-4 Organic Chemistry I
MATH 155-3 Calculus II for the Biological Sciences

**Semester 3**
CHEM 282-2 Organic Chemistry II
MBB 221-3 Cell Biology and Biochemistry
PHYS 102-3 General Physics II
Elective
and one of
BISC 202-3 Genetics
BISC 204-3 Introduction to Ecology

**Semester 4**
MBB 222-3 Molecular Biology and Biochemistry
STAT 301-3 Statistics for the Life Sciences (or 102) Electives
and one of
BISC 202-3 Genetics
BISC 204-3 Introduction to Ecology

**Note:** Biological sciences majors normally complete the chemistry, mathematics and physics requirements as well as the lower division biological sciences courses within the first 60 hours (four semesters).

**Honors Program**
This is for biology students pursuing an advanced degree. It requires a minimum of 60 upper division biological sciences credit hours, or related subjects, which is selected for each student in consultation with appropriate advisors, in relation to career goals.

Departmental approval is required for honors entry. Students must have completed 30 credit hours at SFU in a biological sciences major program.

Applications received after more than 90 credit hours have been completed will not normally be considered.

The program requires the following:
- maintenance of a minimum of 3.00 CGPA
- completion of 60 hours of upper division biological sciences or related subjects, which will include the core courses required for the major plus BISC 490, 491 and 492, these latter to constitute the honors thesis, and
- completion of appropriate electives for a total of 132 credit hours, including at least 12 credit hours from courses outside the Faculty of Science (including a minimum of six credit hours from the Faculty of Arts and excluding EDUC 401, 402, 405, 406).

**Minor Program**
Students must obtain the following credits or standing to fulfill BSc degree requirements.

BISC 101-4 Introduction to Biology
BISC 102-4 Introduction to Biology
at least two of
BISC 204-3 Introduction to Ecology
MBB 221-3 Cell Biology and Biochemistry
MBB 222-3 Molecular Biology and Biochemistry
plus any 15 upper division biological sciences credit hours, or closely related subject areas (including MACS courses), as approved by the department.

**Co-operative Education Program**
Biological Sciences majors and honors may apply for co-operative education. The program includes four work semesters during the normal academic program. See www.sfu.ca/coop/science or contact the science co-op co-ordinators in room 1100 Maggie Benston Student Services Centre, (604) 291-4716.

**Environmental Toxicology Minor Program**
This program gives undergraduates working towards a sciences degree a thorough overview of environmental toxicology. Consequently, students will be better qualified and eligible for employment with various industrial and governmental agencies engaged in environmental monitoring and research.

**Lower Division Requirements**
The following lower division courses are required. Most students pursuing science degree programs will already have credit for most of these courses.

- BISC 101-4 Introduction to Biology
- BISC 102-4 Introduction to Biology
- CHEM 121-4 General Chemistry and Laboratory I
- MATH 154-3 Calculus I for the Biological Sciences
- PHYS 101-3 General Physics I

**Upper Division Requirements**
BISC 312-3 Environmental Toxicology I
BISC 313-3 Environmental Toxicology II
BISC 432-3 Chemical Pesticides and the Environment
STAT 301-3 Statistics for the Life Sciences
plus two of
BISC 445-3 Environmental Physiology of Animals (prerequisite BISC 305)
CHEM 371-3 Chemistry of the Aqueous Environment (prerequisites CHEM 281 [or 150] and 360 [or 261])
GEOG 419-4 Mass Transfer in the Biosphere
KIN 431-3 Environmental Carcinogenesis and their prerequisites as noted in the Undergraduate Courses.

Upper division credit may not fulfil credit hours for more than one program. Some substitutions may be required. Appropriate course substitutions follow.

- BICH 412-4 Enzymology
- BISC 366-3 Plant Ecophysiology
- BISC 405-3 Cell Physiology
- KIN 305-3 Human Physiology I
- KIN 306-3 Human Physiology II (Principles of Physiological Regulation)

Students interested in a minor in environmental toxicology should contact the Department of Biological Sciences as soon as possible.

A GPA of 2.00 or higher, is required for the courses in the minor program.

**Post Baccalaureate Diploma Programs**
Biological Sciences post baccalaureate diploma programs are available in various areas of biological sciences for students who have already completed a degree (usually) in science and who wish to upgrade their academic credentials.
Note: course descriptions for the 600 and 800 level courses are given in the Biological Sciences section of Graduate Studies in this Calendar.

For information, contact the Department of Biological Sciences.

Environmental Toxicology
This program specifically meet the needs of students with science degrees who are presently engaged in environmental work and seek to upgrade their training. Practical experience in recent laboratory assay techniques will enable students to critically evaluate the data generated by these techniques.

For information post baccalaureate diploma program general regulations, refer to Continuing Studies.

Program Requirements
all of
BISC 312-3 Environmental Toxicology I
BISC 313-3 Environmental Toxicology II
BISC 432-3 Chemical Pesticides and the Environment
plus two of
BISC 445-3 Environmental Physiology of Animals
CHEM 371-3 Chemistry of the Aqueous Environment
GEOG 419-4 Mass Transfer in the Biosphere
KIN 431-3 Environmental Carcinogenesis

plus one of
BISC 329-4 Introduction to Experimental Techniques
BISC 429-3 Environmental Techniques I: Separation Methods
BISC 449-3 Experimental Techniques III: Histocchemistry
CHEM 316-4 Introductory Instrumental Analysis
CHEM 357-4 Chemical and Instrumental Methods of Identification of Organic Compounds
KIN 336-3 Microscopic Anatomy (Histology)
plus all of
BISC 450-3 Environmental Risk Assessment
BISC 654-3 Food and Drug Toxicology
BISC 652-3 Environmental Toxicology Testing II: Mammalian Toxicology
BISC 846-3 Insecticide Chemistry and Toxicology and their prerequisites. Please see "Undergraduate Courses" on page 203. If any of the above requirements (except prerequisites) have been used to fulfill requirements for another degree, additional electives in the area of specialization will be required. Consult the Department of Biological Sciences.

Marine Science

Marine science programs may include both BISC and MASC courses to fulfill upper division biological sciences requirements. MASC courses are offered at Bamfield Marine Station, Bamfield, BC in conjunction with certain universities in the summer and fall in three or six week blocks. Consult the Department of Biological Sciences in January course offerings, and for their use as substitutes for upper division BISC courses in major, minor or honors programs.

Course entry requires application through the Department of Biological Sciences in advance of course commencement because candidate selection across several universities is limited. For information about application entry, fees, etc., consult the Department of Biological Sciences. To take marine science courses, students must apply for university admission through the usual procedures, and be accepted (see "Admission and Readmission" on page 25). MASC courses are offered at the Bamfield Marine Station (see "Marine Science" on page 259 for a list of courses).

From time to time graduate level courses will be offered; see "Department of Biological Sciences" on page 357.

Students from other Departments
Certain courses may be taken by those not enrolled in biological sciences programs: BISC 304, 100, 101, 102. Admission to certain other courses is by permission of the department.

Chemical Physics Program
P8429 Shrum Science Centre, (604) 291-4465 Tel, (604) 291-3592 Fax
Advisors
Dr. E.D. Crozier, P9418 Shrum Science Centre, (604) 291-4827
Dr. B.J. Frisken, P8456 Shrum Science Centre, (604) 291-5767

An honors and a major program in chemical physics are offered jointly by the departments of Chemistry and Physics. Entry requires permission of both departments. Computing skills such as those in CMPT 102 are expected of students entering second year physics. Graduates from the honors program may do graduate work in either chemistry or physics.

Major Program

Lower Division Requirements
(55-56 credit hours)
Students must complete all of
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 230-3 Inorganic Chemistry
CHEM 236-2 Inorganic Chemistry Laboratory
CHEM 281-4 Organic Chemistry I
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III
MATH 252-3 Vector Calculus
PHYS 120-3 Modern Physics and Mechanics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 131-2 Physics Laboratory I
PHYS 211-3 Intermediate Mechanics
PHYS 221-3 Intermediate Electricity and Magnetism
PHYS 234-2 Computers in Physics Laboratory

and one of
CHEM 260-4 Atoms, Molecules, Spectroscopy
PHYS 285-3 Introduction to Relativity and Quantum Mechanics

Students are strongly encouraged to take at least three credit hours of lower division computing science.

Upper Division Requirements
(40-42 credit hours)
all of
CHEM 316-4 Introductory Instrumental Analysis
CHEM 340-3 Materials Chemistry
CHEM 346-2 Physical Chemistry Laboratory I
CHEM 462-3 Molecular Spectroscopy
MATH 310-3 Introduction to Ordinary Differential Equations
NUSC 341-3 Introduction to Radiochemistry
PHYS 326-3 Electronics and Instrumentation
PHYS 331-3 Electronics Laboratory
PHYS 355-3 Optics

and one of
CHEM 360-3 Kinetics and Thermodynamics
PHYS 344-3 Thermal Physics

and one of
CHEM 460-3 Advanced Physical Chemistry
PHYS 445-3 Statistical Physics

and one of
CHEM 464-3 Quantum Chemistry
PHYS 385-3 Quantum Physics

and one of
PHYS 324-3 Electromagnetics
PHYS 455-3 Applied Optics
PHYS 465-3 Solid State Physics

or either
PHYS 431-4 Advanced Physics Laboratory
or both of
PHYS 332-3 Optics Laboratory
PHYS 355-3 Optics

Additional courses must be taken to total at least 44 upper division credit hours, to total at least 120 credit hours. Of these, 12 must be outside the Faculty of Science (excluding EDUC 401-406) including six credit hours from the Faculty of Arts. Also, see "Requirements for Major" on page 176.

Honors Program

Lower Division Requirements
(55-56 credit hours)
Requirements are the same as for the major.

Upper Division Requirements
(50-52 credit hours)
Students must complete all of
CHEM 340-3 Materials Chemistry
CHEM 366-2 Physical Chemistry Laboratory I
CHEM 462-3 Molecular Spectroscopy
MATH 310-3 Introduction to Ordinary Differential Equations
PHYS 324-3 Electromagnetics
PHYS 326-3 Electronics and Instrumentation
PHYS 331-3 Electronics Laboratory
PHYS 384-3 Methods of Theoretical Physics I
PHYS 415-3 Quantum Mechanics
PHYS 465-3 Solid State Physics

and one of
CHEM 360-3 Kinetics and Thermodynamics
PHYS 344-3 Thermal Physics

and one of
CHEM 460-3 Advanced Physical Chemistry
PHYS 445-3 Statistical Physics

and one of
CHEM 464-3 Quantum Chemistry
PHYS 385-3 Quantum Physics

plus both of
PHYS 332-3 Optics Laboratory
PHYS 355-3 Optics

or one of
CHEM 481-5 Undergraduate Research
PHYS 431-4 Advanced Physics Laboratory
PHYS 432-5 Undergraduate Honors Thesis
plus five upper division chemistry or nuclear science credit hours
plus three upper division physics or nuclear science credit hours.

Additional courses must be taken to total at least 60 upper division credit hours and at least 132 credit hours overall. Of these, 12 must be taken outside the Faculty of Science, (excluding EDUC 401 to 406) including six hours from the Faculty of Arts. Also, see "Requirements for Major" on page 176.

Note for Major and Honors Programs
* The requirement that PHYS 233 as a prerequisite for PHYS 234 is waived for students in this program.
Co-operative Education Program
Co-op combines work experience with academic studies. The student spends alternate semesters on campus and in study related jobs. Please see “Co-operative Education” on page 184 and also see “Co-operative Education Program” on page 197.

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T.N. Bell BSc, PhD (Durf)
Y.L. Chow BSc (Nattiu Taiwan), PhD (Duquesne), FCIC
F.W.B. Einstein BSc (New Zealand), MSc, PhD (Cant), FCIC
L. Funt BSc, MSc (Dal), PhD (McG), FCIC
A.C. Gehlschlagker BSc, PhD (Calif)
E.M. Voigt BSc, MSc (McM), PhD (Br Col)
S. Wofle BA, MA (Ont), PhD (Ont), FCIC, FRSC

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I.D. Gay BSc, MSc (Dal), PhD (Lond)
R.H. Hill BSc, PhD (Wont), FCIC
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P.W. Percival BA, MA, DPhil (Oxf), FCIC
B.M. Pinto BSc, PhD (Qu), FCIC
R.K. Pomeroy BSc (Lond), PhD (Alta)
W.R. Richards AB, PhD (Calif)*
K.N. Slessor BSc, PhD (Br Col)

Associate Professors
G. Agnes BSc (Wat), PhD (Alta)
A.J. Bennet BSc, PhD (Bristol)
T.J. Borgeford BSc, PhD (Manit)*
E. Kiehlimann Vordiplom (Tübingen), PhD (Maryland)
G.W. Leach BSc, MSc, PhD (Tor)
D. Sen BA (Camb), MPhil, PhD (Yale)*
Z-G. Ye BSc (Heifei), MSc (X’an), PhD (Bordeaux)

Assistant Professors
J.A.C. Clyburne BSc (Acad), PhD (Dal)
D.B. Leznow BSc (York), PhD (Br Col)
P.C.H. Li BSc (HK), MSc, PhD (Tor)
E. Plettner BSc, PhD (S Fraser)
J.J. Wilkie BSc, MSc, PhD (Tor)
V.Williams BSc, PhD (Qu)
P.D. Wilson BSc (Newcstele, UK), MSc, PhD (Manc)

Associate Member
D.H. Boal, Physics

Adjunct Professors
G.C. Ball BSc (Alta) PhD (Calif)
M.J. Gresser BA, PhD (Brendeis)
K. Prater BA, PhD (Texas)
T.J. Ruth BSc, PhD (Clark)
L.E. Soo, BSc, PhD (Cdia)
A.S. Tracey BSc, PhD (S Fraser)
N.N. Weinberg MSc, PhD (Moscow)

Laboratory Instructors
J.C. Brodovitch BSc (Stras), PhD (McG)
A.J.L. Hanlan BSc, PhD (Tor)
U.C. Kreis MSc, Dr-Ing (Darmstadt)
E. Palmer BA (Calif), MSc(Educ) (S Fraser)

*joint appointment with biochemistry

Advisor
K.S. MacFarlane BSc, MSc, PhD (Br Col), C8049 Shrum Science Centre, (604) 291-3350

Students Intending to Specialize in Chemistry
The point at which a high school or regional college student enters the chemistry program is governed by the student’s subject knowledge. CHEM 110 and 111 are not required for the BSc degree but are available as electives to those with no chemistry knowledge or who are starting from BC high school chemistry 11. Those with BC high school chemistry 12 (or equivalent) normally start with CHEM 121. Major and honors must fulfill program requirements below. Whether majoring in chemistry or not, students may not enrol in any CHEM course for which a D grade was obtained in any prerequisite.

Major Program

Lower Division Requirements
(52-53 credit hours)
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 236-2 Inorganic Chemistry Laboratory
CHEM 260-4 Atoms, Molecules, Spectroscopy
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
CHEM 286-2 Organic Chemistry Laboratory II
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III
PHYS 120-3 Modern Physics and Mechanics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 131-2 Physics Laboratory I

and one of
CMPT 101-4 Introduction to Computer Programming
CMPT 102-3 Introduction to Scientific Computer Programming

Upper Division Requirements
(26 credit hours)
CHEM 316-4 Introductory Instrumental Analysis
CHEM 332-3 The Chemistry of Transition Metals
CHEM 336-2 Advanced Inorganic Chemistry Laboratory
CHEM 360-3 Kinetics and Thermodynamics
CHEM 366-2 Physical Chemistry Laboratory
CHEM 380-4 Chemical and Instrumental Methods of Identification of Organic Compounds

and an additional 10 hours of upper division credit in CHEM, MBB or NUSC courses, including at least six credit hours of 400 level CHEM courses.

Electives
(39-40 credit hours)

In addition to the above required courses students must complete
• nine elective hours at any level in subjects outside the Faculty of Science (excluding EDUC 401 to 407), including six hours from the Faculty of Arts
• upper division courses chosen from any faculty (but excluding EDUC 401-407) to bring the total to a minimum of 44 hours of upper division credit
• free electives at any level from any faculty to provide 120 credit hours required for the degree.
Mathematics and physics courses should be taken as early as possible to benefit the study of chemistry. Students intending to specialize in physical or theoretical chemistry should take more mathematics and physics courses than specified above.

Typical Course Sequence
The following is a typical course sequence for the first four semesters. Variations are possible.

Semester 1
CHEM 121-4 General Chemistry and Laboratory I
MATH 151-3 Calculus I
PHYS 120-3 Modern Physics and Mechanics
CMPT 102-3 Introduction to Scientific Computer Programming

Semester 2
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
MATH 152-3 Calculus II
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 131-2 Physics Laboratory I

Semester 3
CHEM 230-3 Inorganic Chemistry
CHEM 236-2 Inorganic Chemistry Laboratory
CHEM 260-4 Atoms, Molecules, Spectroscopy
CHEM 282-2 Organic Chemistry II
CHEM 286-2 Organic Chemistry Laboratory II
MATH 251-3 Calculus III

Semester 4
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 260-4 Atoms, Molecules, Spectroscopy
CHEM 286-2 Organic Chemistry Laboratory II
CHEM 282-2 Organic Chemistry Laboratory I

Honors Program

Lower Division Requirements
(57-58 credit hours)
CHEM 121-4 General Chemistry I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 236-2 Inorganic Chemistry Laboratory
CHEM 260-4 Atoms, Molecules, Spectroscopy
CHEM 282-2 Organic Chemistry I
CHEM 286-2 Organic Chemistry Laboratory II
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III
PHYS 120-3 Modern Physics and Mechanics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 131-2 Physics Laboratory I

CMPT 101-4 Introduction to Computer Programming
CMPT 102-3 Introduction to Scientific Computer Programming

Upper Division Requirements
(48 credit hours)
CHEM 316-4 Introductory Instrumental Analysis
CHEM 332-3 The Chemistry of Transition Metals
CHEM 336-2 Advanced Inorganic Chemistry Laboratory
CHEM 360-3 Kinetics and Thermodynamics
CHEM 366-2 Physical Chemistry Laboratory
CHEM 380-4 Chemical and Instrumental Methods of Identification of Organic Compounds
CHEM 481-5 Undergraduate Research
NUSC 341-3 Introduction to Radiochemistry
and one of
CHEM 460-3 Advanced Physical Chemistry
CHEM 464-3 Quantum Chemistry

and an additional 19 credit hours of upper division credit in CHEM, MBB or NUSC courses, including at least nine credit hours of 400 level CHEM courses.

Electives
(26-27 credit hours)
- nine hours of electives at any level in subjects outside the Faculty of Science (excluding EDUC 401-407), including six hours from the Faculty of Arts
- upper division courses chosen from any faculty (but excluding EDUC 401-407) to bring the total to a minimum of 60 hours of upper division credit
- free electives at any level from any faculty to provide the minimum 132 credit hours required for the degree.

Minor Program

see “Major – Minor Program” on page 21 for details of major-minor regulations. For a chemistry minor, students must complete a minimum of 14 upper division credit hours in chemistry, biochemistry or nuclear science (including a minimum of eight hours in chemistry, and excluding undergraduate research courses), together with all the prerequisites.

Environmental Chemistry Minor Program

Students must complete all of
CHEM 121-4 General Chemistry I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 230-3 Inorganic Chemistry
CHEM 236-2 Inorganic Chemistry Laboratory
CHEM 281-4 Organic Chemistry I
CHEM 317-2 Analytical Environmental Chemistry
CHEM 318-3 Chemistry of the Aquous Environment*
CHEM 372-3 Chemistry of the Atmospheric Environment*

and at least one of
CHEM 380-4 Chemical and Instrumental Methods of Identification of Organic Compounds
CHEM 415-3 Selected Topics in Analytical Chemistry
NUSC 341-3 Introduction to Radiochemistry

*CHEM 360 must be taken as a prerequisite

Nuclear Science Minor Program

To qualify for this program offered jointly with the Department of Physics, students must complete a 14 upper division credit hours from the following.

CHEM 482-3 Directed Study in Advanced Topics of Chemistry
NUSC 341-3 Introduction to Radiochemistry
NUSC 342-3 Introduction to Nuclear Science
NUSC 344-3 Nucleosynthesis and Distribution of the Elements
NUSC 346-2 Radiochemistry Laboratory
NUSC 444-3 Special Topics in Nuclear Science
NUSC 485-3 Particle Physics
PHYS 385-3 Quantum Physics

Advice to Students from Other Faculties

Prerequisites and corequisites cited in the Undergraduate Courses section are for those intending to specialize in science. Some may be waived for programs in the Faculties of Applied Sciences, Arts, Business Administration and Education. CHEM 110 and 111 are suitable for students with no previous training in chemistry.

Other Programs

Interdisciplinary programs in biochemistry and chemical physics are also available. Also, see “Department of Molecular Biology and Biochemistry” on page 192 and see “Major Program” on page 193.

Co-operative Education

Mr. J.C. Simms, co-op co-ordinator, Faculty of Science, (604) 291-5347

This program combines work experience with academic studies. The student spends alternate semesters on campus and in study related jobs. A major and honors program leading to a BSc degree, and a co-operative education program incorporating four work semesters are available in chemistry and related areas. The work practicum requirements are CHEM 306, 307, 406 and 407.

To enrol, students must apply at least three months prior to the start of the semester in which they enrol in CHEM 306. Students should seek department advice as early as possible. They must obtain a minimum 2.67 CGPA to enrol and continue in the major in co-operative education. Higher averages are required for entry to and continuance in an honors program in co-operative education. For further details see “Co-operative Education” on page 201.

Department of Earth Sciences


Chair
E.J. Hickin, BA, PhD (Syd), PGeo

Endowed Forest Renewal BC Chair in Terrain Analysis and Forest Geoscience
D. Stead BSc (Exeter), MSc (Leeds), PhD (Nott)

Professors
E.J. Hickin BA, PhD (Syd), PGeo*
M.C. Roberts BSc (Lond), MA (Tor), PhD (Iowa), PGeo*
J. Clague BA (Occidental), MSc (Calif), PhD (Br Col), PGeo

Assistant Professors
D.M. Allen BSc, MSc, PhD (Car)
A.J. Calvert BA (Oxf), PhD (Camb)
J.A. MacEachern BSc, MSc (Regina), PhD (Alta)
D. Marshall BSc, MSc (Car), DSc (Lausanne)
P.S. Mustard BSc (Calg), MSc, PhD (Car), PGeo
D.J. Thorkelson BSc, MSc (Br Col), PhD (Car)
B.C. Ward BSc, PhD (Alta)

Adjunct Professors
R. Enkin BSc, MSc (Tor), Diplomede Doctorat (Paris)
L. Jackson BA (San Francisco State), MSc (Stan), PhD (Calg)
J.W. Monger BSc, MSc (Kansas), PhD (Br Col)

Laboratory Instructor
R. Dunlop BSc (Alta), MSc (Br Col)

Advisor
Ms. L. McGregor BCom (McM), P9305 Shrum Science Centre, (604) 291-4779

*joint appointment with geography

Major Program

Lower Division Requirements
(56 credit hours)

CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
EASC 101-3 Physical Geology
EASC 102-3 Historical Geology
EASC 201-3 Stratigraphy and Sedimentation
EASC 202-3 Introduction to Mineralogy
EASC 203-3 Paleontology
EASC 204-3 Structural Geology I
EASC 205-3 Introduction to Petrology
EASC 206-1 Field Geology I
EASC 207-3 Introduction to Geophysics
EASC 208-3 Introduction to Geochemistry
EGEO 213-3 Geomorphology
MATH 151-3 Calculus I
MATH 152-3 Calculus II
PHYS 120-3 Modern Physics and Mechanics
PHYS 131-3 Optics, Electricity and Magnetism
PHYS 121-3 Physics Laboratory I
STAT 101-3 Introduction to Statistics

Upper Division Requirements

Students must complete the following 24 credit hours.

EASC 301-3 Igneous and Metamorphic Petrology
EASC 302-3 Sedimentary Petrology
EASC 303-3 Environmental Geoscience
EASC 304-3 Hydrogeology
EASC 306-2 Field Geology II
EASC 309-3 Global Tectonics
EGEO 313-4 Geomorphology

and one of
EASC 406-3 Field Geology III
EASC 416-3 Field Methods in Hydrogeology

and 15 credit hours chosen from the following.

EASC 307-3 Applied Geophysics
EASC 317-3 Global Geophysics
EASC 401-3 Mineral Deposits
EASC 402-3 Sedimentology
EASC 403-3 Quaternary Geology
EASC 404-3 Subsurface Methods for Environmental Geoscience
EASC 405-3 Basin Analysis
EASC 408-3 Regional Geology of Western Canada
EASC 409-3 Rivers: Environments & Engineering
EASC 410-3 Groundwater Geochemistry and Contaminant Transport
EASC 411-3 Advanced Environmental Geology
EASC 412-3 Advanced Geochemistry
EASC 417-3 Exploration Seismology
EASC 491-1 Directed Reading*
EASC 491-2 Directed Reading*
EASC 491-3 Directed Reading*

*Students may only complete a maximum of three credit hours from a combination of EASC 491, 492, or 493.

Other Requirements

Students must also complete a minimum of three additional upper division Faculty of Science or physical geography courses. Courses from other faculties may be approved for credit upon consultation with the department. None of these courses may be of less than three credit hours.

Students who intend to apply for registration with APEGBC may be required to complete some additional courses not required for the major program. Seek advice from the Department of Earth Sciences.

Honors Program

The honors program provides students with a wider cross-section of discipline-related courses while
Environmental Science Program

Advisors
Dr. G. Agnes, Department of Chemistry, 7102 South Science Building, (604) 291-4387 Tel, (604) 291-3765 Fax, gagnes@sfu.ca
Dr. D. Allen, Department of Earth Sciences, P9313 Shrum Science Centre, (604) 291-3976 Tel, (604) 291-4198 Fax, dalen@sfu.ca
Dr. L. Bendell-Young, Department of Biological Sciences, 8109 South Science Centre, (604) 291-5621 Tel, (604) 291-3496 Fax, bendell@sfu.ca
Dr. K. Colbow, Department of Physics, P8458 Shrum Science Centre, (604) 291-3162 Tel, (604) 291-3592 Fax, colbow@sfu.ca
Ms. R. Hotell, Faculty of Science, P9451 Shrum Science Centre, (604) 291-3772 Tel, (604) 291-3424 Fax, hotell@sfu.ca
Dr. C. Schwarz, Department of Mathematics and Statistics, K1059, (604) 291-3376 Tel, (604) 291-4947 Fax, cschwarz@sfu.ca

This program provides a broad education with specialization in one of six areas of emphasis: biology, chemistry, environmetrics, physical geography, pollutant transport, and quantitative techniques for resource management. Extensive lower division requirements necessitate careful planning of course sequencing to ensure timely completion of the program. Seek advice from the advisors listed above.

Major Program

This program requires 120 credit hours including at least 44 in courses numbered 300 and above, and a minimum of 12 credit hours from outside the Faculty of Science. The minimum CGPA for continuation and graduation is 2.50. General University and Faculty of Science regulations also apply. The following requirements, organized by year, suggest a sequence for timely program completion.

Biology

Year One
BISC 101-4 General Biology
BISC 102-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
REM 100-3 Global Change

and one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences
MATH 157-3 Calculus for the Social Sciences I

and one of
MATH 152-3 Calculus II
MATH 155-3 Calculus II for the Biological Sciences
MATH 158-3 Calculus for the Social Sciences II

and one of
PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics

Year Two
MBB 221-3 Cellular Biology and Biochemistry
BISC 204-3 Introduction to Ecology
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 230-3 Inorganic Chemistry
CHEM 281-4 Organic Chemistry I
EVSC 200-3 Introduction to Environmental Science
GEOG 111-3 Physical Geography

and one of
STAT 270-3 Introduction to Probability and Statistics
STAT 301-3 Statistics for the Life Sciences

and one of
PHYS 102-3 General Physics II
PHYS 121-3 Optics, Electricity and Magnetism

Co-operative Program

This program requires at least 12 credit hours from outside the Faculty of Science. The minimum CGPA for continuation and graduation is 2.50. General University and Faculty of Science regulations also apply. The following requirements, organized by year, suggest a sequence for timely program completion.

Biological Sciences

Year One
BISC 101-4 General Biology
BISC 102-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
REM 100-3 Global Change

and one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences
MATH 157-3 Calculus for the Social Sciences I

and one of
MATH 152-3 Calculus II
MATH 155-3 Calculus II for the Biological Sciences
MATH 158-3 Calculus for the Social Sciences II

and one of
PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics

Year Two
MBB 221-3 Cellular Biology and Biochemistry
BISC 204-3 Introduction to Ecology
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 230-3 Inorganic Chemistry
CHEM 281-4 Organic Chemistry I
EVSC 200-3 Introduction to Environmental Science
GEOG 111-3 Physical Geography

and one of
STAT 270-3 Introduction to Probability and Statistics
STAT 301-3 Statistics for the Life Sciences

and one of
PHYS 102-3 General Physics II
PHYS 121-3 Optics, Electricity and Magnetism

Year Three
BISC 304-3 Animal Ecology
BISC 305-3 Animal Physiology
BISC 312-3 Environmental Toxicology I
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
PHYS 346-3 Energy and the Environment
STAT 302-3 Analysis of Experimental and Observational Data

Minor Program

Students must complete the following two courses.
EASC 101-3 Physical Geology
EASC 102-3 Historical Geology

and at least three of
EASC 201-3 Stratigraphy and Sedimentation
EASC 202-3 Introduction to Mineralogy
EASC 203-3 Palaeontology
EASC 204-3 Structural Geology
EASC 205-3 Introduction to Petrology
EASC 207-3 Introduction to Geophysics
EASC 208-3 Introduction to Geochemistry

plus 14 credit hours in any 300 and 400 level earth sciences courses excluding EASC 490, 491, 492, 493 and 499.

Co-operative Education Program

Co-operative education combines relevant work experience with academic studies. Participating students alternate semesters on campus and in study related employment. The program includes pre-employment orientation and four full-time paid work semesters. A major and honors program leading to a BSc degree in earth sciences and co-operative education are available to qualified students.

To enrol, students should attend the co-op information meetings held in the first two weeks of the semester prior to the semester in which they wish to work. Students should seek advice from the geography and earth sciences co-operative education office as early as possible in their university careers to facilitate optimal scheduling. Contact the Co-operative Education Office, 1100 Maggie Benston Student Services Centre, Telephone (604) 291-3255.

Professional Registration as a BC Geoscientist

The right to practice in, and to accept professional responsibility for geoscience in BC is limited to registered members of the Association of Professional Engineers and Geoscientists of British Columbia (APEGB). Requirements can be met through the Department of Earth Sciences and selected courses from other university departments. Consult the program director for further details.
Electives

Additional electives are required to meet the total 120 credit hour graduation requirement including at least 44 at the upper division.

Suggested Groupings of Courses
The following course groupings for different focuses are suggested.

Biological Focus
BISC 304-3 Animal Ecology
BISC 312-3 Environmental Toxicology
GEOG 316-4 Ecosystem Biogeochemistry
REM 311-3 Applied Ecology and Sustainable Environments
REM 412-3 Environmental Modelling
REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances

Aqueous Chemistry Focus
BISC 414-3 Limnology
GEOG 311-4 Hydrology
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 419-4 Mass Transfer in the Biosphere
REM 311-3 Applied Ecology and Sustainable Environments
REM 412-3 Environmental Modelling
REM 445-3 Environmental Risk Assessment

Atmospheric Focus
CHEM 372-3 Chemistry of the Atmospheric Environment
GEOG 214-3 Climatology
GEOG 419-4 Mass Transfer in the Biosphere
REM 311-3 Applied Ecology and Sustainable Environments
REM 412-3 Environmental Modelling
REM 445-3 Environmental Risk Assessment

Total Material Focus
BISC 312-3 Environmental Toxicology
REM 311-3 Applied Ecology and Sustainable Environments
REM 412-3 Environmental Modelling
REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances

Electives

Additional electives may be required to meet the 120 credit hour graduation requirement, including at least 44 at the upper division.

Environmetrics

These Year One and Two requirements are the same as for the biology area of emphasis. Please refer to that section above.

Year Three

CHEM 360-3 Chemical Kinetics and Thermodynamics
CHEM 316-4 Introductory Instrumental Analysis
CHEM 371-3 Chemistry of the Aqueous Environment
ECON 103-3 Principles of Macroeconomics
ECON 105-3 Principles of Microeconomics
MATH 251-3 Calculus III
STAT 300-3 Linear Models in Applied Statistics
STAT 305-3 Linear Models in Applied Statistics II

Year Four

CHEM 317-2 Analytical Environmental Chemistry
EVSC 401-1 Current Topics in Environmental Science
PHYS 346-3 Energy and the Environment
STAT 402-3 Generalized Linear and Nonlinear Modelling
STAT 410-3 Statistical Analysis of Sample Surveys
STAT 430-3 Statistical Design and Analysis of Experiments

and at least three courses from the following to be completed in years three or four.

BISC 304-3 Animal Ecology
BISC 312-3 Environmental Toxicology
BISC 414-3 Limnology
CHEM 372-3 Chemistry of the Atmospheric Environment
GEOG 214-3 Climatology
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 354-4 Introduction to Geographic Information Systems
GEOG 419-4 Mass Transfer in the Biosphere
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Management Institutions
REM 412-3 Environmental Modelling
REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances
REM 471-3 Forest Ecosystem Management

and one of
GEOG 250-3 Cartography
GEOG 253-3 Aerial Photographic Interpretation

Eight credit hours of electives

Years Three and Four

ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
PHYS 346-3 Energy and the Environment
STAT 302-3 Analysis of Experimental and Observational Data
EVSC 401-1 Environmental Science Seminar
GEOG 311-4 Hydrology
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 317-4 Soil Science

and one of
STAT 403-3 Intermediate Sampling and Experimental Design
GEOG 354-3 Management Institutions

Total 60 credit hours

Suggested Groupings of Courses

Three groupings of courses are identified below to aid students in their choice of electives.

Aquatic Environments
BISC 414-3 Limnology
BISC 416-3 Fish Biology
CHEM 371-3 Chemistry of the Aqueous Environment
GEOG 411-4 Hydrology
GEOG 413-4 Geomorphology
GEOG 415-4 Advanced Biogeography
GEOG 417-4 Soil Science

and three of
BISC 310-3 Plants and Animals of British Columbia
BISC 366-3 Plant Physiology
BISC 367-3 Plant Physiology Laboratory
BISC 403-3 Plant Ecology
BISC 414-3 Limnology
BISC 416-3 Fish Biology
BISC 434-3 Paleocology and Palynology
CHEM 371-3 Chemistry of the Aquous Environment
CHEM 372-3 Chemistry of the Atmospheric Environment
EASC 303-3 Environmental Geoscience
EASC 304-3 Hydrogeology
EASC 403-3 Quaternary Geology
EASC 404-3 Subsurface Methods for Environmental Geoscience
EASC 409-3 Rivers: Environments and Engineering
EASC 410-3 Groundwater Geochemistry and Contaminant Transport
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Management Institutions
REM 412-3 Environmental Modelling
REM 445-3 Environmental Risk Assessment
REM 471-3 Forest Ecosystem Management

and one of
GEOG 351-4 Cartography
GEOG 353-4 Remote Sensing
GEOG 354-4 Introduction to GIS

In addition to the above, students must complete 7-11 elective credit hours to bring the total to the required 120 credit hours. Also, of these credit hours 44 must be upper division to satisfy the Faculty of Science requirements for a major.

*requires prerequisites to be taken as electives

Suggested Groupings of Courses

Three groupings of courses are identified below to aid students in their choice of electives.
**Pollutant Transport**

**Year One**
- BISC 101-4 General Biology
- CHEM 121-4 General Chemistry and Laboratory I
- CHEM 122-2 General Chemistry II
- CHEM 126-2 General Chemistry Laboratory II
- EASC 101-3 Physical Geology
- EASC 102-3 Historical Geology
- REM 100-3 Global Change
- and one of
  - MATH 151-3 Calculus I*
  - MATH 154-3 Calculus I for the Biological Sciences
  - MATH 157-3 Calculus for the Social Sciences I
  - and one of
    - MATH 152-3 Calculus II*
    - MATH 155-3 Calculus II for the Biological Sciences
    - MATH 158-3 Calculus for the Social Sciences II
  - and one of
    - PHYS 101-3 General Physics I
    - PHYS 120-3 Modern Physics and Mechanics*
    - and one of
      - PHYS 102-3 General Physics II
      - PHYS 121-3 Optics, Electricity and Magnetism*

**Year Two**
- CHEM 281-4 Organic Chemistry I
- EASC 206-1 Field Geology I
- EASC 201-3 Stratigraphy and Sedimentation
- EVSC 200-3 Introduction to Environmental Science
- MATH 232-3 Elementary Linear Algebra
- MATH 251-3 Calculus III
- STAT 270-3 Introduction to Probability and Statistics
- and one of
  - CMPT 101-4 Introduction to Computer Programming
  - CMPT 102-3 Introduction to Scientific Computer Programming

**Years Three and Four**
- BISC 102-4 General Biology
- EASC 202-3 Mineralogy
- MATH 252-3 Vector Calculus
- and one of
  - GEOG 214-3 Climatology I
  - GEOG 213-3 Geomorphology I
- and one of
  - BISC 204-3 Introduction to Ecology
  - GEOG 215-3 Biogeography
  - *these courses are recommended

**Suggested Groupings of Courses**

**Aquatic Biology Focus**
- BISC 312-3 Environmental Toxicology I
- BISC 414-3 Limnology
- CHEM 360-3 Chemical Kinetics and Thermodynamics
- GEOG 315-4 Regional Ecosystems
- GEOG 314-3 Introductory Biogeochemistry
- REM 311-3 Applied Ecosystems
- and one of
  - MATH 222-3 Complex Variables
  - MATH 415-3 Ordinary Differential Equations

**Aquatic Chemistry Focus**
- BISC 414-3 Limnology
- CHEM 316-4 Introductory Instrumental Analysis
- CHEM 317-2 Analytical Environmental Chemistry
- CHEM 360-3 Chemical Kinetics and Thermodynamics
- CHEM 371-3 Chemistry of the Aqueous Environment
- NUSC 341-3 Introduction to Radiochemistry
- REM 412-3 Environmental Modelling

**Earth Properties Focus**
- EASC 303-3 Environmental Geoscience
- EASC 307-3 Environmental Geoscience
- and at least 12 credit hours selected from outside the Faculty of Science.

**Quantitative Techniques for Resource Management**

**Year One**
- BISC 101-4 General Biology
- BISC 102-4 General Biology
- CHEM 120-3 General Chemistry I
- CHEM 122-2 General Chemistry II
- ECON 103-3 Principles of Microeconomics
- REM 100-3 Global Change
- and one of
  - MATH 151-3 Calculus I
  - MATH 154-3 Calculus I for the Biological Sciences
  - MATH 157-3 Calculus for the Social Sciences I
- and one of
  - PHYS 101-3 General Physics I
  - PHYS 120-3 Modern Physics and Mechanics

**Year Two**
- BISC 204-3 Introduction to Ecology
- ECON 105-3 Principles of Macroeconomics
- ECON 260-3 Environmental Economics
- EVSC 200-3 Introduction to Environmental Science
- GEOG 111-3 Physical Geography
- MATH 232-3 Elementary Linear Algebra
- MATH 251-3 Calculus III
- STAT 270-3 Introduction to Probability and Statistics
- and one of
  - CMPT 101-4 Introduction to Computer Programming
  - CMPT 102-3 Introduction to Scientific Computer Programming
- and one of
  - PHYS 102-3 General Physics II
  - PHYS 121-3 Optics, Electricity and Magnetism

**Year Three**
- BISC 304-3 Animal Ecology
- MACM 316-3 Numerical Analysis I
- MATH 308-3 Linear Programming
- MATH 310-3 Introduction to Ordinary Differential Equations
- MATH 311-3 Boundary Value Problems
- STAT 330-3 Linear Models in Applied Statistics I
- and at least 12 credit hours selected from outside the Faculty of Science.

**Suggested Groupings of Courses**

**Aquatic Biology Focus**
- BISC 312-3 Environmental Toxicology I
- BISC 414-3 Limnology
- CHEM 360-3 Chemical Kinetics and Thermodynamics
- GEOG 315-4 Regional Ecosystems
- GEOG 314-3 Introductory Biogeochemistry
- REM 311-3 Applied Ecosystems
- and one of
  - MATH 222-3 Complex Variables
  - MATH 415-3 Ordinary Differential Equations

**Aquatic Chemistry Focus**
- BISC 414-3 Limnology
- CHEM 316-4 Introductory Instrumental Analysis
- CHEM 317-2 Analytical Environmental Chemistry
- CHEM 360-3 Chemical Kinetics and Thermodynamics
- CHEM 371-3 Chemistry of the Aqueous Environment
- NUSC 341-3 Introduction to Radiochemistry
- REM 412-3 Environmental Modelling

**Earth Properties Focus**
- EASC 303-3 Environmental Geoscience
- EASC 307-3 Environmental Geoscience
PHYS 346-3 Energy and the Environment
STAT 330-3 Linear Models in Applied Statistics I
STAT 350-3 Linear Models in Applied Statistics II

Year Four
BISC 407-3 Population Dynamics
EVSC 401-1 Current Topics in Environmental Science
MATH 309-3 Continuous Optimization
STAT 402-3 Generalized Linear and Nonlinear Modelling
STAT 410-3 Statistical Analysis of Sample Surveys
STAT 430-3 Statistical Design and Analysis of Experiments

Science Regulations also continue and graduation is 3.00. General each area of emphasis. Minimum CGPA for area of emphasis in the honors program. Exceptions must be approved by a student advisor. To enrol, students should attend co-op information sessions. Optimal scheduling. For more information, contact the biology stream advisor or the Association of Professional Biologists of BC at apbbc@tnet.net.

Honors Program
This program requires a minimum of 132 credit hours. At least 60 must be upper division and 12 must be outside the Faculty of Science. Of these 60, at least 48 must be in one subject area and are normally from the 300-400 level required or optional courses in an area of emphasis. Exceptions must be approved by a faculty advisor. Further requirements are listed in each area of emphasis. Minimum CGPA for continuation and graduation is 3.00. General University and Faculty of Science regulations also apply.

Biology
Students must complete all requirements in the major program for this area of emphasis, plus all requirements for the honors program. The required 48 upper division credit hours in a specific subject area, students normally will choose further major program courses as options in years three and four. Other courses may be substituted subject to the approval of a faculty advisor.

Chemistry
Students must complete all requirements for this area of emphasis in the major program, plus all requirements for the honors program, and also CHEM 481-5 Undergraduate Research

Environmetrics
Students must complete all requirements for this area of emphasis in the major program, plus all requirements for the honors program, and also STAT 450-3 Statistical Theory

To fulfil the required 48 upper division credit hours in a specific subject area, students normally will choose further courses listed in the major program as options in years three and four. Other courses may be substituted with approval of a faculty advisor.

Quantitative Techniques for Resource Management
Students must complete all requirements for this area of emphasis in the major program, plus all requirements for the honors program. To fulfil the required 48 upper division credit hours in a specific subject area, students normally will choose further courses listed in the major program as options in years three and four. Other courses may be substituted with approval of a faculty advisor.

Pollutant Transport
Students must complete all requirements for this area of emphasis in the major program, plus all requirements for the honors program. To fulfil the required 48 upper division credit hours in a specific subject area, the student normally will choose further courses listed in the major program as options in years three and four. Other courses may be substituted with approval of a faculty advisor.

Co-operative Education Program
This program combines relevant work experience with academic studies. Students alternate semesters on campus and in study related employment. The program includes pre-employment orientation and four full-time paid work semesters. A major and honors program leading to a BSc degree in environmental science and co-operative education are available to qualified students.

To enrol, students should attend co-op information meetings held in the first two weeks of the semester prior to the semester in which they wish to work. Seek advice from Faculty of Science Co-op Education as early as possible in your university career to facilitate optimal scheduling. For more information, contact the co-op co-ordinator, Faculty of Science, 1100 Maggie Benston Student Services Centre, tel (604) 291-3754.

Qualifications for Registered Professional Biologist of BC
Registered professional biologist (RPBio) status is an important and common qualification for biologists practising in BC. Environmental science students can meet the academic qualifications by taking three more biology courses at the 200 level or higher, beyond the requirements for the biology stream. RPBio status is then possible after three years of appropriate work experience and completion of an acceptable professional report. Students and graduates may join the Association of Professional Biologists of BC (APB) as student biologists and biologists in training respectively, before they meet all of the qualifications. For more information, contact the biology stream advisor or the Association of Professional Biologists of BC at apbbc@tnet.net.

General Science Program
P9447 Shrum Science Centre, (604) 291-4222 Tel, (604) 291-3424 Fax
Advisor
Ms. R. Hotell, Faculty Assistant, P9451 Shrum Science Centre, (604) 291-3772 Tel, (604) 291-3424 Fax

This degree program provides a broad education in several fields with some specialization in at least two. The program requires two minors that must be chosen from below. One of these minors must be in the Faculty of Science and the combination of minors is subject to the restrictions listed below.

Students must have their selection of minors for the BSc general science degree approved by the program advisor as early in their program as possible. Only one minor may be selected from each of the following six subject areas.

• biological sciences, environmental toxicology, kinesiology
• biochemistry, chemistry, environmental chemistry
• mathematics, statistics, computing science
• physics, nuclear science
• earth science, physical geography, quaternary studies
• archaeology, psychology

Because of the proximity of subject matter, the following combinations of minors are not acceptable:

• biological sciences, biochemistry
• biochemistry, environmental toxicology
• chemistry, nuclear science
• biochemistry, kinesiology
• environmental chemistry, environmental toxicology

Lower Division Requirements
Students must complete all of
BISC 101-4 Introduction to Biology
BISC 102-4 Introduction to Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry and Laboratory I
PHYS 103-1 General Physics I
PHYS 102-3 General Physics II
PHYS 130-2 General Physics Laboratory
PHYS 103-1 General Physics I
PHYS 130-2 General Physics Laboratory
PHYS 120-3 Modern Physics and Mechanics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 131-2 General Physics Laboratory I
and both of
MATH 154-3 Calculus I for the Biological Sciences
MATH 155-3 Calculus II for the Biological Sciences
Major Program
- Under program and University regulations a general degree requires a minimum of 44 upper division credit hours in courses numbered 300 and above, completion of at least 120 credit hours, and completion of the major program.
- Six elective credit hours must be completed in courses taken from outside the Faculty of Business Administration, School of Computing Science, Departments of Economics and Mathematics and Statistics.
- Completion of all lower and upper division courses shown below is required. However, students should be aware of the requirements for entrance into business administration, computing science and economics courses. Contact those departments for further information.

Lower Division Requirements
Business Administration
one of
BUS 207-3 Managerial Economics
ECON 301-5 Intermediate Microeconomic Theory
plus all of
BUS 251-3 Financial Accounting I Computing Science
BUS 272-3 Behavior in Organizations

Computing Science
CMPT 101-4 Introduction to Computer Programming
CMPT 150-3 Introduction to Computer Design
CMPT 201-4 Data and Program Abstraction
CMPT 275-4 Software Engineering

Economics
ECON 103-3 Principles of Economics (I)
ECON 104-3 Principles of Economics (II)

Mathematics and Computing Science
MACM 101-3 Discrete Mathematics I
MACM 201-3 Discrete Mathematics II

Mathematics and Statistics
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 222-3 Elementary Linear Algebra
MATH 251-3 Calculus II
STAT 270-3 Introduction to Probability and Statistics

Upper Division Requirements
For the BSc degree in management and systems science, all of the upper division courses listed below are required.

Students must take a minimum of 34 upper division credit hours, such that at least nine are taken from each of the groups under business administration (excluding ECON 301), computing science, and mathematics and statistics. Those credit hours taken beyond 34 can be applied to other major or minor programs. Only one of ECON 301 and BUS 207 is required for the Management and Systems Science major program.

Business Administration
BUS 343-3 Introduction to Marketing
BUS 364-3 Information Systems in Organization and Society
BUS 473-4 Operations Management

Computing Science
CMPT 305-3 Computer Simulation and Modelling
CMPT 307-3 Data Structures and Algorithms
CMPT 354-3 File and Database Structures
CMPT 370-3 Information System Design

Economics
one of
BUS 207-3 Managerial Economics
ECON 301-5 Intermediate Microeconomic Theory

Other Requirements
The student must also satisfy the following general requirements.
• one statistics course at the upper or lower division
• additional upper division courses (excluding EDUC 401-407) to accumulate a minimum total of 44 credit hours of upper division credit
• a minimum of 12 hours in subjects outside the Faculty of Science, including a minimum of six credit hours from the Faculty of Arts
• a GPA of 2.0 in upper division courses required for each of two subject area minors, with a minimum C-grade in courses used for the subject area minors

Consult departmental advisors about selection of upper division courses in subject minors. Students should include science-related courses such as PHIL 244, 341 and HIST 360, 381 in their programs.

Management and Systems Science Program
K10512 Shrum Science Centre (604) 291-3332 Tel, (604) 291-4947 Fax, www.math.sfu.ca
Co-ordinator
Dr. K.L. Weldon, K10522 Shrum Science Centre, (604) 291-3667, weldon@sfu.ca
Associated Faculty
F. Popowich, Computing Science
T. Heaps, Economics
E. Love, Business Administration
D. Parker, Business Administration
R. R. Sitter, Mathematics and Statistics
L. Weldon, Mathematics and Statistics
Advisor
Mrs. M. Fankboner BA (Occidental), MSc (S Fraser), K10511 Shrum Science Centre, (604) 291-4849/3332

The Department of Mathematics and Statistics, in conjunction with the Faculty of Business Administration, the School of Computing Science and Department of Economics, offers a major and a honors in management and systems science (MSSC) leading to a BSc degree. These are highly structured programs providing a multidisciplinary approach to quantitative methods to business and industry in an environment of expanding computerization. A seminar in which problems requiring a broad perspective are presented and discussed has been designed for upper division students.

The management and systems science program co-ordinator is selected from the associated faculty. The program co-operates with the School of Computing Science regarding program admission. Students formally apply to be admitted into the program. Acceptance will be based on overall academic performance as measured by the cumulative grade point average (CGPA). The CGPA is calculated based on all work completed at SFU as described in the General Regulations section.

A student may apply for program acceptance during the semester in which she/he is completing all lower division requirements. Transfer and second degree students who have credit for all lower division requirements may apply for special admission consideration based on transcripts from other post-secondary institutions. To remain in the program, students must maintain a 2.5 CGPA. It is strongly recommended that you contact the program advisor or co-ordinator early about admission and scheduling.

Mathematics and Statistics
MATH 308-3 Linear Programming
MATH 343-3 Applied Discrete Mathematics
MATH 408-3 Discrete Optimization
STAT 330-3 Introduction to Statistical Inference

Management and Systems Science
MSSC 480-1 Undergraduate Seminar in Management and Systems Science
MSSC 481-1 Undergraduate Seminar in Management and Systems Science

Students should note the prerequisites for these courses.

Note: BUEC 232, BUEC 333 and ECON 331 will not be accepted towards the 120 or 132 hours required for the MSSC major or honors degree.

Honors Program
- Under University regulations, an honors degree requires completion of a minimum of 60 upper division credit hours in courses numbered 300 and above, including at least 50 upper division credit hours in the honors program, and completion of at least 132 credit hours. Honors students require a graduation grade point average of not less than 3.00.
- Students must complete all of the requirements as specified above for the degree with the major program. In addition, the student must complete the following upper division courses.

1. CMPT 405-3 Design and Analysis of Computing Algorithms
2. STAT 350-3 Linear Models in Applied Statistics
3. One of MATH 443-3 Combinatorial Theory
   MATH 446-3 Introduction to Graph Theory
- Students must also complete at least three credit hours in business administration or in economics at the 400 division.

For major or honors, the following upper division courses are recommended.

BUS 312-4 Business Finance
BUS 488-3 Human Relations in Business
CMPT 405-3 Design and Analysis of Computing Algorithms
BUEC 396-3 The Structure of Industry
ECON 431-5 Intermediate Mathematical Economics
MACM 316-3 Numerical Analysis I
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 443-4 Combinatorial Theory
STAT 410-3 Statistical Analysis of Sample Surveys
STAT 430-3 Statistical Design and Analysis of Experiments
STAT 450-3 Statistical Theory

Note: Students who wish to combine the MSSC honors program with another major or minor should consult with the MSSC program co-ordinator for details.

Co-operative Education Program
Students are encouraged to enter co-operative education, a program which integrates work experience with academic study. For further details, refer to the Co-operative Education section.

MSSC co-op students work in a variety of private and public sectors environments. Past work terms include modelling, application programming, marketing end-user support, MIS, and systems analysis.

Students should contact the mathematical sciences co-op co-ordinator at (604) 291-4123, K10507, for admission requirements and information.
### Mathematical Physics Program

Department of Physics, P8429 Shrum Science Centre, (604) 291-4465 Tel, (604) 291-3592 Fax
Department of Mathematics and Statistics, 10512 Shrum Science Centre, (604) 291-3331 Tel, (604) 291-4947 Fax

**Advisors**
- Dr. B.J. Frisken, P8456 Shrum Science Centre, (604) 291-5767
- Mrs. M. Fankboner BA (Occidental), MSc (S Fraser), K10511 Shrum Science Centre, (604) 291-4849

This honors program is offered jointly by the Departments of Mathematics and Statistics, and Physics. Graduates may do graduate work in mathematics or physics depending on the student's interest. Some additional work in either mathematics or physics may be required. Students must contact Dr. Frisken as soon as possible to schedule their programs.

### Honors Program

**Lower Division Requirements**
Students must complete one of
- CMPT 150-3 Introduction to Computer Design
- CMPT 101-4 Introduction to Computer Programming

and all of
- MATH 151-3 Calculus I
- MATH 152-3 Calculus II
- MATH 232-3 Elementary Linear Algebra
- MATH 242-3 Introduction to Analysis
- MATH 251-3 Calculus III
- MATH 252-3 Vector Calculus
- PHYS 120-3 Modern Physics and Mechanics
- PHYS 121-3 Optics, Electricity and Magnetism
- PHYS 131-2 Physics Laboratory I
- PHYS 211-3 Intermediate Mechanics
- PHYS 221-3 Intermediate Electricity and Magnetism
- PHYS 232-3 Physics Laboratory II
- PHYS 234-3 Computers in Physics Laboratory
- PHYS 285-3 Introduction to Relativity and Quantum Mechanics
- STAT 102-3 Introduction to Probability and Statistics

**Upper Division Requirements**
Students must complete all of
- MACM 316-3 Numerical Analysis I
- CMPT 307-3 Data Structures and Algorithms
- CMPT 405-3 Design and Analysis of Computing Algorithms

and two of the following groups:

- **a)** MATH 309-3 Continuous Optimization
- **b)** MATH 416-3 Numerical Analysis II
- **c)** MATH 354-3 Database Systems I
- **d)** MATH 415-3 Ordinary Differential Equations
- **e)** MATH 416-3 Numerical Analysis II
- **f)** MATH 418-3 Introduction to Ordinary Differential Equations
- **g)** MATH 419-3 Linear Analysis
- **h)** MATH 424-3 Applications of Complex Analysis
- **i)** MATH 425-3 Introduction to Metric Spaces
- **j)** MATH 438-3 Linear Algebra
- **k)** MATH 439-3 Introduction to Algebraic Systems
- **l)** MATH 470-3 Variational Calculus

**Other Requirements**
- Nine hours of electives outside the Faculty of Science (excluding EDUC 401 to 407) including six hours from the Faculty of Arts are required. Further electives in any division are required to total 132 credit hours.
- CHEM 102 and 103 should be taken in the electives. Further requirements for the BSc (honors) degree are in Faculty of Science.

### Mathematics and Computing Science Program

**Advisors**
- Dr. P. Hell, 10837 Applied Sciences Building, (604) 291-3391, pavol@cs.sfu.ca
- Dr. M. Monagan, K10547 Shrum Science Centre, (604) 291-4279, monagan@cecm.sfu.ca
- Mrs. M. Fankboner BA (Occidental), MSc (S Fraser), K10511 Shrum Science Centre, (604) 291-4849, mfmankbon@sfu.ca

Computing science information: csadvise@cs.sfu.ca

This honors program is offered jointly by the Department of Mathematics and Statistics and the School of Computing Science. Entry requires a minimum of 60 credits in upper division mathematics or computing science information: csadvise@cs.sfu.ca

- **Required courses**
  - CMPT 150-3 Introduction to Computer Design
  - CMPT 250-3 Introduction to Computer Architecture
  - MACM 101-3 Discrete Mathematics I
  - MACM 201-3 Discrete Mathematics II
  - MACM 202-4 Mathematical Modeling and Computation
  - PHYS 395-3 Computational Physics
  - and one of
    - MATH 471-3 Special Relativity
    - NUSC 485-3 Particle Physics
    - PHYS 490-3 General Relativity and Gravitation
  - and all of
    - PHYS 344-3 Thermal Physics
    - PHYS 384-3 Methods of Theoretical Physics I
    - PHYS 385-3 Quantum Physics
    - PHYS 413-3 Advanced Mechanics
    - PHYS 415-3 Quantum Mechanics
    - PHYS 425-3 Electromagnetic Theory
    - PHYS 445-3 Statistical Physics
    - and either both of
      - PHYS 355-3 Optics
      - PHYS 332-3 Optics Laboratory
    - or both of
      - PHYS 326-3 Electronics and Instrumentation
      - PHYS 331-3 Electronics Laboratory
    - and one of
      - PHYS 432-5 Undergraduate Honors Thesis
      - PHYS 465-3 Solid State Physics
      - PHYS 484-3 Nonlinear Physics
      - NUSC 442-3 Subatomic Physics
      - NUSC 485-3 Particle Physics

**Joint Honors Program**

- 132 credit hours, as specified below, is required.

**Lower Division Requirements**
- CMPT 101-4 Introduction to Computer Programming
- CMPT 150-3 Introduction to Computer Design

**Upper Division Requirements**
- CMPT 201-4 Data and Program Abstraction
- CMPT 275-4 Software Engineering
- CMPT 290-3 Introduction to Computer Architecture
- MACM 101-3 Discrete Mathematics I
- MACM 201-3 Discrete Mathematics II
- MACM 202-4 Mathematical Modeling and Computation
- MATH 151-3 Calculus I
- MATH 152-3 Calculus II
- MATH 232-3 Elementary Linear Algebra
- MATH 242-3 Introduction to Analysis
- MATH 251-3 Calculus III
- PHIL 001-3 Critical Thinking
- STAT 270-3 Introduction to Probability and Statistics
- and a 100 division English course

**Note 1:** A student who, in satisfaction of upper division requirements (see below), wishes to use group d) as one of the two upper division required groups taken from the list a), b), c), d), must also obtain credit for the lower division course MATH 252.

**Note 2:** A student wishing to use courses from group a) to satisfy requirements is advised that STAT 280 is a prerequisite for STAT 380.

### Upper Division Requirements

- MACM 316-3 Numerical Analysis I
- CMPT 307-3 Data Structures and Algorithms
- CMPT 405-3 Design and Analysis of Computing Algorithms
  - The required courses in each of two of the groups a), b), c), d) below and in at least two of the groups e), f), g), h), i) below.
  - Additional courses as required taken from any of the lists a) - k) below to bring the total upper division credits in MATH or STAT to at least 25 and the total credits in upper division CMPT to at least 25 where, for this purpose, credit obtained in MACM courses is divided evenly between MATH and CMPT.
  - Additional courses as required to bring the total number of upper division credits to at least 60.

**a) Statistics**
- **Required courses**
  - STAT 330-3 Introduction to Statistical Inference
  - STAT 350-3 Linear Models in Applied Statistics
  - STAT 380-3 Introduction to Stochastic Processes

**Other courses**
- STAT 420-3 Generalized Linear and Nonlinear Modelling
- STAT 450-3 Statistical Theory

**b) Discrete Mathematics**
- **Required courses**
  - MATH 308-3 Linear Programming
  - and two of
    - MATH 343-3 Combinatorial Aspects of Computing
    - MATH 408-3 Discrete Optimization
    - MATH 443-3 Combinatorial Theory
    - MATH 445-3 Graph Theory

**c) Numerical Analysis**
- **Required courses**
  - MATH 310-3 Introduction to Ordinary Differential Equations
  - MATH 416-3 Numerical Analysis II

**d) Applied Mathematics**
- **Required courses**
  - MATH 310-3 Introduction to Ordinary Differential Equations
  - and two of
    - MATH 314-3 Boundary Value Problems
    - MATH 415-3 Ordinary Differential Equations
    - MATH 418-3 Partial Differential Equations
MATH 462-3 Fluid Mechanics
MATH 470-3 Variational Calculus
e) Computer Graphics and Multimedia
    Required course
    one of
    CMPT 361-3 Introduction to Computer Graphics
    CMPT 363-3 User Interface Design
    CMPT 365-3 Multimedia Systems
    Other courses
    CMPT 461-3 Advanced Computer Graphics
    CMPT 466-3 Animation
    CMPT 468-3 Scientific Visualization
    CMPT 469-3 Special Topics in Computer Graphics
f) Computing Systems
    Required course
    one of
    CMPT 300-3 Operating Systems I
    CMPT 371-3 Data Communications and Networking
    Other courses
    CMPT 400-3 High Performance Computer
    Architecture
    CMPT 401-3 Operating Systems II
    CMPT 402-3 Operating Systems Software Laboratory
    CMPT 471-3 Networking II
    CMPT 479-3 Special Topics in Computing Systems
    CMPT 499-3 Special Topics in Computer Hardware
g) Programming Languages and Software
    Required course
    one of
    CMPT 379-3 Principles of Compiler Design
    CMPT 383-3 Comparative Programming Languages
    CMPT 384-3 Symbolic Computing
    Other courses
    CMPT 475-3 Software Engineering II
    CMPT 480-3 Foundations of Programming Languages
    CMPT 481-3 Functional Programming
    CMPT 487-3 Software Engineering Tools and Environments
    CMPT 489-3 Special Topics in Programming Languages
h) Information Systems
    Required course
    one of
    CMPT 301-3 Information Systems Management
    CMPT 370-3 Information System Design
    CMPT 454-3 Database Systems II
    CMPT 459-3 Special Topics in Database Systems
    Other courses
    CMPT 302-3 System Development Projects
    CMPT 470-3 Advanced Application Development Tools
i) Artificial Intelligence
    Required course
    one of
    CMPT 310-3 Artificial Intelligence Survey
    CMPT 412-3 Computational Vision
    CMPT 413-3 Computational Linguistics
    CMPT 417-3 Intelligent Systems
    Other courses
    CMPT 411-3 Knowledge Representation
    CMPT 414-3 Model Based Computer Vision
    CMPT 419-3 Special Topics in Artificial Intelligence
j) Theoretical Computing Science
    one of
    CMPT 308-3 Computability and Complexity
    CMPT 408-3 Computational Geometry
    CMPT 407-3 Computational Complexity
    CMPT 408-3 Theory of Computer Networks/Communications
    CMPT 409-3 Special Topics in Theoretical Computing Science
    MACM 300-3 Introduction to Formal Language and Automata with Applications

General Requirements
The program is subject to Faculty of Science and University general regulations. Admission to courses and prerequisites are subject to departmental requirements. Admission to and continuation in the program requires an overall GPA of at least 3.00.

Department of Mathematics and Statistics
K10512 Shrum Science Centre, (604) 291-3331/3332
Tel, (604) 291-4947 Fax, www.math.sfu.ca
Chair
J.I. Berggren BSc, MSc, PhD (Wash)
Professors Emeriti
B.R. Alsip BA (Wash), MA, PhD (Calif)
G. Bojadziev PhD (Sofia Mech Eng Inst)
A. Das BSc, MSc (Calc), PhD (NUI), DSc (Calc)
R. Harrop BA, MA, PhD (Camb)
R.W. Lardner BA, PhD, ScD (Camb)
M. Singh AB, MA (Pun), MSc, PhD (Brown)
M.A. Stephens BSc (Bristol), AM (Harv), PhD (Tor)
S.K. Thomason BS (Oregon), PhD (C'nell)
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Professors
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J.M. Borwein BSc (WoHnt), MSc, PhD (Oxf), FRSC
P.B. Borwein BSc (WoHnt), MSc, PhD (Br Col)
T.C. Brown BA (Reed), AM, PhD (Wash)
G.A.C. Graham BA (Dub), MS (Brown), PhD (Glas)
J. Hell BSc (Prague), MSc (McM), PhD (Montr)*
A.H. Lachlan BA, MA, PhD (Camb), FRSC
R.A. Lockhart BSc (Br Col), MA, PhD (Calif)
N.R. Reilly BSc, PhD (Glas)
R.D. Routledge BSc (Qu), MSc (Alta), PhD (Dal)
R.D. Russell BS, BA, MA, PhD (New Mexico)
C.Y. Shen BS, MS, PhD (Oregon State)
B.S. Thomson BSc (Tor), MA, PhD (Wat)
Associate Professors
C.B. Dean BSc (Sask), MMath, PhD (Wat)
L. Goddyn BSc (S Fraser), MMath, PhD (Wat)
M. Monagan BSc (Massey), MMath, PhD (Wat)
D. Muraki BSc, MSc (Calif Inst Tech), PhD (Northwestern)
E. Pechlaner PhD (Vienna)
C. Schwarz BSc, MSc (Manit), MMath (Wat), PhD (Manit)
R.R. Sitter BSc, MSc (Br Col), PhD (Wat)
T.B. Swartz BMath (Wat), MSc, PhD (Tor)
M.R. Trummer Dipl Math, DrScMath (ETH Zurich)
K.L. Weldon BSc, MSc (Tor), PhD (Stan)
Assistant Professors
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R. Choksi BSc (Tor), MS, PhD (Brown)
M. Graham BSc, MSc (Br Col), MSc, PhD (Wash)
I.C.A. Kropinski BSc (Qu), MMath (Wat), PhD (Rensselaer)
B. McNeney, BSc, MSc (Br Col), MSc, PhD (Wash)
K. Promislow, BSc (N Carolina), PhD (Indiana)
S. Ruuth BMath (Wat), MSc, PhD (Br Col)
J.L. Wirch BCom, BSc (Qu), MSc (Conn), PhD (Wat)
Adjunct Professors
R. Balshaw BSc, MSc (Man), PhD (S Fraser)
H.H. Bauschke Dipl-Math (Goethe), PhD (S Fraser)
R. Breuer BSc, MSc (Vic, BC), PhD (S Fraser)
D. Hare BSc (Vic, BC) MSc (Alta), PhD (S Fraser)
G. Reid BSc (Otago), PhD (Wilk)
M. Rosenfeld MSc, PhD (Hebrew University)
J. Spinelli BSc, MSc, PhD (S Fraser)
N. Tarig BSc, MSc (KCNS), PhD (New Br)
J. Vanderwerff MSc, PhD (Alta)
M.L. Yu BSc (Fundan, Shanghai), MSc, PhD (S Fraser)
Q. Yu BSc, MSc (Shandong), PhD (S Fraser)

Associated Faculty
A.J. Dawson, Education
T.J. O'Shea, Education
R. Zakkis, Education

Laboratory Instructors
J.C. Arya BSc (Agra), MA (Punjab), MSc, PhD (S Fraser)
T.M. Berggren BA (Wash), MSc (S Fraser)
M.M. Dubiel MA, PhD (Warsaw)
J.S. Hebron BSc (Calg), MSc (Br Col), PhD (Alta)
R. Insley BSc, MSc (Br Col)
*joint appointment with Computing Science

Advisor
Mrs. M. Fankboner BA (Occidental), MSc (S Fraser), K10511 Shrum Science Centre, (604) 291-4849

The department also maintains a committee of faculty advisors each year and their office hours are available through the Mathematics and Statistics general office.

Students wishing to major in any of the programs sponsored by the Department of Mathematics and Statistics should seek advice early in their academic careers about program planning from departmental faculty advisors.

Students are also invited to apply to enter the Co-operative Education program in mathematics and statistics, which integrates work experience with academic study. For further details, students should refer to the Co-operative Education section in this calendar and to consult with the mathematical sciences co-op coordinator, Mr. E. Simons, in K10507, telephone (604) 291-4123, esimons@sfu.ca.

The major and minor programs listed below lead to a Bachelor of Science degree in the Faculty of Science. Students interested in a Bachelor of Arts degree in Mathematics or in Statistics should refer to the Faculty of Arts section of the calendar.

Students interested in mathematics and statistics may also wish to consider related programs detailed under the sections on programs in statistics, applied mathematics, mathematics and computing, mathematical physics, management and systems science, and actuarial science.

General Regulations
Students will not be permitted to enroll in any course for which a D grade or lower was obtained in any prerequisite course.

Major or honors students must satisfy Faculty of Science requirements. They must also satisfy general University CPA and credit hour requirements.

Please see “Mathematics” on page 260 for entry level course requirements and department workshops.

Prerequisite Grade Requirement
Without at least a C- or higher in each prerequisite course, or a special waiver from the department, a student may not register in any department course.

Mathematics Major and Honors Programs
Except for the special option honors program found at the end of the section, the requirements of the department are as follows.

Lower Division Requirements
CMPT 101-4 Introduction to Computer Programming
CMPT 201-4 Data and Program Abstraction
MACM 101-3 Discrete Mathematics I
MACM 201-3 Discrete Mathematics II
MACM 202-4 Mathematical Modeling and Computation
advised to take an upper division statistics course and upper division credit hours, including the major program students must complete at least 44 credit hours from outside the Faculty of Science.)

**Upper Division Requirements**
All students must take at least one from each of the following four pairs of courses.
- one of MATH 308-3 Linear Programming
- MATH 343-3 Applied Discrete Mathematics
- and one of MATH 320-3 Advanced Calculus of One Variable
- MATH 322-3 Complex Variables
- and one of MATH 332-3 Introduction to Applied Algebraic Systems
- MATH 342-3 Elementary Number Theory
- and one of MATH 310-3 Introduction to Ordinary Differential Equations
- MACM 316-3 Numerical Analysis I

BS math major students must obtain at least 30 credit hours in upper division mathematics (MATH), statistics (STAT*), actuarial (ACMA), or mathematics/computing science (MACM), or PHYS 413. Of the 30 credit hour minimum total requirement for the mathematics major, at least 15 must come from MATH courses. At least three of the courses used to satisfy the 30 credit hour requirement must be at the 400 division level. Students may not use a directed studies, job practicum, or honors essay course to fulfil the 400 division requirement.

**Honors Program Specific Requirements**
In addition requirements for the major, honors students must obtain at least 18 additional credit hours in upper division mathematics (MATH), statistics (STAT*), actuarial mathematics (ACMA), or mathematics/computing science (MACM) courses, or PHYS 413. Of this minimum 48 upper division credit hours, at least 24 must come from MATH courses. At least five of the courses used to satisfy the 48 credit hour requirement must be at the 400 division level. Students may not use a directed studies, job practicum, or honors essay course to fulfil the 400 division requirement.

*None of STAT 301, 302 and 403 may be counted toward the 30 credit hour requirement for a major, or towards the 48 credit hours requirement for an honors, although they may be counted as upper division elective credits.

**Note:** Major or honors mathematics students are advised to take an upper division statistics course and an upper division MACM or CMPT course.

**Major and Honors Program Electives**
Students must obtain at least six credit hours in courses offered by the Faculty of Science outside the Department of Mathematics and Statistics. Students must obtain at least six credit hours in Faculty of Arts courses. (The two required CMPT courses and the six credit hour requirement in Faculty of Arts courses fulfill the Faculty of Science requirement that students take 12 credit hours from outside the Faculty of Science.) Major program students must complete at least 44 upper division credit hours, including the requirements for the major. Honors program students must complete at least 60 upper division credit hours, including the requirements for honors.

**Mathematics Minor Program**
Students completing a minor in mathematics are subject to the general regulations of the faculty in which they are registered. Students normally are required by the Department of Mathematics and Statistics to:
- obtain at least 11 mathematics or statistics credit hours (MATH 100, 110, 190 may not be included) or mathematics/computing science (MACM) courses numbered 101-299 inclusive. These courses normally will include MATH 151 (or 154 or 157), 152 (or 155 or 158), and 232.
- obtain credit in at least 15 credit hours of upper division mathematics (MATH) or statistics (STAT) or mathematics/computing science (MACM) or actuarial mathematics (ACMA) courses. These courses may not include PHYS 413 or STAT 301 or STAT 403.

**Certificate in Actuarial Mathematics**
This certificate program prepares the student for most of the Society of Actuaries' associate examinations (SOA courses 100 through 165) or the Casualty Actuarial Society associate examinations (part 1 through 4). Students enrolling in this program must already have completed MATH 151, 152 or their equivalents and have knowledge of one programming language. To obtain the certificate, 12 of the following courses must be completed:

- all of ACMA 310-3 Mathematics of Compound Interest
- ACMA 320-3 Actuarial Mathematics I
- MATH 232-3 Elementary Linear Algebra
- STAT 270-3 Introduction to Probability and Statistics
- STAT 280-3 Applied Probability Models

**Note:** students in a mathematics honors, major or minor program may count these MATH, MACM, or STAT courses toward both the certificate in actuarial mathematics and for mathematics program. ACMA courses satisfy upper division requirements for a mathematics minor, or for the honors, major or minor mathematics programs with the statistics option.

Degree holders may receive waivers and/or transfer credits. In all cases, students must take a minimum of nine courses while in the certificate program. At least six courses must be taken at SFU, of which a minimum of four must be ACMA courses.

**Other Programs**
**Management and Systems Science Program**
The Department of Mathematics and Statistics contributes to the BSc in management and systems science. For details, see "Management and Systems Science Program" on page 189.

**Mathematical Physics Honors Program**
This program, offered jointly with the Department of Physics, consists of theoretical and laboratory physics courses and applied and pure mathematics courses. Also, see "Mathematical Physics Program" on page 190.

**Joint Honors in Mathematics and Computing Science**
This is offered jointly with the School of Computing Science. Also, see “Joint Honors in Mathematics and Computing Science” on page 192.

**Department of Molecular Biology and Biochemistry**

**Chair**
A.T. Beckenbach BSc (Florida Presbyterian); MSc (Flor), PhD (Calif)*

**Professors**
D.L. Baille BSc, MSc (Br Col), PhD (Conn)*
B.P. Brandhorst AB (Harv), PhD (Calif)*
R.B. Cornell BS (Houghton), PhD (Penn)**
R.J. Cushek BSc, MSc, PhD (Ala)**
W.S. Davidson BSc (Edin), PhD (Qu)
W.R. Richards AB, PhD (Calif)**
M.J. Smith BSc (St. Mary's, Calif), PhD (Br Col)*
G.F. Tibbits BEd (McG), MS, PhD (Calif)****

**Associate Professors**
T.J. Borgia BSc, PhD (Manit)**
N.H. Haunerland MSc, PhD (Mün)*
B.M. Honda BSc (McM), PhD (Br Col)*
J.V. Price BA (Calif), PhD (Colorado)*
J.K. Scott (Occidental), PhD (Missouri), MD (St Louis)*
D. Sen BA (Camb), MPhil, PhD (Yale)**

**Assistant Professors**
N. Harden BSc (Br Col), PhD (Camb)*
S.P. Lee BSc (Alta), PhD (Ore)*
A.L. Plant BSc, PhD (Nott)*
F. Pio BSc, MSc (C Ferrand, France), PhD (Lille, France)
J.L. Tewalt BSc, PhD (S Fraser)***

**Associated Faculty**
A.R. Kermode, Biological Sciences
M.M. Moore, Biological Sciences

**Lab Instructor**
A. Yim BSc (Oregon), MSc (S Fraser)
*Joint appointment with biological sciences
**Joint appointment with chemistry
***Joint appointment with physics
****Joint appointment with kinesiology

**Advisors**
Dr. W.R. Richards AB, PhD (Calif), 6144 South Science Building, (604) 291-4355
Dr. I.C. Northwood BA (Vermont), PhD (Mass), 8172 South Science Building, (604) 291-5630

Major, minor and honors in molecular biology and biochemistry are offered by the Faculty of Science. Entry into these programs requires the permission of the molecular biology and biochemistry advisor.

Students who have declared majors or honors in molecular biology and biochemistry may follow the requirements in effect when they were accepted into the program, or the program requirements as set out below, whichever is to their advantage.
Major Program

(120 credit hours)

All students must complete lower and upper division requirements plus additional courses as specified in either the molecular biology stream or biochemistry stream as indicated below. Students are expected to declare their intended stream when declaring their molecular biology and biochemistry major.

Lower Division Core Requirements

(52-53 credit hours)

Students must complete all of
BISC 101-4 Introduction to Biology
BISC 102-4 Introduction to Biology
BISC 202-3 Genetics
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
CHEM 286-2 Organic Chemistry Laboratory II
MBB 221-3 Cell Biology and Biochemistry
MBB 222-3 Molecular Biology and Biochemistry

and one of
CMPT 101-4 Introduction to Computer Programming
CMPT 102-3 Introduction to Scientific Computer Programming
CMPT 110-3 Event-Driven Programming in Visual Basic

and one of
MA TH 151-3 Calculus I
MA TH 154-3 Calculus I for the Biological Sciences*
and one of
MA TH 152-3 Calculus II
MA TH 155-3 Calculus II for the Biological Sciences*

Recommended Course

MA TH 251-3 Calculus III

*Note: Asterisk-marked alternatives are possible only for those who transferred to molecular biology and biochemistry from another program. Students who have declared (or intend to declare) a major or honors in molecular biology and biochemistry should not register for these alternative courses.

Upper Division Core Requirements

(22-23 credit hours)

Students must complete all of
BISC 311-3 Molecular Biology
CHEM 360-3 Chemical Kinetics and Thermodynamics
MBB 311-2 Analytical Biochemistry Laboratory
MBB 312-2 Metabolism Laboratory
MBB 321-3 Intermediary Metabolism
MBB 322-3 Molecular Physiology

and one of
BISC 431-4 Molecular Biotechnology
BISC 457-3 Plant Molecular Biology and Biotechnology

and one of
MA TH 310-3 Introduction to Ordinary Differential Equations
STAT 302-3 Analysis of Experimental and Observational Data

Upper Division Streams

In addition to the lower and upper division cores, students must complete all of the requirements in one of the two streams listed below.

Molecular Biology Stream

(15-18 credit hours)

Students must complete two of
MBB 403-3 Physical Biochemistry
MBB 412-4 Enzymology
MBB 421-3 Nucleic Acids
MBB 422-3 Membranes
MBB 423-3 Protein Structure and Function
MBB 426-3 Immunology

plus one of
BISC 302-3 Genetic Analysis
BISC 303-3 Microbiology
BISC 405-3 Cell Physiology

and one of
BISC 333-3 Developmental Biology
BISC 402-3 Molecular Genetics
MBB 435-3 Genomic Analysis

Biochemistry Stream

(15-17 credit hours)

Students must complete all of
MBB 403-3 Physical Biochemistry
MBB 412-4 Enzymology
MBB 413-2 Physical Biochemistry Laboratory

plus two of
CHEM 333-3 Inorganic Chemistry of Biological Processes
MBB 420-3 Selected Topics in Contemporary Biochemistry

MBB 421-3 Nucleic Acids
MBB 422-3 Membranes
MBB 423-3 Protein Structure and Function
MBB 426-3 Immunology
MBB 491-5 Undergraduate Research

In addition to the above, students must complete enough electives to bring their total number of credits to 120. Of these 120 credits,

• 44 must be upper division
• 12 must be from outside the Faculty of Science, fulfilled as follows: six credit hours from the Faculty of Arts (excluding EDUC 401-407); at least three CMPT credit hours (lower division core requirements fulfill this requirement by stipulating that students take one of CMPT 101, 102 or 110); three credit hours of electives (note that Faculty of Applied Sciences courses, including kinesiology courses, may be used).

In addition, students should consult the Bachelor of Science regulations in Faculty of Science. See “Requirements for Major” on page 176.

Although many variations are possible, those with BC high school chemistry 12, mathematics 12 and physics 12 (or equivalents) might take the following typical program.

Levels 1 and 2
BISC 101-4 and 102-4
CHEM 121-4, 122-2 and 281-4

Minor Program

(56-60 credit hours)

Lower Division Requirements

(42 credit hours minimum)

Students must complete all of
MBB 221-3 Cell Biology and Biochemistry
MBB 222-3 Molecular Biology and Biochemistry
BISC 101-4 General Biology
BISC 102-4 General Biology

CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
CHEM 360-3 Chemical Kinetics and Thermodynamics

PHYS 101-3 General Physics I
PHYS 102-3 General Physics II
PHYS 120-3 Modern Physics and Mechanics

Students must complete all of
MBB 221-3 Cell Biology and Biochemistry
MBB 222-3 Molecular Biology and Biochemistry
BISC 101-4 General Biology
BISC 102-4 General Biology

CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
CHEM 286-2 Organic Chemistry Laboratory II

and one of
MA TH 151-3 Calculus I
MA TH 154-3 Calculus I for the Biological Sciences

and one of
MA TH 152-3 Calculus II
MA TH 155-3 Calculus II for the Biological Sciences

and one of
PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics

Honors Program

(132 credit hours)

In addition to the requirements for the major program, biochemistry honors students must complete one of the following individual study semester options.

either
MBB 493-15 Individual Study Semester (Option B)
or both of
MBB 491-5 Undergraduate Research
MBB 492-10 Individual Study Semester (Option A)**

**This may be accomplished by breaking the individual study semester project into two consecutive semesters. If BICH 491 has already been taken to satisfy the major program requirements, then the student must complete one other course selected from the appropriate list in either the molecular biology stream or the biochemistry stream, in addition to BICH 492, to satisfy honors requirements.

In addition to the requirements for the major program, students must complete two of

MBB 491-5 Undergraduate Research
MBB 493-15 Individual Study Semester (Option B)

In addition to the lower and upper division cores, may be used.

ECS 492-15 Individual Study Semester (Option A)
ECS 493-15 Individual Study Semester (Option B)

Lower Division Requirements

(132 credit hours)

Levels 3 and 4

Students must complete all of
MBB 221-3 Cell Biology and Biochemistry
MBB 222-3 Molecular Biology and Biochemistry
BISC 101-4 General Biology
BISC 102-4 General Biology

CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
CHEM 286-2 Organic Chemistry Laboratory II

PHYS 101-3 General Physics I
PHYS 102-3 General Physics II
PHYS 120-3 Modern Physics and Mechanics

and one of
MA TH 151-3 Calculus I
MA TH 154-3 Calculus I for the Biological Sciences

and one of
MA TH 152-3 Calculus II
MA TH 155-3 Calculus II for the Biological Sciences

and one of
PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics

Typical program.

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Upper Division Requirements
(14-18 credit hours)
Students must complete five upper division courses (plus any lower division prerequisites) with a minimum of 14 semester hours selected from: any upper division MBB course (excluding MBB 492 and 493)
BISC 331-3 Molecular Biology
and one of
BISC 431-4 Molecular Biotechnology
BISC 457-3 Plant Molecular Biology and Biotechnology

Co-operative Education Program
Molecular biology and biochemistry majors and honors may apply to the science co-operative education program which includes four work semesters during the normal academic program. See "Co-operative Education" on page 201.

Physical Geography Program
Advisor
Ms. H. Jones, 7124 Robert C. Brown Hall, (604) 291-4128
The Department of Geography offers a program within the Faculty of Science leading to a bachelor of science degree with a major or honors in physical geography. Students interested in a bachelor of arts in geography should refer to the Faculty of Arts. Requirements for the bachelor of science in physical geography are set out below.

Major Program
Lower Division Requirements
(totall required hours 52)
Required Geography Courses
GEOG 100-3 Human Geography
GEOG 111-3 Physical Geography

Required Faculty of Science Courses
BISC 101-4 General Biology
BISC 102-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
EASC 101-3 Physical Geology
PHYS 101-3 General Physics II
PHYS 102-3 General Physics II
PHYS 130-2 General Physics (excluding
and one of
STAT 270-3 Introduction to Probability and Statistics
STAT 301-3 Statistics for the Life Sciences
plus both of
MATH 151-3 Calculus I

MATH 152-3 Calculus II

or both of
MATH 154-3 Calculus I for the Biological Sciences
MATH 155-3 Calculus II for the Biological Sciences

(34 credit hours)
To take further chemistry, mathematics or physics courses, you may need MATH 251. To take additional chemistry courses, you may need to take CHEM 126.

Upper Division Requirements
(totall specified hours 45)
Required Geography Courses — 300 Level
three of: GEOG 311-4 Hydrology I
GEOG 313-4 Geomorphology II
GEOG 314-4 Climatology II
GEOG 315-4 Regional Ecosystems
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 317-4 Soil Science I

one of:
GEOG 322-4 World Resources
GEOG 323-4 The Dynamics of Industrial Location and Regional Development
GEOG 324-4 Geography of Transportation
GEOG 325-4 Geography of Service Activities
GEOG 327-4 Geography of Tourism and Outdoor Recreation
GEOG 382-4 Geography of Urban Development
GEOG 389-4 Human Microgeography
GEOG 375-4 Historical Geography I
GEOG 381-4 Political Geography
GEOG 382-4 Population Geography
GEOG 383-4 Regional Development and Planning I
GEOG 385-4 Food Production and the Environment
GEOG 386-4 Geography, Health and Health Care
GEOG 387-4 Geography and Gender
GEOG 389-4 Human Ecology: Human Relations to Nature

one of:
GEOG 301-4 Geographic Ideas and Methodology
GEOG 351-4 Cartography II
GEOG 352-4 Methods in Spatial Analysis II
GEOG 353-4 Remote Sensing
GEOG 354-4 Introduction to Geographic Information Systems
GEOG 355-4 Technical Issues in Geographic Information Systems
GEOG 356-4 Cognitive Cartography

(20 credit hours)
Upper Division Requirements
(totall specified hours 40)
Required Geography Courses — 400 Level
two of:
GEOG 411-4 Hydrology II
GEOG 412-4 Glacial Processes and Environments
GEOG 413-4 Geomorphology III
GEOG 414-4 Climatology III
GEOG 415-4 Advanced Biogeography
GEOG 416-4 Pleistocene Geography
GEOG 417-4 Soil Science II
GEOG 419-4 Mass Transfer in the Biosphere

plus eight additional hours of upper division courses from any 300 or 400 level courses in geography

(16 credit hours)

Faculty of Science Courses
Students must complete a minimum of nine semester hours of 300-400 division, BISC, CHEM, EASC, MASC, MATH, MBB, NUSC, PHYS and STAT

courses.
A student must take 44 hours of upper division credit (excluding EDUC 401, 402, 405 and 406), and additional credit in any courses (excluding EDUC 401, 402, 405 and 406) sufficient to bring the total credit for the degree to 120 credit hours. Also, see “Requirements for Major” on page 176.

Honors Program
This program is the same as the major except that it must include a minimum of 60 credit hours of 300-400 division courses, of which 48 must be in geography or other closely related Faculty of Science subjects approved by the Department of Geography. Students are strongly encouraged to seek Department of Geography advice in advance about suitability of courses. GEOG 491 (Honors Essay) may be included in these 48 hours. The remaining 12 upper division credit hours must be from BISC, CHEM, EASC, MATH, MASC, MBB, NUSC, PHYS or STAT courses.

A total of 132 credit hours is required and a graduation GPA of not less than 3.00. See “General Information” on page 21 and see “Requirements for Major” on page 176.

Entry into the honors program requires the approval of the department.

Minor Program
Lower Division Requirements
GEOG 100-3 Human Geography
GEOG 111-3 Physical Geography

plus one of:
GEOG 250-3 Cartography I
GEOG 253-3 Aerial Photographic Interpretation

Upper Division Requirements
A minimum of 15 hours is required to be selected from the following or their equivalents.
GEOG 311-4 Hydrology I
GEOG 313-4 Geomorphology II
GEOG 314-4 Climatology II
GEOG 315-4 Regional Ecosystems
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 317-4 Soil Science I
GEOG 318-4 Glacial Processes and Environments
GEOG 319-4 Geography of Urban Development
GEOG 320-4 Geography and Gender
GEOG 321-4 Human Ecology: Human Relations to Nature

one of:
GEOG 301-4 Geographic Ideas and Methodology
GEOG 351-4 Cartography II
GEOG 352-4 Methods in Spatial Analysis II
GEOG 353-4 Remote Sensing
GEOG 354-4 Introduction to Geographic Information Systems
GEOG 355-4 Technical Issues in Geographic Information Systems
GEOG 356-4 Cognitive Cartography

(20 credit hours)

Co-operative Education Program
Co-operative education augments academic studies with relevant work experience. The program includes four full-time paid work semesters which alternate with academic semesters. Arrangements for work semesters are made through co-operative education.

Major and honors students in the physical geography BSc program may apply for admission into the co-operative education program through the environmental co-operative education office. Students should seek advice from a co-operative education co-ordinator as early as possible in their university careers.

Students wishing to enrol in co-operative education must apply by the end of the third week of the preceding semester. Science students should obtain a minimum cumulative GPA of 2.5 to enrol and to continue in the program. Honors students are required to achieve higher averages.

For further information, contact the environmental co-operative education co-ordinator. Telephone (604) 291-3115.

Students in the geography major, BA program, should refer to the Department of Geography in the Faculty of Arts section of this calendar.
Professional Registration as a BC Geoscientist
The right to practise in, and to accept professional responsibility for geoscience in BC is limited to those who are registered members of the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC). Requirements for registration can be met through the physical geography BSc major program and selected courses in other university departments. Students interested in professional registration should consult the undergraduate advisor in the Department of Geography for further details.

Department of Physics

Chair
M. Plischke BSc (Montr.), MPhil (Yale), PhD (Yeshiva)

Professors Emeriti
A.S. Arrott BS (Carnegie Tech), MS (Penn), PhD (Carnegie Tech)
J.F. Cochran BASc, MSc (Br Col), PhD (III)
K. Colbow BSc, MSc (McM), PhD (Br Col)
A.E. Curzon BASc (Lond.), MSc (Leeds), PhD (Lond.), ARCS, DlC
J.C. Irwin BASc, PhD (Br Col)
S. Osgood Dipl Phys, PhD (Zur)
J.C. Irwin BASc, PhD (Br Col)

Associate Members
M. Vetterli BSc (McG), PhD (McM)
J.L. Thewalt BS, PhD (S Fraser)*
J.E. Sonier BSc (W Ont), MSc, PhD (Br Col)
H. Li BSc (Peking), MSc (NY), PhD (MIT)

Assistant Professors
H.D. Trottier BSc, MSc, PhD (McG)
B.J. Frisken BSc (Qu), MSc (Northwestern), PhD (Br Col)

Associate Professors
M. Wortis AB, AM, PhD (Harv)
K.S. Viswanathan BSc (McM), MSc, PhD (Br Col)
M.L.W. Thewalt BSc (McM), MSc, PhD (Br Col)
M. Plischke BSc (Montr.), MPhil (Yale), PhD (Yeshiva)
M.L.W. Thewalt BSc (McM), MSc, PhD (Br Col)
K.S. Viswanathan BSc (Mad), MA, PhD (Calif)
M. Wortis AB, AM, PhD (Harv)

Assistant Professors
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I. Herbut BSc (Belgrade), MSc, PhD (J. Hopkins)
H. Li BSc (Peking), MSc (NY), PhD (MIT)
J.E. Sonier BSc (W Ont), MSc, PhD (Br Col)
J.L. Thewalt BS, PhD (S Fraser)*

Adjunct Professors
B.K. Jennings BSc (Mt Allison), MSc, PhD (McM)
M. Vetere BSc (McG), PhD (McM)
J. Vrba MSc (Charles-Prague), PhD (Alta)
R.M. Woloshyn BSc (Man), PhD (SUNY)

Associate Members
J.M. D’Auria, Chemistry
D. Erle Nelson, Archaeology
E.M. Voigt, Chemistry***

Laboratory Instructor
N. Alberding BSc (W Ont), PhD (Ill)

Advisor
Dr. B. Frisken, P9456 Shrum Science Centre, (604) 291-5767

*joint appointment with biochemistry
**joint appointment with engineering science
***professor emeritus

Computer Skills
Computing skills as those obtained in CMPT 101 or 102 will be expected of students entering the second year Physics courses. The department recognizes that some students become proficient in a high-level programming language such as those taught in CMPT 101 and 102 through self-study. Such individuals should consult Course Challenge in the Registration section of this Calendar.

Physics Major Program
This program offers a solid physics background with the opportunity to branch out into other disciplines. Because of maximum flexibility in upper division physics requirements, students can plan their own upper division major programs to fit individual objectives and interests. Students must consult a physics advisor when planning their programs.

Lower Division Requirements
CHEM 121-4 General Chemistry I
CHEM 122-2 General Chemistry II
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III
MATH 252-3 Vector Calculus
PHYS 120-3 Modern Physics and Mechanics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 131-2 Physics Laboratory I
PHYS 211-3 Intermediate Mechanics
PHYS 221-3 Intermediate Electricity and Magnetism
PHYS 232-3 Physics Laboratory II
PHYS 234-3 Optics
PHYS 285-3 Introduction to Relativity and Quantum Mechanics

Plus one of CMPT 101-4 Introduction to Computer Programming
CMPT 102-3 Introduction to Scientific Computer Programming

Upper Division Requirements
Core
MATH 310-3 Introduction to Ordinary Differential Equations
MACM 316-3 Numerical Analysis I
PHYS 324-3 Electromagnetics
PHYS 325-3 Electronics and Instrumentation
PHYS 331-3 Electronics Laboratory
PHYS 332-3 Optics Laboratory
PHYS 344-3 Thermal Physics
PHYS 355-3 Optics
PHYS 385-3 Quantum Physics
PHYS 430-5 Digital Electronics and Interfacing

Either all of
NUSC 341-3 Introduction to Radiochemistry
NUSC 342-3 Introduction to Nuclear Science
NUSC 346-2 Radiochemistry Laboratory

or three of
PHYS 365-3 Semiconductor Device Physics
PHYS 431-4 Advanced Physics Laboratory I
PHYS 455-3 Applied Optics
PHYS 465-3 Solid State Physics

Non-Science Electives
Students must complete a minimum of six credit hours of electives from the Faculty of Arts.

In addition, students must take sufficient unspecified courses to complete 44 credit hours of upper division credit in the program of study. Students must take sufficient unspecified courses in any division to complete a minimum of 120 credit hours total.

Applied Physics Honors Program
This program offers a solid physics background and an extensive introduction to the applied aspects of physics necessary for high technology industry. In addition, students have the option of various specialized upper division courses. Students should enrol in co-operative education to acquire valuable industrial experience. Honors graduation requires a B grade average grade or higher.

Notes: PHYS 432, based on an industrially motivated project, is strongly recommended. An additional second year computing course, such as CMPT 212, is recommended.
Lower Division Requirements
Students are required to complete the same requirements (55 credit hours) as for the applied physics major program.

Upper Division Requirements
Core Courses
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 316-3 Numerical Analysis I
PHYS 304-3 Computational Physics
PHYS 326-3 Electronics and Instrumentation
PHYS 331-4 Electronics Laboratory
PHYS 332-3 Optics Laboratory
PHYS 344-3 Thermal Physics
PHYS 355-3 Optics
PHYS 385-3 Methods of Theoretical Physics I
PHYS 385-3 Quantum Physics
PHYS 413-4 Advanced Mechanics
PHYS 415-4 Quantum Mechanics
PHYS 425-5 Electromagnetic Theory
PHYS 431-4 Advanced Physics Laboratory I
PHYS 445-5 Statistical Physics

Non-science Electives
A minimum of nine elective hours is required from outside the Faculty of Science (excluding EDUC 401 to 407) including six from the Faculty of Arts.

Recommended Program for First Four Semesters
Semester I
PHYS 120-3 Modern Physics and Mechanics
CHEM 126-2 General Chemistry Laboratory II
PHYS 121-3 Optics, Electricity and Magnetism
CHEM 122-2 General Chemistry and Laboratory I
PHYS 121-3 Optics, Electricity and Magnetism

Semester II
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 130-2 General Physics Laboratory
MATH 152-4 Calculus II (16 or 17 credit hours)

Semester III
PHYS 211-3 Intermediate Mechanics
PHYS 232-2 Physics Laboratory II
MATH 232-3 Elementary Linear Algebra
PHYS 251-3 Calculus III

Semester IV
PHYS 221-3 Intermediate Electricity and Magnetism
PHYS 234-3 Computers in Physics Laboratory
PHYS 285-3 Introduction to Relativity and Quantum Mechanics
PHYS 325-2 Vector Calculus

Upper Division Requirements
Core
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 322-3 Complex Variables
plus one more MATH course numbered 316 or greater (including MACM 316)

Elective
PHYS 326-3 Electronics and Instrumentation
PHYS 331-4 Electronics Laboratory
PHYS 332-3 Optics Laboratory
PHYS 344-3 Thermal Physics
PHYS 355-3 Optics
PHYS 384-3 Methods of Theoretical Physics I
PHYS 385-3 Quantum Physics
PHYS 413-4 Advanced Mechanics
PHYS 415-4 Quantum Mechanics
PHYS 425-5 Electromagnetic Theory
PHYS 431-4 Advanced Physics Laboratory I
PHYS 445-5 Statistical Physics

Elective
PHYS 385-3 Quantum Physics
PHYS 413-4 Advanced Mechanics
PHYS 415-4 Quantum Mechanics
PHYS 425-5 Electromagnetic Theory
PHYS 431-4 Advanced Physics Laboratory I
PHYS 445-5 Statistical Physics

Upper Division Requirements
Upper Division Stream I: Semiconductors/ Optics/Communications
Students must complete both of
PHYS 455-3 Applied Optics
PHYS 465-3 Solid State Physics
and one of
ENSC 426-4 High Frequency Electronics
ENSC 453-4 Semiconductor Device Engineering
ENSC 495-4 Introduction to Microelectronic Fabrication

Upper Division Stream II: Materials
Students must complete both of
PHYS 465-3 Solid State Physics
and one of
CHEM 411-3 Crystal Structure Analysis
CHEM 465-3 Electrochemistry
ENSC 495-4 Introduction to Microelectronic Fabrication

Upper Division Stream III
For this customized stream, students must consult the faculty advisor.

Elective
Students must complete a minimum of nine credit hours outside the Faculty of Science (excluding EDUC 401 to 407), including six from the Faculty of Arts.

In addition to specified courses above, students select sufficient unspecified courses in any division to complete a total of 132 credit hours, of which 60 must be in upper division courses in the field of study.

Note: The normal prerequisite for this course (ENSC 222) can be replaced by PHYS 326 and 331.

Physics Honors Program
This program gives students into an in-depth understanding of basic physics so they will be prepared to significantly contribute to high technology industries where well developed experimental skills, contemporary computing skills and state-of-the-art instrumentation experience is required. An honors physics degree is generally required for postgraduate physics study and closely related disciplines. An B grade average or higher is required to graduate.

Lower Division Requirements
Requirements are the same as for physics major program.
Co-operative Education

Co-operative education combines academic studies with related work experience. The student spends four semesters off campus in study-related jobs. Arrangements for work experiences are made through the co-op co-ordinators.

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Arrangements for work experiences are made four semesters off campus in study-related jobs.

Co-operative education combines academic studies with related work experience. The student spends a semester off campus in study-related jobs. Arrangements for work experiences are made through the co-op co-ordinators.

This minor program is offered jointly with the Department of Chemistry.

An honors and a major program in chemical physics are offered jointly with the Department of Chemistry.

Notices:

(a) The prerequisite of PHYS 233 may be waived by the Department of Physics.

(b) The prerequisite of KIN 201 may be waived by the School of Kinesiology provided that PHYS 211 has already been taken.

(c) The prerequisite of CHEM 155 may be waived by the School of Kinesiology.

Minor Program

Students must complete a minimum of 14 credit hours from upper division physics courses numbered 300 and above (excluding PHYS special topics courses), together with all the prerequisites for those courses.

Nuclear Science Courses

NUSC 442 and 485 may be counted as upper division physics courses in physics major, honors and minor programs.

Engineering Transfer Program

The Department of Physics participates in an engineering transfer program. Satisfactory program completion gains standing in the Faculty of Applied Science (Engineering) at the University of British Columbia.

Other Programs and General Notes

Chemical Physics Programs

An honors and a major program in chemical physics are offered jointly with the Department of Chemistry.

Mathematical Physics Program

This program is offered jointly with the Department of Mathematics. Entry requires permission of both departments.

Nuclear Science Minor Program

This minor program is offered jointly with the Department of Chemistry.

Co-operative Education Program

Dr. J.C. Irwin, physics co-op co-ordinator, (604) 291-3160/4465
Ms. C. Horvath, Faculty of Science co-op co-ordinator, (604) 291-3270

Co-operative education combines academic studies with related work experience. The student spends four semesters off campus in study-related jobs. Arrangements for work experiences are made through the co-op co-ordinators.

Quaternary Studies Program

7226 Robert C. Brown Hall, (604) 291-3321/3232 Tel, (604) 291-5841 Fax

Associated Faculty

T.A. Brenna, Geography
D.V. Burley, Archaeology
J.C. Clayge, Earth Sciences
J.M. D’Auria, Chemistry
J.C. Day, Resource and Environmental Management
J.C. Driver, Archaeology
K.R. Fladmark, Archaeology
B.D. Hayden, Archaeology
E.J. Hickin, Geography
D.J. Huntley, Physics
I. Hutchinson, Geography
R.G. Kortling, Chemistry
R.W. Mathewes, Biological Sciences
J.D. Nance, Archaeology
D.E. Nelson, Archaeology
A.C.B. Roberts, Geography
M.C. Roberts, Geography
R. Shuffler, Jr., Archaeology
B.C. Ward, Earth Sciences

Advisor

Dr. I. Hutchinson, 7226 Robert C. Brown Hall, (604) 291-3232

The study of the quaternary (the last two million years of the earth’s history) involves a broad disciplines including biology, climatology, archaeology and surficial geology. This minor program provides a quaternary studies background through course work in various disciplines offered through departments in the Faculties of Arts and Science. Students considering entry should obtain standing in the prerequisites for the courses required in this minor.

Upper Division Requirements

(14-16 credit hours)

All students must take one of
ARCH 311-5 Archaeological Dating
ARCH 410-5 Advanced Archaeometry
and one of
ARCH 340-5 Zooarchaeology
ARCH 355-3 Ecological Archaeology
BISC 434-3 Paleoeocology and Populalogy
and one of
ARCH 438-5 Geoarchaeology
EASC 403-3 Quaternary Geology
GEOG 412-4 Glacial Processes and Environments
GEOG 416-4 Pleistocene Geography
and both of
QUA T 400-1 Seminar in Quaternary Studies
QUA T 401-1 Field School

The field school (QUA T 401) is normally held in the week following the spring final examination period.

Students who wish to count one upper division requirement for credit toward the major may substitute QUA T 403 as one of the requirements for the minor.

Statistics Program

K10512 Shrum Science Centre, (604) 291-3331/3332
Tel, (604) 291-4947 Fax, www.methc.sfu.ca

Director of Statistics

C.B. Dean BSc (Sask), MMath, PhD (Wat)

Professors Emeriti

M.A. Stephens BSc (Brist), AM (Harv), PhD (Tor)
C. Villegas Ing Ind (Uruguay)
Statistics
Students must complete both of
STAT 270-3 Introduction to Probability and Statistics
STAT 280-3 Applied Probability Models

Computing Science
Students must complete one of
CMPT 100-3 Software Packages and Programming
CMPT 101-3 Introduction to Computer Programming
CMPT 102-3 Introduction to Scientific Computer Programming

b) Upper Division Requirements
Mathematics and Computing Science
Students must complete
MACM 316-3 Numerical Analysis I

Statistics
Students must complete all of
STAT 301-3 Introduction to Statistical Inference
STAT 350-3 Linear Models in Applied Statistics
STAT 402-3 Generalized Linear and Nonlinear Modelling
STAT 410-3 Statistical Analysis of Sample Surveys
STAT 430-3 Statistical Design and Analysis of Experiments
STAT 450-3 Statistical Theory

c) Minor Program Requirement
Students are required to complete a minor in a discipline other than mathematics or statistics. The certificate in actuarial mathematics may fulfill this requirement.

d) Faculty of Science Requirements
Faculty of Science requirements stipulate that at least three other upper division courses be taken in mathematics, statistics, actuarial mathematics, or mathematics and computing science. Students should consult a departmental advisor before selecting these courses. STAT 340, 420 and 460 are recommended. Neither STAT 301 nor STAT 302 may be used to fulfill this requirement.

Honors Program
A bachelor of science with honors in statistics requires 132 credit hours. Please see “Requirements for Major” on page 176 for further breadth, upper division credit, and other requirements.

In addition to the requirements a), b) and c) for a major, candidates for an honors degree in statistics will be required to obtain credit for the following.

e) Additional Mathematics Requirements
Students must complete all of
MATH 242-3 Introduction to Analysis
MATH 320-3 Advanced Calculus of One Variable
MATH 322-3 Complex Variables

plus one of
MATH 332-3 Introduction to Applied Algebraic Systems
MATH 339-3 Groups and Symmetry
MATH 438-3 Linear Algebra

f) Additional Statistics Requirements
Students must complete both of
STAT 420-3 Non-Parametric Statistics
STAT 460-3 Decision Analysis and Bayesian Inference

Statistics Requirements
Students must complete
STAT 270-3 Introduction to Probability and Statistics
and at least five of the following courses.
ACMA 315-3 Credibility Theory and Loss Distributions
ACMA 320-3 Actuarial Mathematics I
ACMA 335-3 Risk Theory
ACMA 445-3 Survival Models
ACMA 445-3 Survival Models
STAT 330-3 Introduction to Statistical Inference*
STAT 340-3 Statistical Quality Control
STAT 350-3 Linear Models in Applied Statistics*
STAT 380-3 Introduction to Stochastic Processes
STAT 402-3 Generalized Linear and Nonlinear Modelling
STAT 410-3 Statistical Analysis of Sample Surveys
STAT 420-3 Non-Parametric Statistics
STAT 430-3 Statistical Design and Analysis of Experiments
STAT 450-3 Statistical Theory
STAT 460-3 Decision Analysis and Bayesian Inference

*these core courses are recommended
Continuing Studies

1300 Lohn Building, West Mall Complex, (604) 291-5100 Tel, (604) 291-3851 Fax, www.sfu.ca/continuing-studies

Simon Fraser University at Harbour Centre, 515 West Hastings Street, Vancouver V6B 5K3, (604) 291-5100 Tel, (604) 291-5098 Fax, www.sfu.ca/continuing-studies
Centre for Distance Education, 1300 Lohn Building, West Mall Complex, (604) 291-3524 Tel, 1-800-863-1411 (toll free within BC), (604) 291-4964 Fax, www.cde.sfu.ca

Dean
J.C. Yerbury BEd, MA, PhD (S Fraser)
Associate Dean
A. Cowan BA (Tor), MA (Car)
A. Aberbach BA (Rutgers), MA (Miami), PhD (Florida), Program Director, Opera Studies and Seniors Program
S. Burgess BBA (S Fraser), MBA (Br Col), Program Director, Business Programs
I. Chunni BA (Tor), BEd, MA (Br Col), Program Director, Distance Education
J. Collinge BA, MA (S Fraser), Director, Centre for Distance Education
T. Copithorne BA (Keio), MA (Yale), Program Director, Japan Program, David Lam Centre for International Communication
A. Cowan BA (Tor), MA (Car), North Growth Management Director of Programs, Wosk Centre for Dialogue; Associate Director, Canadian Centre for Studies in Publishing
J. Cowan, BA, PhD (Br Col), Program Director, Distance Education
C. Dunlop BA (Middlebury), MSc, PhD (Br Col), Program Director, Project Evaluation, Extension Credit Program
P. Gallaugher BSc, DipEd (Br Col), PhD (S Fraser), Program Director, Science Programs
H. Gauw BBA (The Hague), BA (Amsterdam), MEd (S Fraser), Program Director, Distance Education
L. Goodall BA (Calg), Manager, Administration
K. Hanson BA (Denison), MA, PhD (Prin), Director, Extension Credit Program
A.D. Hungerford BA, MA (S Fraser), Laboratory Instructor
C. Joyner BEd, MA (McGill), PhD (SAID), Philippines), Program Director, International Programs
C. Knight, Program Director, Information
W. Liu BA (Nankai), BA (Tenn), Program Director, Advanced Interpreter Programs
M. Nance BA, MA (Calif), Program Director, Public Policy Programs and Ting Forum
T. Nesbit BA (Open), MA (San Francisco State), PhD (Br Col), Program Director, Centre for Labour Studies
J. Oberlander BA (Smith College), MS (Col), Program Director, City Program
N. Petersen BA (S Fraser), Director, Community and Professional Programs; Program Director, Professional Programs
P. Southby, Program Director, Conference Services
Y. Tabin BGS, MA, PhD (S Fraser), Program Director, Distance Education
L. Teles BA (Goethe, Frankfurt), MA (Geneva), PhD (Tor), Program Director; LohnLab, Distance Education
D. Tiefensee BA, MA (Br Col), PhD (S Fraser), Program Director, English Language and Culture Program
Y. Walls BA (Taiwan), MA (Wash), Program Director, Chinese Program, David Lam Centre for International Communication
J. Whytey BA (Chapman Coli), MA, PhD (S Fraser), Program Director, Distance Education
Y. Wosk BA (Br Col), MA (Yeshiva, NY), PhD (W Lyon), PhD (Boston), Program Director, Interdisciplinary Studies

Extension Credit Program

Students seeking degree credit on a part time basis by either day or evening study are governed by the same regulations, have the same privileges, and follow the same admission and registration procedures as full time students. Relevant sections of this Calendar should be consulted concerning policies and procedures for admission, registration, academic programs available, program requirements, and current fees. Specific details regarding individual credit programs are available from faculties and departments.

Students pursuing certificates, diplomas, or minors who wish to study in the evenings or at Harbour Centre should consult with academic advisors at the Academic Resource Office (Burnaby campus) or Information and Registration Services (Harbour Centre campus), or with the certificate or diploma program advisor regarding the availability of courses in upcoming semesters. Proposed course scheduling is available for many programs on request.

Certificate Programs

Program Admission Requirements
• Prospective students must apply to Simon Fraser University for admission and meet the normal admission requirements prior to undertaking a certificate program.

Program Requirements
• Students must maintain a minimum grade point average of 2.0 calculated on all courses applied to the certificate that are taken at Simon Fraser University. Duplicate courses are counted only once.

Note
• Credits applied to one certificate may be applied also to major or minor programs of a bachelor's degree under the normal regulations governing those programs but may not be applied to another Simon Fraser University certificate or diploma.

• Some of the courses have prerequisites not included in the certificate requirements. Students are responsible for satisfying the prerequisites of all courses in their programs. Prerequisite information can be found in the University calendar in the course descriptions section.

• There are program advisors in each department or faculty for the certificate programs. Students intending to pursue a certificate should consult with the program advisor.

Certificates Available

Faculty of Applied Sciences
Applied Human Nutrition (School of Kinesiology)
Computing Studies (School of Computing Science)
Health and Fitness Studies (School of Kinesiology)

Faculty of Arts
Chinese Studies (Certificate in Chinese Studies)
Criminology (General and Advanced (School of Criminology)
Family Studies (Certificate in Family Studies)
First Nations Language Proficiency (Department of Linguistics)
French Canadian Studies (Centre for Canadian Studies)
French Language Proficiency (Department of French)
Liberal Arts (Faculty of Arts)
Native Studies Research (First Nations Study Program)
Public History (Department of History)

Senior Citizens (Certificate for Senior Citizens)
Spatial Language Proficiency (Spanish Program)
Spatial Information Systems (Department of Geography)
Teaching ESL Linguistics (Department of Linguistics)
Urban Studies (Department of Geography)

Faculty of Education
Literacy Instruction

Faculty of Science
Actuarial Mathematics (Department of Mathematics and Statistics)

Post Baccalaureate Diploma Programs

Program Admission Requirements
• Completion of a recognized bachelor’s degree (in any field of study) with a minimum graduation grade point average of 2.0 from a university in British Columbia or with a minimum graduation grade point average of 2.4 from a university outside of British Columbia, or equivalent.

• Students applying to the University for admission are required to meet undergraduate admission deadlines. Application forms should be accompanied by official documents and a statement of objectives in undertaking a diploma program.

Program Requirements
• Successful completion of an approved program comprised of 30 credit hours of third and fourth year courses, and some graduate courses if appropriate.

• At least 15 credit hours must be in a discipline or subject area which most closely fits the learning goals of the student.

• Minimum grade point average of 2.5 on courses applied toward the diploma.

• Completion of lower division prerequisites, if required.

• Completion of the diploma within five years of admission to the program.

Notes
• Students may complete more than one post baccalaureate diploma program.

• Students should consult with academic advisors at the Academic Resource Office (Burnaby campus) or Information and Registration Services (Harbour Centre) or with the diploma program advisor regarding availability of courses at the Burnaby campus, Harbour Centre campus, or by distance education.

• Some of the program courses have prerequisites not included in the certificate requirements. Students are responsible for satisfying the prerequisites of all courses in their programs.

• Program applicants will need to refer to the current University calendar for detailed information concerning application and registration procedures, fees, program requirements, and course descriptions.

• There are program advisors in each department for that departments’ diploma programs.

Transfer Credit
• Transfer credit for work done at other institutions, before or after admission to the program, may be approved toward fulfillment of the program provided that at least 18 of the 30 required upper division credit hours, including at least nine credit hours in the student's area of concentration, be taken at Simon Fraser University.

• Transfer credit is normally only valid for approved courses taken within ten years of the diploma student’s completion semester.

• Transfer credit for use toward the diploma is granted only on approval of the registrar, the appropriate
Faculty post baccalaureate diploma committee, and the dean of the appropriate faculty.

- Credit for work done at Simon Fraser University or transfer credit for work done elsewhere prior to admission to the program may be approved provided that at least 15 of the 30 required upper division credit hours, including at least eight credit hours in the student's area of concentration, normally be taken after admission to the program.
- Credits applied to one diploma may not be applied to another Simon Fraser University certificate or diploma or degree, and vice versa.

Faculty of Applied Sciences
Communication (School of Communication)
Computing Science (School of Computing Science)
Kinesiology (School of Kinesiology)

Faculty of Arts
Community Economic Development (Community Economic Development Program)
Criminology (Department of Criminology)
Ethnic and Intercultural Relations (Department of Sociology and Anthropology)
Gerontology (Gerontology Program)
Humanities (Humanities Program)
Public History (Department of History)
Social Policy Issues (Department of Sociology and Anthropology)
Teaching English as a Second Language (Department of Linguistics)
Urban Studies (Department of Geography)

Faculty of Science
Environmental Toxicology (Department of Biological Sciences)

Special Audit Student
The category of special audit student enables members of the community to access University credit courses as auditors. People interested in taking regular courses but who do not meet the general admission requirements or do not desire admission to the University may apply as special audit students. Such students attend courses but do not write final examinations or receive degree credit, record of attendance, or statement of standing.

Continuing Studies distributes a form which must be signed by the course instructor. Special audit fees (payable at the Cashier’s Office) are calculated at one half the normal course fee. Special audit students may not change registration status after the semester has commenced.

Distance Education
Distance education courses in archaeology, biological sciences, business administration, Canadian studies, communication, community economic development, computing science, criminology, English, education, First Nations, French, Geography, gerontology, history, humanities, Japanese, Kinesiology, linguistics, mathematics, philosophy, political Science, psychology, sociology/anthropology, statistics and women’s studies are currently available, and additional courses are being developed. The general and advanced certificate programs in criminology are designed specifically for distance education students. The health and fitness studies certificate program, the liberal arts certificate program, and a bachelor of general studies degree can be completed entirely by distance education. Post baccalaureate diploma programs in education and criminology are also available. Other programs that are available in part by distance education are: the applied human nutrition certificate program, the literacy instruction certificate program, the community economic development certificate and post baccalaureate diploma programs, computing studies certificate program, gerontology post baccalaureate diploma program, TESL post baccalaureate diploma program, ethnic and intercultural relations post baccalaureate diploma program, and a social policies post baccalaureate diploma program. A booklet of programs and courses is published each year. For more information, contact the Centre for Distance Education, telephone (604) 291-3524; 1-800-663-1411 (toll free within BC); cde@sfu.ca; www.sfu.ca/cde

Off-Campus Programs
University credit courses in education applicable to the bachelor of education degree and to the post baccalaureate diploma program are available at various Interior centres. The Faculty of Education also offers the professional development program (teacher training) throughout the province. Interested students should contact the director of undergraduate programs, Faculty of Education, Simon Fraser University.

Professional Programs for Teachers
Credit courses in education are offered during the late afternoon and evening during fall, spring and summer semesters and in the evening from May to June (intersession) and during the day and evening from July to August (summer session). More information about this program is available from the education advisor, telephone (604) 291-3488.

Graduate Degree Programs
The University offers graduate degree programs through evening study in arts (graduate liberal studies program), business administration, economics, education, English, and resource and environmental management. For program information consult appropriate sections.

Continuing Professional and Liberal Studies
Applied Sciences programs (by the Faculty of Applied Sciences)
Business and professional programs
Business writing programs (including technical writing, and corporate strategic communications)
Conference Services
Executive and management development programs
Fellows’ and professional certification programs and courses
Liberal Studies
Labour programs
Liberal arts programs
Non-profit sector management programs
Professional (creative) writing programs
Public policy programs
Publishing programs
Science programs
Urban studies programs
Co-operative Education

Director

Arts Program
6176 Academic Quadrangle, (604) 291-5875 Fax
Ms. P. Johnston, (604) 291-3041
Ms. C. Rose, (604) 291-5751
Ms. E. Therkesen, (604) 291-3776

Business Administration Program (including CA)
2310 Lohn Building, (604) 291-5922 Fax,
Mr. J. Hsieh, (604) 291-3308
Ms. M. Klemetski, (604) 291-4993
Ms. A. Lee, (604) 291-5540

Communication Program
6139 Robert C. Brown Hall, (604) 291-4024 Fax,
Ms. D. Sedo, (604) 291-5542
Ms. M. Shimizu, (604) 291-3862

Computing Science Program
9917 Applied Sciences Building, (604) 291-5829 Fax,
Ms. C. Vetterli, (604) 291-3239

Engineering Science Program
9827 Applied Sciences Building, (604) 291-4951 Fax,
Ms. T. Behrisch, (604) 291-5806
Ms. H. Matsui, (604) 291-4247

Kinesiology Program
K6620 Shrum Science Centre, (604) 291-3040 Fax,
Ms. D. Heisler, (604) 291-4541
Ms. N. Johnston, (604) 291-4541

Master of Environmental Toxicology Program
1100 Maggie Benston Student Services Centre
Mr. J. Simms, (604) 291-5347

Mathematics and Statistics Graduate Level Program
K10507 Shrum Science Centre,
Mr. E. Simons, (604) 291-4123

Resource and Environmental Management Program
9682 Shrum Classroom Building, (604) 291-4968 Fax
Mr. P. Williams, (604) 291-3103

Science and Environment Program
1100 Maggie Benston Student Services Centre,
(604) 291-3031 Fax,
Mr. P. DeGrace, (604) 291-3115
Mr. J. Simms, (604) 291-5347
Mr. E. Simons, (604) 291-4123
Dr. A. Toby, (604) 291-5934

Co-operative education is a process through which students integrate work experience with academic studies. The name reflects the co-operative relationship between the University, the employer, and the student. Practical experience from work terms is related to students’ major interests within their fields of study.

A work term is typically paid, full time work of four months (one term). The salary earned helps students finance their education and the experience helps validate career choices. The program tests students’ skills and knowledge learned in the classroom, and provides adjustment and experience in the work world.

Admission to the Program
Co-operative Education is mandatory for engineering science and optional for all other co-op programs. For information on the engineering co-op program, see the School of Engineering section.

Traditionally, only Canadian citizens and permanent residents are eligible to enter optional co-op programs. However, the co-op program seeks to build international involvement, and we encourage visa students to contact the co-op office to discuss participation opportunities. Mandatory programs are open to Canadian citizens, permanent residents, and visa students. Visa students in co-op programs are eligible for work permits which are only valid for jobs arranged through the co-op department.

Expression of Interest
Students may indicate on their admission application that they are considering applying to co-op. Students who indicate this interest will be tracked by the co-op office and may be invited to participate in a pre-co-op curriculum. This optional fee-for-service program, planned for a first offering in semester 1999/2000, will prepare students as learners and facilitate their successful integration into the world of work. Entry into the co-op program will not be dependent upon the pre-co-op curriculum. However, the curriculum and recommended associated workshops will help students to both enhance and more evenly distribute the activities associated with a successful application to co-op and participation in the employment process for their first work term.

In-Course Application
Interested students should visit the co-op education website at www.sfu.ca/co-op. They should also attend information meetings held the first and/or second week of classes, and should contact appropriate co-ordinators as early in their university career as possible, but no later than one semester prior to the first work term. Transfer students should make contact with the co-op office as soon as possible and must complete at least one study semester before engaging in a work term. Students transferring from an approved co-op program elsewhere, and who have successfully completed work terms, can receive transfer credit for those work terms up to the point that they still must complete 50% of their degree program, including work terms, here at Simon Fraser University.

Students are urged to apply to co-op as early as possible. Students have the opportunity to participate in a number of recommended learning-based and employability skills workshops that will improve their chances of successful employment.

Acceptance into the Co-operative Education Program
Acceptance into the employment process is based on academic performance and entry interviews where motivation, interpersonal, and communication skills are evaluated. Students must normally have 45-60 credit hours and a CGPA of at least 2.5 before participating in the co-op employment process. Some departments have additional requirements.

Participation in the Co-op Program
The Employment Process
Once a student is accepted into the employment process portion of the program, the student can actively engage in the employment competition. Job opportunities are identified and posted through co-op, and students may select opportunities for which they wish to compete. Students can choose which positions to apply to, may be selected for interview, and may or may not receive an offer. They have the option to accept or decline an offer, based on the contractual obligations and ethics associated with their progression in the employment process. These obligations are made clear to all participants at each point in the employment process. Once a student has accepted a position, they are obligated to that work term. A decision to renege on an employment agreement can have academic and possibly legal ramifications. Students are required to have a practicum registered with academic records (Office of the Registrar) once they have accepted employment.

Application form submission and/or participation in the job competition indicates a commitment to the program and acceptance of the following:
• permission for release of prospective employers of copies of transcript
• acceptance of the job match
• agreement to register in the appropriate co-operative education course
• agreement to inform Simon Fraser University of the acceptance of any co-operative education employment position obtained outside of the match
• agreement to complete four (five for chartered accountant) co-op education work terms

Operation of the Program
The co-op co-ordinators negotiate work terms, meet employers to establish employer needs, and also meet with students to identify objectives. They oversee job competition and visit students on the job, counsel and advise students, and deal with special problems that may arise.

Specialty Options
Students may also opt to find/create their own opportunities, locally or abroad. Simon Fraser co-op is unique amongst institutions in that it offers four formalized specialty options as part of its regular co-op program. They include:

Mentorship
This program pairs a senior co-op student with a senior high school student. The university student gains experience in work delegation, supervision and mentoring. This award-winning program is popular with business, government, and students.

Co-op Japan
The co-op Japan program is a national, multi-university program established in May 1991 under the auspices of the federal government’s Pacific 2000 Japan Science and Technology Fund. The program provides senior science and engineering students from across Canada with the opportunity to gain work experience in Japan. The goal of the program is to develop a pool of young Canadian engineers and scientists with hands-on experience in Japanese industrial engineering and research practices.

Program Prerequisites
• third or fourth year student currently enrolled full time in the in the schools of Engineering Science or Computing Science and/or the Faculty of Science
• CGPA of 3.33 (B+)
• minimum of one Japanese language credit course or two non-credit courses, or equivalent experience, and completion of a four week immersion Japanese language and culture program sponsored by the co-op Japan program
• time commitment is 8-12 months
• minimum eligible age 19 years
• Canadian citizen or permanent resident of Canada
• English language fluency
Application Submission Deadlines

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<tbody>
<tr>
<td>Student Notification</td>
<td>Jan. 2001</td>
<td>May 2001</td>
</tr>
<tr>
<td>Language Training</td>
<td>May 2001</td>
<td>Sept. 2001</td>
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</tbody>
</table>

Student information packages are available from the co-operative education office, MBC 1100.

Work Sequence

The work study chart below shows a possible work term and study semester pattern. An alternating sequence, beginning before year three, provides the best learning structure. Other combinations can be arranged to meet student and employer needs, as long as employer requirements for students in the fall and spring terms are met. **Students may not end their chosen sequence on a work term.**

Co-op Fees

Co-op is a value-added educational experience, and as such, has associated participation fees. Currently, a co-op fee is charged for each and every work practicum in which the student enrolls. These fees are tax deductible. For further information see the Undergraduate Fees section.

Graduation Requirements

Degree Program

Four work terms (five for the CA program) must be successfully completed for completion of a degree with a co-op designation. Successful completion of a work term includes a passing grade (comprised of both a work project evaluation and a work performance evaluation) and compliance with minimum standards of participation. (A work term is typically full time employment for 13-16 weeks in duration.) Students who meet this condition will have co-op designated on their degree (except bachelor of science – co-operative education).

Certificate Option

Beginning in semester 1998-3, students (except CA and engineering) who attempt and successfully complete three work terms may apply to the co-op office for a certificate of completion. The same performance criteria as noted above are required for the certificate option. Students will receive a certificate stating they have successfully completed the minimum requirements of the Simon Fraser co-operative education program, but will not receive recognition on their actual degree, nor will they be eligible for further work terms in their current program.

An Effective Work/Study Sequence

<table>
<thead>
<tr>
<th></th>
<th>Semester I</th>
<th>Semester II</th>
<th>Semester III</th>
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<tr>
<td></td>
<td>September to</td>
<td>January to April</td>
<td>May to August</td>
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<tr>
<td>Year 1</td>
<td>study semester #1</td>
<td>study semester #2</td>
<td>study semester #3</td>
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<tr>
<td></td>
<td>15 credit hours</td>
<td>15 credit hours</td>
<td>15 credit hours</td>
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<tr>
<td></td>
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<tr>
<td>Year 2</td>
<td>Work term #1</td>
<td>study semester #4</td>
<td>Work term #2</td>
</tr>
<tr>
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Undergraduate Courses

For undergraduate course descriptions, refer to the Graduate Studies section of this Calendar.

**Actuarial Mathematics**

**Faculty of Science**

No student may take, for further credit, any course offered by the Department of Mathematics and Statistics which is a prerequisite for a course the student has already completed with a grade of C+ or higher, without permission of the department.

**ACMA 310-3 Mathematics of Compound Interest**

Measurement of interest, present value. Equations of value. Basic annuities; immediate, due, perpetuity. General annuities. Yield rates; cash flow analysis, reinvestment rate, portfolio and investment year methods. Amortization schedules and sinking funds. Bonds and other securities. Applications: real estate mortgages depreciation methods. Interest rate disclosure and regulation in Canada. This course covers the syllabus of course 140 of the Society of Actuaries. (3-0-0) Prerequisite: MATH 152 must precede or be taken concurrently.

**ACMA 315-3 Credibility Theory and Loss Distributions**

Statistical distributions useful in general insurance. Inferences from general insurance data. Experience rating. Credibility theory: full credibility, partial credibility, Bayesian credibility. Estimation of loss distributions. Modelling loss distributions: ungrouped data, truncated and shifted data, clustering. Applications: inflation. This course covers the syllabus of Part 4B of the Casualty Actuarial Society. (3-0-0) Prerequisite: STAT 280 must precede or be taken concurrently.

**ACMA 320-3 Actuarial Mathematics I**

Survival distributions: age at death, life tables, fractional ages, mortality laws, select and ultimate life tables. Life insurance: actuarial present value function (apv), moments of apv, basic life insurance contracts, portfolio. Life annuities: actuarial accumulation function, moments of apv, basic life annuities. Net annual premiums: actuarial equivalence principle, loss function, accumulation type benefits. Actuarial reserves: prospective loss function, basic contracts, recursive equations, fractional durations. This course covers part of the syllabus of course 150 of the Society of Actuaries. (3-1-0) Corequisite: MATH 152 and MACM 316.

**ACMA 325-3 Actuarial Mathematics II**

Actuarial reserves: allocation of the loss to the policy years. Multiple life functions: joint-life, last-survivor. Multiple decrement models: stochastic and deterministic approaches, associated single decrement, fractional durations. Valuation theory for pension plans. Insurance models including expenses: gross premiums and reserves, type of expenses, modified reserves. Nonforfeiture benefits and dividends: equity concept, cash values insurance options, asset shares, dividends. This course covers part of the syllabus of course 150 of the Society of Actuaries. (3-0-0) Prerequisite: ACMA 320.

**ACMA 445-3 Survival Models**


**ACMA 455-3 Graduation of Life Tables**

Definition of graduation. Smoothness, fit-testing. Graduation methods: moving-weighted-average, Whittaker, Bayesian, parametric. Smooth-junction interpolation. Two dimensional graduation. This course covers the syllabus of course 165 of the Society of Actuaries. (3-0-0) Prerequisite: ACMA 320 and MACM 316.

**ACMA 465-3 Mathematics of Demography**


**Archeology**

**Faculty of Arts**

**ARCH 100-3 Ancient Peoples and Places**

A broad survey of human cultural development from the late Paleolithic/Paleolithic periods (ca 40,000 BP) to the rise of civilization and empires, in both the Old and New Worlds. (lecture/tutorial)

**ARCH 105-3 The Evolution of Technology**

A history of technology from earliest times to the beginning of the Industrial Revolution. The course will discuss the causes and effects of technological change, as illustrated by specific technological developments including stone tools, metallurgy, agriculture, etc. (lecture/tutorial)

**ARCH 131-3 Human Origins**

A non-technical survey of the primate background of humans, fossil primates, and fossil humans, and the associated evidence of cultural development. An introduction to physical anthropology. (lecture/tutorial)

**ARCH 200-3 Special Topics in World Prehistory**

Non-specialized introductory summaries of selected regional topics in world prehistory. Students who receive credit once for this course may not take it again for further credit. (lecture)

**ARCH 201-3 Introduction to Archaeology**

A survey of methods used by archaeologists to discover and interpret the past. Examples will be drawn from selected sites and cultures around the world. Students who have taken ARCH 101 may not register in ARCH 201. (lecture/tutorial)
ARCH 223-3 The Prehistory of Canada
A summary review of the pre-contact native cultures of Canada, from their beginnings to the arrival of Europeans, as revealed by archaeology. Lectures focus on how and when the first humans appeared in the land now known as Canada, and how their cultures changed over time, organised in terms of eight ‘archaeological regions,’ beginning with the Atlantic coast and then moving west and north. (lecture)

ARCH 226-3 The Prehistory of Religion: Shamans, Sorcerers and Saints
Charts the emergence and changes in the expression of human religious behavior. It covers the earliest rituals of the Palaeolithic, the importance of fertility cults, ancestor cults, alliance rituals, shamans, witchcraft, and monotheism. (lecture) Prerequisite: any lower division archaeology or anthropology course.

ARCH 272-3 Archaeology of the Old World
A survey of the major centres of Old World cultural development from the Palaeolithic to the Bronze Age. Basic concepts used in reconstructing prehistoric cultures, and the artefactual and contextual evidence for the development of culture. (lecture/tutorial) Prerequisite: ARCH 100 or 201.

ARCH 273-3 Archaeology of the New World
A survey of prehistoric cultures of North and South America. The peopling of the New World, the rise of the pre-Columbian civilizations of Mexico and Peru, and the cultural adaptations by prehistoric populations to other parts of the New World. (lecture/tutorial) Prerequisite: ARCH 100 or 201.

ARCH 301-3 Prehistoric and Indigenous Art
Art styles and traditions of prehistoric and preliterate peoples in one or more world cultural areas. (lecture)

ARCH 311-5 Archaeological Dating
A study of various scientific methods of dating archaeological samples, including Carbon 14, thermoluminescence, obsidian-hydration, fission track, potassium-argon, magnetic, and other dating techniques. (lecture/seminar) Prerequisite: ARCH 201.

ARCH 321-3 Archaeology of Britain
A survey of the archaeological evidence for human occupation of the British Isles from Paleolithic to Medieval periods. This course will emphasize the interpretation of archaeological data, and for later periods, the integration of archaeological study with documentary research. (lecture) Prerequisite: ARCH 201 or permission of instructor. Students with credit for Archaeology of Britain when taken as a Special Topics course, may not take ARCH 321 for further credit.

ARCH 330-3 Prehistory of Latin America
Intensive study of the prehistoric cultures of Latin America. Emphasis will be on the development of the civilizations of prehistoric Mexico and Peru. (lecture) Prerequisite: ARCH 273.

ARCH 332-3 Special Topics in Archaeology I
This course will be offered from time to time to meet special needs of students and to make use of specializations of visiting faculty members. (lecture/seminar) Prerequisite: to be announced in the Course Timetable and Exam Schedule.

ARCH 333-3 Special Topics in Archaeology II
This course will be offered from time to time to meet special needs of students and to make use of specializations of visiting faculty members. (lecture/seminar) Prerequisite: to be announced in the Course Timetable and Exam Schedule.

ARCH 334-3 Special Topics in Archaeology III
This course will be offered from time to time to meet special needs of students and to make use of specializations of visiting faculty members. (lecture/seminar) Prerequisite: to be announced in the Course Timetable and Exam Schedule.

ARCH 335-5 Special Laboratory Topics in Archaeology
This is a laboratory course that will be offered from time to time to meet special needs of students and to make use of specializations of visiting faculty members. (lecture/laboratory) Prerequisite: to be announced in the Course Timetable and Exam Schedule.

ARCH 336-3 Special Topics in Prehistoric and Indigenous Art
Art styles and traditions of prehistoric and preliterate peoples in selected world cultural areas. (lecture/seminar) Prerequisite: to be announced in the Course Timetable and Exam Schedule.

ARCH 340-3 Zooarchaeology
An introduction to the study of animal remains from archaeological sites. Coverage of the major concepts and methods used in the study of animal remains and detailed practical coverage of the vertebrate skeleton. (lecture) Prerequisite: ARCH 131 or any lower division biology course.

ARCH 349-5 Management of Archaeological Collections
The philosophy, policies and practices of the care of archaeological collections. This lecture and laboratory course treats the practical problems of designing museum programs within a framework of legal responsibilities for collections. Contemporary issues such as repatriation will be discussed. (lecture/laboratory) Prerequisite: three 200 division archaeology courses.

ARCH 350-0 Practicum I
First semester of work experience in the Archaeology Co-operative Education Program. Prerequisite: normally 45 semester hours with a CGPA of 3.0 and the following courses are recommended: both ARCH 131 and 201; either ARCH 272 or 273; and three of ARCH 372, 373, 376, 377, 386, 442.

ARCH 351-0 Practicum II
Second semester of work experience in the Archaeology Co-operative Education Program. Prerequisite: normally 45 semester hours with a CGPA of 3.0 and ARCH 350.

ARCH 360-5 Native Cultures of North America
A descriptive study of the cultures of North American natives north of Mexico, as they were at initial contact, organised on a culture area basis. Native groups in each area will be discussed in terms of language, population estimates, early post-contact history and its impact on traditional ways of life, dominant ethnoGraphic economic/adaptive emphases, socio-political organisation, religion, ceremony and warfare. (lecture/seminar) Prerequisite: ARCH 201 and 273.

ARCH 365-3 Ecological Archaeology
Deals with the techniques for reconstruction of past environments, as well as the effect of environment on past settlements and people. Environment as considered in the course will encompass the presence of other settlements, and deal with relationships among settlements. (lecture) Prerequisite: ARCH 201.

ARCH 370-3 Western Pacific Prehistory
The exploration of prehistoric developments in the Western Pacific region, beginning with the first traces of humans, dealing with problems in the rise of civilization, and finally, tracing the voyages of the early Pacific navigators. (seminar) Prerequisite: ARCH 272.

ARCH 372-5 Material Culture Analysis
Analysis and interpretation of archaeological material culture. This lecture and laboratory course combines the practical problems of recognition and interpretation of archaeological specimens, typology, seriation, and statistical procedures with the basic principles of archaeological theory. (lecture/laboratory) Prerequisite: ARCH 201.

ARCH 373-5 Human Osteology
A detailed study of the human skeleton with emphasis on lab and field techniques. (lecture/laboratory) Prerequisite: ARCH 131.

ARCH 374-3 Prehistory of South and East Asia
Survey of prehistoric development and cultural origin(s) of Japan, China, Mainland Southeast Asia, and India. (lecture) Prerequisite: ARCH 272.

ARCH 376-5 Quantitative Methods in Archaeology
Theory, method, and operation of the application of statistical techniques to the description, classification, analysis, and interpretation of archaeological data. (lecture/seminar) Prerequisite: ARCH 201, and either STAT 203 (formerly 103) or PSYC 210.

ARCH 377-5 Historical Archaeology
An introduction to theory and method in North American historical archaeology. Laboratory instruction is provided in historic artifact analysis and interpretation. (lecture/seminar/laboratory) Prerequisite: ARCH 201 and one lower division ARCH course.

ARCH 378-3 Pacific Northwest North America
The prehistory and cultural traditions of the region. The content, antecedents, relationships, and changes in these cultures through time. Technological, socioeconomic, and environmental factors in culture growth. (lecture) Prerequisite: ARCH 273.

ARCH 379-3 American Southwest
The prehistory and cultural traditions of the region. The content, antecedents, relationships, and changes in these cultures through time. Technological, socioeconomic, and environmental factors in culture growth. (lecture) Prerequisite: ARCH 273.

ARCH 385-5 Paleoanthropology
The relationship between culture and biology in prehistoric human evolution. The recognition and critical evaluation of the significance of the similarities and differences among fossil human types. (lecture) Prerequisite: ARCH 131 and 272.

ARCH 386-3 Archaeological Resource Management
Surveys the origins, implementations, and need for archaeological heritage legislation on an international and national scale. Topical issues associated with contract archaeology, public archaeology, native heritage, and avocational societies are incorporated. (lecture/seminar) Prerequisite: ARCH 201.

ARCH 390-5 Archeobotany
An introduction to the recovery and analysis of macroscopic archaeological plant remains. The major methodological and interpretive issues in archeobotany will be covered, with an emphasis on plant domestication in selected regions of the world. (lecture/laboratory) Prerequisite: ARCH 201 and either 272 or 273.

ARCH 410-5 Advanced Archaeometry
The explanation and application of various physical science techniques to archaeology. (lecture/seminar) Prerequisite: PHYS 181 or permission of department.

ARCH 432-5 Advanced Physical Anthropology
An intensive investigation of the theory and problem areas in physical anthropology. (lecture/seminar) Prerequisite: ARCH 373 and either 344 or 385.
ARCH 433, 434 and 435 are normally taken as a block in one semester as the Archaeological Field School. Students enrolling for these courses must seek permission from the Department of Archaeology before final registration.

ARCH 433-6 Background to Field Work
Lectures cover the archaeological background and rationale for specific field research questions, the critical relationship in any field project between the research questions asked and the methods and techniques employed, and the craft of field work including use of equipment, specific excavating, recording and cataloguing techniques, field safety and camp life. Prerequisite: normally taken concurrently with ARCH 434 and 435; ARCH 131 and 201; at least one group I course, permission of the department.

ARCH 434-3 Exercises in Mapping and Recording
A series of exercises in which the student must demonstrate the ability to apply the various recording and mapping skills covered in the course. The graded exercises are done individually and in teams, both on campus and in the field. Prerequisite: normally taken concurrently with ARCH 433 and 435; ARCH 131 and 201; at least one group I course, permission of the department.

ARCH 435-6 Field Work Practicum
A practical application of the background knowledge and specific techniques of ARCH 433 and 434. It takes place in a research oriented field excavation. Evaluation of student performance is based upon assessments of efficiency and accuracy of excavation techniques/recording procedures, and upon the student's overall contribution to the smooth functioning of the team. Prerequisite: normally taken concurrently with ARCH 433 and 434; ARCH 131 and 201; one group I course, permission of the department.

ARCH 438-5 Geoarchaeology
This course introduces the concept of archaeological sites as active constituents in natural Quaternary land-forming and land-altering systems. Lectures will focus on all processes which may have contributed to archaeology sites and their sedimentary and land-forming and land-altering systems. Lectures will focus on all processes which may have contributed to the reconstruction of the past. (lecture/lab/seminar) Prerequisite: normally 201 and either 272 or 273.

ARCH 442-5 Forensic Anthropology
Current techniques in identification of recent human skeletal remains. (lecture/lab/sem) Prerequisite: ARCH 201 and either 272 or 273.

ARCH 450-0 Practicum III
Third semester of work experience in the Archaeology Co-operative Education Program. Prerequisite: normally 45 semester hours with a CGPA of 3.0 and ARCH 351.

ARCH 451-0 Practicum IV
Fourth semester of work experience in the Archaeology Co-operative Education Program. Prerequisite: normally 45 semester hours with a CGPA of 3.0 and ARCH 450.

ARCH 471-5 Archaeological Theory
The cultural, evolutionary, physical, and distributional principles which underlie the prediction and reconstruction of the past. (lecture/sem) Prerequisite: ARCH 131, 201, 272 and 273.

ARCH 479-3 Directed Readings
Directed readings for upper level students who desire to study selected topics in depth. Prerequisite: permission of the department.

ARCH 480-5 Directed Laboratory/Library/Field Research
A course in which students can undertake specific laboratory, library or field based research supervised by a faculty member. It is open to students from other departments. Prerequisite: permission of the department.

ARCH 485-5 Lithic Technology
An in-depth study of how to manufacture and analyse stone tools. Includes rock and mineral identification, stone working by students, fracture mechanics, and relevance to theoretical problems. (lecture/laboratory) Prerequisite: ARCH 372.

ARCH 496-5 Honors Reading
Directed readings in a selected field of study under the direction of a faculty member. Papers will be required. Prerequisite: permission of the department.

ARCH 499-5 Honors Thesis
An honors thesis of some ten to fifteen thousand words will be written under the direction of a faculty member. Prerequisite: permission of the department.

Asia-Canada

Department of Humanities

Faculty of Arts

ASC 101-3 Introduction to Asia-Canada Studies I
This is an introductory course on Asia-Canada interactions. It will survey various issues, both historical and contemporary, including those involving Asian-Canadians. (lecture/utorial) ASC 102-3 Introduction to Asia-Canada Studies II
This course is an introductory course on Asian civilizations in three areas: East Asia, Southeast Asia and South Asia. A survey course, it is designed to cover multiple dimensions of people's lives and history in Asia. (lecture/tutorial)

ASC 200-3 Introduction to Chinese Culture
The course provides the student with an introduction to historical and cultural perspectives on China. Topics covered will include different aspects of traditional Chinese culture with a view to understanding contemporary Chinese society. (lecture/tutorial) Prerequisite: 15 semester hours. Students who have taken GS 201 or GS 251 may not take this course for further credit.

ASC 201-3 Introduction to Japanese Culture and History
This is an introductory course on Japanese culture and history. It is designed for students with no Japanese background and with no Japanese speaking ability. The course will cover the basic aspects of Japan: geography, history, culture, politics, economy, etc. (lecture/tutorial) Prerequisite: 15 semester hours. Students who have taken this course as JAPN 250 may not take this course for further credit.

ASC 202-3 Studies in Chinese Culture
An introduction to Chinese art, literature or philosophy. The emphasis will be on the cultural importance of the subject covered and on its relationship to contemporary Chinese society. (lecture/tutorial) Prerequisite: 15 semester hours. Students who have taken GS 201 or GS 251 may not take this course for further credit.

ASC 205-3 Special Topics: Field Studies in Chinese Culture
This course is part of the core courses offered in the China Field School. The course covers topics on various aspects of Chinese culture and society, from Chinese medicine, martial arts, painting and calligraphy, etc. to contemporary life and local history in the area. (tutorial) Prerequisite: 15 semester hours. Students who have taken GS 201 or GS 251 may not take this course for further credit.

ASC 300-3 Asians and North Americans in Public Discourse
A cross-cultural examination of the ways we perceive and represent each other in public discourse, including literature, news media, cinema, and other education and entertainment media. (seminar) Prerequisite: ASC 101, 102.

ASC 301-3 Asia-Canada Identities: Experiences and Perspectives
This course will explore the experiences of Asian immigrants and their children, focusing in particular on social and cultural aspects. (seminar) Prerequisite: ASC 101, 102.

ASC 302-3 Selected Topics in Chinese Studies
Content will vary according to interests of faculty and students but will involve China-related study within one or more of the social science or humanities disciplines. (seminar) Recommended: 30 semester hours. ASC 200.

ASC 303-3 Selected Topics in Japanese Studies
Content will vary according to interests of faculty and students but will involve Japanese-related study within one or more of the social science or humanities disciplines. (seminar) Recommended: 30 semester hours. ASC 201.

ASC 400-3 Senior Seminar on Asia-Canada Relations
This seminar course addresses the issues raised in ASC 101 and 102 in an in-depth manner. It scrutinizes and analyses issues, dimensions, history and discourse of Asia-Canada interactions. (seminar) Prerequisite: ASC 300 or 301.

ASC 401-3 Directed Studies
Individual study. Prerequisite: ASC 101 or 102, and one ASC 300 level course.

Biological Sciences
Faculty of Science

See also courses listed under Marine Science (MASC).

Note: Entry into courses numbered 300 and above normally requires completion of the lower division core in Biological Sciences (see Lower Division Core in the Biological Sciences section of the Calendar). Prerequisites for any course may be waived with the approval of the department.

BISC 004-3 Apiculture: An Introduction to Bees and Beekeeping
The course will stress the biology of bees as well as management for honey production, and will provide the necessary information required to begin beekeeping. Lecture topics will include basic honeybee biology, beekeeping equipment, seasonal management, and disease prevention. (3-0-1) Prerequisite: open to all students.

BISC 100-4 Introduction to Biology
An introduction to the basic concepts of biology, emphasizing evolution as a unifying theme. Topics include cell structure, mitosis and meiosis, DNA structure and function, evolution and population and ecosystem ecology. (3-1-3)

BISC 101-4 General Biology
This course offers an introduction to the biochemical and physiological mechanisms of living organisms. Topics covered include cell structure and function, DNA replication and the flow of genetic information, enzyme function, metabolism and physiology of microorganisms, plants and animals. (2-1-4) Prerequisite: high school biology 12 (or equivalent) or BISC 100 with a grade of C- or better. BISC 101 and 102 may be taken in any order.
BISC 102-4 General Biology
The course begins by surveying the diversity of life, and its evolutionary history on earth. The student is introduced to the study of genetics, development and evolution, giving an overview of how these processes interact to produce form and function. The principles of behavior and ecological relationships of organisms to each other and their environment are also studied. (2-1-4) Prerequisite: high school biology 12 (or equivalent) or BISC 100 with a grade of C- or better. BISC 101 and 102 may be taken in any order.

BISC 202-3 Genetics
Principles and concepts of the transmission of genetic information treated comparatively in man, animal, plant and microbe. (3-1-0) Prerequisite: BISC 101 and 102 with a grade of C- or better. Credit will not be granted for both BISC 204 and GEOG 215.

BISC 204-3 Introduction to Ecology
An introduction to biotic-environmental relationships and dynamics; ecological concepts; population dynamics, variation, adaptation and evolution. (3-1-0) Prerequisite: BISC 101 and 102 with a grade of C- or better. Credit will not be granted for both BISC 204 and GEOG 215.

BISC 272-3 Special Topics in Biology
Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

BISC 302-3 Genetic Analysis
Discussion and manipulations of some of the organisms and techniques applicable to genetic analysis. (2-0-4) Prerequisite: BISC 202 with a grade of C- or better.

BISC 303-3 Microbiology
The biology of micro-organisms and their significance in the understanding of cellular processes. (2-0-4) Prerequisite: BICH 221 with a grade of C- or better.

BISC 304-3 Animal Ecology
A study of the interrelationships of animals and their physical and biotic environment. (3-1-0) Prerequisite: BISC 204 with a grade of C- or better.

BISC 305-3 Animal Physiology
A comparative study of basic physiological mechanisms in invertebrates and vertebrates. (3-1-0) Prerequisite: MB2 221 and PHYS 102 with a grade of C- or better.

BISC 306-3 Invertebrate Biology
An introduction to selected invertebrate phyla with an emphasis on functional morphology, diversity and ecology. (3-0-3) Prerequisite: BISC 204 with a grade of C- or better.

BISC 307-3 Animal Physiology Laboratory
A laboratory course using contemporary techniques of animal physiological research. (1-1-4) Prerequisite: BISC 304 and 329 with grades of C- or better.

BISC 310-3 The Natural History of British Columbia
An introduction to the natural history of British Columbia, studying the ecology, distribution, and general characteristics of organisms representative of various biotic regions of the province - terrestrial, marine or freshwater. The particular taxa and regions studied may vary between offerings. Field trips of one to four days are normally a required part of the course. (3-0-4) Prerequisite: 75 semester hours of credit including BISC 101 and 102 with a grade of C- or better.

BISC 312-3 Environmental Toxicology I
An introductory course in environmental toxicology which will concentrate on the biologist's perspective and will "bridge the gap" between traditional biology courses and formal toxicology courses. The course is required for a minor and extended studies diploma program in Environmental Toxicology. (3-1-0) Prerequisite: BISC 101, 102 and 204 or EVSC 200, all with grades of C- or better.

BISC 313-3 Environmental Toxicology II
This course introduces students to basic principles of toxicology and several classes of widely encountered environmental pollutants. Emphasis is on toxicology as an interdisciplinary science. This course is a prerequisite for all advanced toxicology courses. (3-1-0) Prerequisite: MBB 221 with a grade of C- or better. Corequisite: BISC 312.

BISC 316-3 Vertebrate Biology
A review of the evolution and the taxonomy of the vertebrate classes. A comparative study of their organ systems and functions with particular reference to reproduction. A comparison of the functional morphology of some species by laboratory dissections. (3-0-4) Prerequisite: BISC 101 and 102 with a grade of C- or better.

BISC 317-3 Insect Biology
Life histories, biometrics, comparative morphology, and classification of insects and related organisms. A collection may be required, depending on instructor. (2-0-4) Prerequisite: BISC 101 and 102 with a grade of C- or better.

BISC 326-3 Biology of Non-Vascular Plants
A survey of form, function and phenetics. (2-0-4) Prerequisite: BISC 101 and 102 with a grade of C- or better.

BISC 329-4 Introduction to Experimental Techniques
This course is designed to introduce students to basic measurement methods and instrumentation as used in modern biology. (2-0-5) Prerequisite: MBB 221 and PHYS 102 and CHEM 121 or 115.

BISC 331-3 Molecular Biology
The study of gene structure and evolution, DNA replication, and the regulation of gene expression in bacteria and higher organisms. (3-1-0) Prerequisite: MBB 222, BISC 202 with a grade of C- or better. Students with credit for BISC 321 may not take this course for credit.

BISC 333-3 Developmental Biology
Classical and modern experimental approaches will be described for understanding development of embryos of several species having common and distinctive features. These approaches are at the organismal, cellular, molecular and genetic levels. Prerequisite: BISC 202 with a grade of C- or better, MBB 222.

BISC 337-3 Plant Biology
An introductory course covering many aspects of plant biology including the origin and evolution of plants, basic anatomy, plant growth and development and the utilization and impact of plants in human society. (3-0-4) Prerequisite: BISC 104 with a grade of C- or better.

BISC 341-0 Practicum I
First semester of work experience in the biological sciences co-operative education program. Prerequisite: acceptance in the biological sciences co-operative education program.

BISC 342-0 Practicum II
Second semester of work experience in the biological sciences co-operative education program. Prerequisite: BISC 341 and readmission to the school co-operative science program.

BISC 356-3 Plant Development
This course explores the mechanisms underlying plant development from the molecular genetic to the whole plant level. The role played by hormones and the environment in the regulation of development will be emphasized. (3-0-0) Prerequisite: MBB 222; BISC 337.

BISC 366-3 Plant Physiology
The plant's physical environment and the physiological basis (mechanisms and principles) of the interaction between plants and their environment in relation to their survival and ecological distribution. (3-1-0) Prerequisite: MBB 221 with a grade of C- or better.

BISC 367-3 Plant Physiology Laboratory
A laboratory course using contemporary techniques of plant physiological research. (1-1-4) Prerequisite: BISC 329 and 366 with a grade of C- or better.

BISC 372-3 Special Topics in Biology
Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

BISC 400-3 Evolution
The comparative biology of change mechanisms in living systems. The origin of life, major evolutionary trends in geological time, and the comparison of adaptive processes at species, population and individual levels. Man's origin and the special biological significance of human adaptive capacities. (3-1-0) Prerequisite: 75 semester hours of credit including BISC 101 and 102 with a grade of C- or better.

BISC 402-3 Molecular Genetics
Advanced problems concerning the nature and function of genetic material. (3-1-0) Prerequisite: BISC 302 and 331 with a grade of C- or better.

BISC 404-3 Plant Ecology
Quantitative and qualitative aspects of the distribution, dynamics and ecology of terrestrial plants. A field trip of one to four days normally is a required part of the course. (2-0-4) Prerequisite: BISC 204 with a grade of C- or better and 75 semester hours.

BISC 405-3 Cell Physiology
The physiology of cells with emphasis on the physical and chemical nature of specialized activities. (2-0-4) Prerequisite: BISC 307, or KIN 306, or BISC 305 and 329, all with grades of C- or better.

BISC 406-3 Marine Biology and Oceanography
An introduction to the marine environment, marine organisms and the ecological and oceanographic processes affecting them. (2-0-4) Prerequisite: BISC 306 or 316 with a grade of C- or better.

BISC 407-3 Population Dynamics
An evaluation of factors influencing the natural fluctuation of regulation of animal population numbers. (3-1-0) Corequisite: BISC 304 with a grade of C- or better.

BISC 410-3 Ethology
Animal behavior with emphasis on its causation and evolution, and its adaptiveness in various ecological contexts. (3-1-0) Corequisite: BISC 304 with a grade of C- or better or permission of the department.

BISC 414-3 Limnology
An integrated examination of biological, chemical and physical processes in lakes and running water ecosystems. Interactions among biological, chemical and physical controls on the structure, function and dynamics of aquatic ecosystems are emphasized. Environmental problems resulting from human disturbances to aquatic ecosystems are examined. (2-0-4) Prerequisite: 75 semester hours of credit in a science program, including BISC 204 or GEOG 215, or permission of the instructor.

BISC 416-3 Fish Biology
An introduction to the biology of fishes with an emphasis on classification, evolution, anatomy, physiology, and ecology. (3-0-4) Prerequisite: BISC 316 with a grade of C- or better or permission of the department.
BISC 417-3 Entomology
Analysis of the biological characteristics which enable insects to be successful organisms in nature as well as highly successful pests. Particular emphasis on characteristics which render insects vulnerable to various types of pest management. Laboratory includes recognition of insect pests and project work on selected types of problems encountered by professional entomologists. (2-0-3) Prerequisite: BISC 317 with a grade of C- or better.

BISC 419-3 Wildlife Biology
Theoretical and applied aspects of ecology and behavior in relation to wildlife populations and their habitats, with emphasis on important mammals and birds in British Columbia. Attendance on local field trips is required. (2-0-4) Prerequisite: BISC 304 with a grade of C- or better. Recommended: BISC 316.

BISC 422-3 Population Genetics
Theoretical and experimental aspects of inheritance at the population level. Topics include Hardy-Weinberg, one- and two-locus selection theory, introduction to quantitative genetics, and Fisher's fundamental theorem of natural selection. (3-1-0) Prerequisite: BISC 202 with a grade of C- or better and STAT 301.

BISC 425-3 Biology and Society
The objectives of this course are to demonstrate the relevance of contemporary research in biological sciences to society, teach critical thinking, develop analytical skills and ability to communicate, and encourage students to evaluate the diverse perspectives that influence societal decisions about issues for which scientific analyses are significant. Course format will include lectures, discussion, guest speaker seminars, videos and student presentations. (3-0-0) Prerequisite: BISC majors.

BISC 429-3 Experimental Techniques I: Separation Methods
Theory and practice of analytical and preparative separation methods in biology. (1-1-5) Prerequisite: BISC 329 with a grade of C- or better.

BISC 430-3 Plant Pathology
Fungi, bacteria, viruses, nematodes, parasitic higher plants and insect vectors as agents of plant disease will be considered. Etiology and ecology of host-parasite relationships will be emphasized via examination of selected economically and/or aesthetically important plant diseases. (3-0-4) Prerequisite: BISC 326 or 337 with a grade of C- or better.

BISC 431-4 Molecular Biotechnology
Laboratory with accompanying lectures to give practical experience in the application of recombinant DNA technology to basic and applied research. (3-0-6) Prerequisite: BISC 331 with a grade of C- or better. Corequisite: MBB 322 and/or BISC 402 concurrently.

BISC 432-3 Chemical Pesticides and the Environment
The physical, chemical and biological properties of chemical pesticides; risks and benefits associated with their use in pest management. (3-1-0) Prerequisite: MBB 321 or 322 with a grade of C- or better. Recommended: for those who wish entry to the master of pest management program.

BISC 434-3 Paleoecology and Palynology
The principles of paleoenvironmental reconstruction, emphasizing the study of pollen grains, spores, and other microfossils in solving problems of paleobiology and earth history. (2-0-4) Prerequisite: minimum 60 credit hours including BISC 204 with a grade of C- or better, or GEOG 215. Some background in botany, biogeography, or earth sciences is desirable.

BISC 435-3 Introduction to Pest Management
Survey of the natures, causes and consequences of pest problems and of the natural and applied factors and processes that determine their occurrence and intensity. (3-0-0) Prerequisite: BISC 317 with a grade of C- or better, or 75 semester hours of credit.

BISC 439-3 Industrial Microbiology
This course introduces students to the use of microorganisms in biotechnology, e.g. in the environmental, pharmaceutical and chemical industries. The laboratory includes principles of biology, biochemistry of industrial microorganisms and their use in processes such as fermentation, bioremediation, chemical synthesis and protein production. The laboratory component is designed as a series of exercises that form a complete research project. (2-0-6) Prerequisite: BISC 303 or equivalent.

BISC 440-3 Practicum III
Third semester of work experience in the Biological Sciences co-operative education program. Prerequisite: BISC 342 and readmission to the science co-operative education program.

BISC 444-0 Practicum IV
Fourth semester of work experience in the biological sciences co-operative education program. Prerequisite: BISC 443 and readmission to the science co-operative education program.

BISC 445-3 Environmental Physiology of Animals
A discussion of the physiological mechanisms and adaptations which permit animals to live in diverse environments. The course will adopt a comparative approach to physiology. (3-1-0) Prerequisite: BISC 305 with a grade of C- or better.

BISC 446-0 Practicum V
Fifth semester of work experience in the biological sciences co-operative education program. Prerequisite: BISC 444-0 and readmission to the science co-operative education program.

BISC 449-3 Experimental Techniques III: Histochemistry
Techniques in histochemistry. Principles and application of bright-field-phase contrast fluorescence and interference microscopy; microspectrophotometry. (1-1-6) Prerequisite: BISC 329 with a grade of C- or better.

BISC 453-3 Advanced Developmental Biology
Intensive examination of the recent research literature in modern molecular studies of the development and differentiation of animal systems. Emphasis will be on molecular mechanism which underlie basic development phenomena. (3-0-0) Prerequisite: BISC 333 (or 203) and 331 with a grade of C- or better.

BISC 455-3 Endocrinology
A study of endocrine organs and their role in integrating physiological functions in animals. (3-1-0) Prerequisite: BISC 305 and one of BISC 306 or 316 with a grade of C- or better.

BISC 457-3 Plant Molecular Biology and Biotechnology
An introduction to plant molecular biology and the techniques and applications of plant genetic engineering. (3-0-4) Prerequisite: BISC 331 with a grade of C- or better, or permission of the department.

BISC 471-3 Special Topics in Biology
Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

BISC 472-3 Special Topics in Biology
Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

BISC 473-3 Special Topics in Biology
Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

BISC 475-3 Special Topics in Biology
Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

BISC 476-3 Special Topics in Biology
Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

BISC 478-3 Special Topics in Biology
Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

BISC 490-3 Undergraduate Research I
Prerequisite: 90 semester hours. A student will be permitted to enroll in this course only if he/she obtains the prior written agreement of a professor to act as research advisor.

BISC 498-3 Undergraduate Research II
Prerequisite: Completion of all lower division biological sciences courses, plus upper division BISC courses appropriate to the subject of the intended research as determined by the departmental undergraduate curriculum committee.

BISC 499-3 Undergraduate Research III
Prerequisite: Completion of all lower division biological sciences courses, plus upper division BISC courses appropriate to the subject of the intended research as determined by the departmental undergraduate curriculum committee.

Business Administration
Faculty of Business Administration
See also courses listed under Business Administration and Economics (BUEC).

All upper division BUS courses have a prerequisite of 60 credit hours. However, approved Business Administration majors or minors may take 300 division BUS courses upon completion of 45 credit hours. For a course to be accepted as fulfilling a prerequisite, or for a core course to be accepted in a student’s program in Business Administration, a student must have obtained a minimum grade of C- (C minus).
BUS 207-3 Managerial Economics
Emphasis is upon the relevance of economic models to business decision-making and, in particular, upon the rational analysis of choice alternatives within the firm. Course will include consideration of optimizing techniques and analysis of risk, demand, production and profit in addition to examination of long-term investment decisions and business forecasting. (lecture/tutorial) Prerequisite: ECON 103, 105; MATH 157; 15 credit hours. Students with credit for ECON 301 or BUS 307 may not take BUS 207 for further credit.

BUS 225-0 Co-op Practicum I
This is the first semester of work experience for students in the Co-op program. It provides an opportunity to integrate theory and practice. This course is open only to co-op students. The co-op program co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

BUS 237-3 Introduction to Computers and Information Systems in Business
An introduction to computer based information systems and to their applications in business, including a discussion of issues involved in the use of information systems by management. The course also provides hands on tutorial experience in the use of computers, with particular emphasis on business applications of micro computers. (lecture/tutorial) Prerequisite: 15 credit hours. Students who have obtained credit for, or are currently enrolled in a computing science course at the 200 level or higher may not take BUS 237 for further credit. Students may not receive credit for both BUS 237 and 337.

BUS 242-3 Introduction to Financial Management
This course is designed to introduce students to the concepts and techniques of corporate financial analysis. The goal is to provide them with the skills and understanding necessary to apply financial tools in a work-related context. Three primary financial functions are considered: management of working capital, the investment decision, and funds acquisition. The course also covers issues from financial accounting related to the development of financial statements and financial statement analysis. Prerequisite: MATH 110. Special Instructions: This course is only open for credit to students in the integrated studies program within the bachelor of general studies degree.

BUS 251-3 Financial Accounting I
An introduction to financial accounting, including accounting terminology, understanding financial statements, analysis of a business entity using financial statements. Includes also time value of money and a critical review of the conventional accounting system. (lecture/tutorial) Prerequisite: 15 credit hours.

BUS 254-3 Managerial Accounting I
Theory and methods of cost compilation for managerial planning, control and decision making; the use of budgets and analysis in planning and controlling operations, establishing supervisory and departmental responsibility, and various techniques of measuring results. (lecture/tutorial) Prerequisite: BUS 251; 15 credit hours. Students with credit for BUS 324 or 328 may not take BUS 254 for further credit.

BUS 272-3 Behavior in Organizations
Theories, concepts and issues in the field of organizational behavior with an emphasis on individual and team processes. Core topics include employee motivation and performance, stress management, communication, work perceptions and attitudes, decision-making, team dynamics, employee involvement and conflict management. (lecture/tutorial) Prerequisite: 15 credit hours; one of ENGL 101, 102, 103, 104, 105, 199, PHIL 101, 100, 120.

BUS 303-3 Business, Society and Ethics
This course examines and reviews contemporary thinking on the changing role of business and business persons in the operations of society, particularly Canadian society. The course explores the changing legal, ethical and regulatory environments of business focusing on the critical alignments - values, policies, technology and legal approaches - between the modern organization and its broader public. (lecture) Prerequisite: 60 credit hours.

BUS 312-4 Introduction to Finance
Role and function of financial managers, financial analysis, compound interest valuation and capital budgeting, management of current assets, introduction to financial instruments and institutions. (lecture/tutorial) Prerequisite: BUS 254 (or 324); 60 credit hours. Recommended: BUS 207 or ECON 301.

BUS 315-4 Investments
Investments from an individual and institutional point of view. Topics include: bond valuation and the term structure of interest rates, stock valuation, portfolio theory, asset pricing models, efficient markets and portfolio performance evaluation. (lecture/tutorial) Prerequisite: BUS 254 (or 324); 60 credit hours.

BUS 316-3 Derivative Securities
The role derivative securities, mainly options and futures contracts, in controlling risk and enhancing profit opportunities. Valuation of derivative securities. The organization of options and futures markets and the mechanics of trading. (lecture) Prerequisite: BUS 312, BUEC 333; 60 credit hours. Students with credit for BUS 416 may not take BUS 316 for further credit.

BUS 319-3 Integrative Financial and Managerial Accounting
For students planning further course work in accounting. Its integrative approach includes financial and managerial accounting topics, alternative accounting models, accounting systems and accounting data management, international accounting and accounting ethics. (lecture/tutorial) Prerequisite: BUS 254 (or 324 or 328), 237 and 60 credit hours. Students with credit for BUS 252 may not take BUS 319 for further credit. Corequisite: BUS 254 can be taken concurrently with BUS 319.

BUS 320-3 Financial Accounting: Assets
In-depth coverage of the accounting methods, problems and limitations associated with assets. Alternative valuation bases will be emphasized and illustrated together with the impact on income. Integration of theory and practice in relation to the treatment of assets. (lecture/tutorial) Prerequisite: BUS 319; 60 credit hours.

BUS 321-3 Financial Accounting: Equities
In-depth coverage of accounting, methods, problems, and limitations, associated with liabilities and owners’ equity. An introduction to the unique aspects and issues of accounting for not-for-profit organizations will also be provided. (lecture/tutorial) Prerequisite: BUS 320-3; 60 credit hours.

BUS 325-0 Co-op Practicum II
This is the second semester of work experience for students in the Co-op program. It provides an opportunity to integrate theory and practice. This course is open only to co-op students. The co-op program co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

BUS 326-0 Co-op Practicum III
This is the third semester of work experience for students in the Co-op Program. It provides an opportunity to integrate theory and practice. This course is open only to co-op students. The co-op program co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

BUS 327-0 Co-op Practicum IV
This is the fourth semester of work experience for students in the Co-op Program. It provides an opportunity to integrate theory and practice. This course is open only to co-op students. The co-op program co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

BUS 329-3 Income Taxation for Business
Decision-Making
An examination of the underlying principles, concepts and methodology of income taxation in Canada, with emphasis upon the use of current reference sources. The course focus will be upon business taxation. (lecture) Prerequisite: 60 credit hours. Corequisite: BUS 321 or permission of Faculty.

BUS 336-4 Management Science
The application of Management Science techniques to the analysis of marketing, finance, production, or organizational and administrative problems. (lecture/tutorial) Prerequisite: MATH 157 and BUEC 232, 60 credit hours.

BUS 343-3 Introduction to Marketing
The environment of marketing; relation of social sciences to marketing; evaluation of marketing theory and research; assessment of demand, consumer behavior analysis; market institutions; method and mechanics of distribution in domestic, foreign and overseas markets; sales organization; advertising; new product development, publicity and promotion; marketing programs. (lecture/tutorial) Prerequisite: 60 credit hours.

BUS 344-3 Business to Business Marketing
This course deals with the marketing of products and services to industrial and other non-consumer sector buyers. The student will be expected to apply previously acquired marketing skills to purchasing situations which arise between organizations. Due to the nature of manufacturing activity in this province, industrial marketing will be approached from a resource industry based standpoint where discussions permit. (lecture/tutorial) Prerequisite: BUS 343; 60 credit hours.

BUS 346-3 International Business
Study of international environment and its impact on business behavior: cultural, social, economic and institutional factors; major functions of international business; export and import trade, foreign investment, production and marketing operations; theoretical principles, government policies, business practices. (lecture) Prerequisite: BUS 312 or ECON 345; 60 credit hours. BUS 312 or ECON 345 can be taken concurrently. It is recommended that students take these courses concurrently.

BUS 347-3 Consumer Behavior
A study of the manner in which decisions are made in the market place, by both the ultimate consumer and the industrial buyer. Course will include consideration of consumer decision processes, individual and group influences and special cases such as brand loyalty and consumerism. (lecture/tutorial) Prerequisite: BUS 343; 60 credit hours.

BUS 360-3 Business Communication
This course is designed to assist students to improve their written and oral communication skills in business settings. The theory and practice of business communication will be presented. Topics include analysis of communication problems, message character, message monitoring, message media. Exercises in individual and group messages and presentations will be conducted. (lecture) Prerequisite: 60 credit hours.
BUS 362-4 Information Analysis and Systems Design
The course focuses on the various issues involved in investigating, analyzing, and designing systems, and the strategies used to manage the process. In addition, students will make use of computer-aided software engineering (CASE) tools in laboratory, performing their systems analysis and design. (seminar/laboratory) Prerequisite: BUS 237; 60 credit hours.

BUS 364-3 Information Systems in Organizations and Society
This course is directed at the student as a consumer and a manager of systems within organizations, and as a member of society. We will discuss the use of information technology in the functional areas of business as a method of control as well as its implication in improving efficiency and effectiveness within organizations. The student will be encouraged to form his/her own opinions about this very pervasive technology. (lecture) Prerequisite: BUS 237; 60 credit hours.

BUS 374-3 Organization Theory
This course will examine theories of organization which use the organization as a basic unit of analysis. It will show how the structure and internal processes of an organization are linked to and partially determined by forces in the external environment of the organization. Contextual factors such as the technology and corporate strategy of the organization will also be examined. (lecture/tutorial) Prerequisite: BUS 272 (or 372).

BUS 380-3 Comparative Management
This course examines the major similarities and differences in management systems and practices in a variety of countries, including western Europe, East Asia, Middle East, and Latin America. Topics include the following: comparative management frameworks, managing cultural differences, cross-cultural business negotiations, and international human resource management. (seminar) Prerequisite: BUS 346; 60 credit hours. Students with credit for BUS 430 may not take BUS 380 for further credit. Recommended: BUS 374.

BUS 381-3 Introduction to Human Resource Management
Subjects include human resource planning, job analysis and design, recruitment, employment equity, selection and placement, performance appraisal, compensation and benefits, training and development, occupational health and safety, and industrial relations. For each subject an overview of current Canadian issues and practices is presented. (lecture/tutorial) Prerequisite: BUS 272 (or 372); 60 credit hours.

BUS 393-3 Commercial Law
Common law, equity, and statute law; contracts, agency, and negotiable instruments; partnership and corporation law; international commercial law. (lecture/tutorial) Prerequisite: 60 credit hours. BUEC 391 is not to be taken concurrently with BUS 393.

BUS 394-3 Selected Topics in Business Administration
The subject matter will vary from semester to semester depending upon the interest of Faculty and students. (lecture/tutorial) Prerequisite: permission of the Faculty; 60 credit hours.

BUS 395-3 Selected Topics in Business Administration
The subject matter will vary from semester to semester depending upon the interest of faculty and students. (lecture/tutorial) Prerequisite: permission of the Faculty; 60 credit hours.

BUS 403-3 Seminar in Business and Society
Advanced topics in business and society. Specific emphasis may vary and may include the evolution of the business system in Canada, foreign investment and its impact, consumerism, environmental protection, business ideologies, etc. (seminar) Prerequisite: 90 credit hours.

BUS 410-3 Financial Institutions
An examination of financial institutions and the markets in which they operate. Topics may include: institutional structure, financial contract forms, valuation and pricing relationships, financial intermediation, financial transacting, the regulatory environment, risk measurement and hedging strategies. (seminar) Prerequisite: BUS 315 and 316; 60 credit hours.

BUS 413-4 Corporate Finance
Corporate decisions in the context of financial markets. Topics include: real asset investments, financing alternatives, dividend policy, working capital management, and corporate securities valuation. (seminar) Prerequisite: BUS 315 and 316; 60 credit hours.

BUS 418-3 International Financial Management
An introduction to international financial markets and institutions and to the management of assets and liabilities in an international/multinational setting. Topics to be covered include: exchange rate determination and management of foreign exchange risk; interest rate swaps; international portfolio management; comparative markets; and country risk. (seminar) Prerequisites: BUS 315 and 316; 60 credit hours.

BUS 420-3 Advanced Accounting
In-depth coverage of advanced accounting topics, specifically issues relating to business combinations and foreign currency. Consideration is also given to the interpretation and analysis of financial statements. (seminar) Prerequisites: BUS 321; 60 credit hours.

BUS 421-3 Accounting Theory
Consideration of methods by which accounting theory is developed and examination of specific models including historical costs, replacement costs, resale price and price level adjustment models. (seminar) Prerequisites: BUS 321, and BUS 207 or ECON 301; 60 credit hours.

BUS 422-3 Managerial Accounting II
Process costing; joint and by-product costing; inventory planning and control; cost accounting and statistical methods, relationship to operations research. (seminar) Prerequisites: BUS 319, BUEC 333, 75 credit hours.

BUS 425-0 Co-op Practicum V
This is the fifth semester of work experience for students in the accounting co-op program. It provides an opportunity to integrate theory and practice. This course is open only to accounting co-op students. The co-op program co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

BUS 426-3 Auditing Concepts and Methods
A study of the conceptual foundations and the nature and purpose of the external audit function. The course will also discuss some of the more recent developments in auditing such as comprehensive auditing, computer auditing, and the use of statistical methodology in auditing. (seminar) Prerequisite: BUS 321 and 60 credit hours.

BUS 431-3 Business with East Asian Countries
This course examines the opportunities and challenges of doing business with the Pacific Rim countries such as China, Japan, and Korea. Topics include the following: the political and economic systems as they affect foreign investment; social and cultural systems as they affect management practices; the conduct of business negotiations for market entry; and marketing strategies. (seminar) Prerequisite: BUS 346; 60 credit hours.

BUS 432-3 International Human Resources Management
Significance of multinational complexity and diversity (cultural, economic, demographic, etc.) to the human resource function. Interplay among human resource functions (employee procurement, allocation, utilization), types of employees, and countries of operation. (seminar) Prerequisite: BUS 346 and 381, 60 credit hours.

BUS 435-3 Management of International Firms
Strategic requirements for the management of multinational corporations. Firm-specific and institutional challenges facing global managers in formulating and implementing profitable strategies. (seminar) Prerequisite: BUS 346; 60 credit hours.

BUS 437-3 Decision Analysis in Business
A seminar in the use of Bayesian techniques in business decisions. (seminar) Prerequisite: BUEC 333; 60 credit hours.

BUS 439-3 North American International Trade Issues
Examines contemporary international trade in a historical and policy context from the perspective of North American business. Concentrates on the development of trade policy in Canada, the United States and Mexico. Studies the North American Free Trade area, GATT and other international trade organizations and issues. (seminar) Prerequisite: BUS 346 and 380, 60 credit hours.

BUS 440-4 Simulation in Management Decision Making
Development and use of simulation models as an aid in making complex management decisions. Hands on use of business related tools for computer simulation. Issues related to design and validation of simulation models, the assessment of input data, and the interpretation and use of simulation output. (seminar) Prerequisite: BUS 336, BUEC 333, 60 credit hours.

BUS 442-3 Introduction to Marketing Research
A course in the management of marketing research. The basics of the design, conduct, and analysis of marketing research studies. (seminar) Prerequisite: BUS 343, BUEC 333; 60 credit hours.

BUS 445-3 Analysis of Data for Management
The analysis and interpretation of data, particularly multivariate data. This course is complementary to BUS 442 but may be taken independently. Applications in management science and information systems, organizational behavior and other areas as well as in marketing will be examined. (seminar) Prerequisite: BUS 343, BUEC 333, 60 credit hours.

BUS 446-4 Marketing Strategy
Marketing strategy focuses on the analysis of market problems and opportunities and the development of appropriate strategies. Topics include: analytical techniques, strategic planning methods and managerial problems of planning. Case analysis and problem solving will be the major orientation of the course. (seminar) Prerequisite: BUS 312, BUS 347; 60 credit hours.

BUS 447-3 International Marketing Management
The marketing of goods and services in an international context, with emphasis on Pacific Rim countries. Theoretical concepts, environmental influences, researching and forecasting international markets. The management of international marketing. (seminar) Prerequisite: BUS 343; 60 credit hours. Recommended: BUS 346.

BUS 448-4 Advertising and Sales Promotion
An integrative approach to the study of promotion including advertising publicity, personal selling and sales promotion; evaluation of the role promotion has
in marketing and the economy; formulation and analysis of promotional goals, planning, organizing and controlling; utilization of market research studies; forecasting, budgeting, media selection; promotion institutions. (seminar) Prerequisite: BUS 347; 60 credit hours.

BUS 449-3 Marketing and Society
A critical examination of topics such as consumerism, marketing ethics, and social responsibility, efficiency of marketing or ecological marketing. The particular emphasis may vary depending on the interests of the class and instructor. (seminar) Prerequisite: BUS 347; 60 credit hours.

BUS 450-3 Theoretical Issues in Strategic Management
An investigation of the theoretical basis of strategic management, particularly in the areas of strategic decision making, strategy formulation and implementation. (seminar) Prerequisite: BUS 478; 60 credit hours.

BUS 452-3 Seminar in Advanced Strategic Analysis
The seminar presents advanced techniques for indepth analysis of industries and competitors, and for formulating a competitive strategy. It builds on the concepts of business policy developed in BUS 478. The course draws on contemporary research in business strategy and industrial economics. (seminar) Prerequisite: BUS 478 or permission of the faculty; 60 credit hours.

BUS 462-4 Management Support Systems
This course is designed to familiarize the student with theories, tools and techniques for management support systems. The course will cover topics from decision support systems (DSS), executive support systems (ESS) and expert systems (ES). It will cover a variety of DSS, ESS and ES tools ranging from spreadsheets to fourth generation languages accessing corporate databases, to expert system shells and executive support system builders. (lecture/laboratory) Prerequisite: BUS 336 and 362 or 364; 60 credit hours.

BUS 466-3 Managing Data Communications
The students will be exposed to business issues in the planning, implementation and management of data communications in organizations. They will study the changes taking place in industry as a result of new data communications technology. Also, they will become familiar with the various technical levels of communications systems, and the various standards and configurations that are currently being used. The Novell NetWare LAN system will be used as an example of a communications system, to demonstrate issues and operations required of a communications network manager. (seminar) Prerequisite: BUS 362 or 364; 60 credit hours.

BUS 468-3 Management Issues in Information Systems
The focus of this course is on the management, not the technical, issues surrounding Information Technology. Using cases, the course will introduce various theories and models of the management of information technology (IT), the application of IT to management situations, and some of the current issues surrounding IT. (seminar) Prerequisite: BUS 364; 60 credit hours. Corequisite: BUS 462 and/or 466 can be taken concurrently with BUS 468.

BUS 472-3 Seminar in Organizational Behavior
Advanced topics in organizational behavior. Specific emphasis may vary depending on special interest of faculty. However, general content will extend basic theories and problem descriptions covered in BUS 272 and 374 and will include advanced organizational theory and special topics in personnel. (seminar) Prerequisite: BUS 272 (or 372) or 374; 60 credit hours.

BUS 473-4 Operations Management
The management of operating systems including allocation and scheduling of resources; control of costs, inventories, quality, and manpower; design of operating systems including location, layout and manpower; establishment of work methods and standards. (seminar) Prerequisite: BUS 336; 60 credit hours.

BUS 477-4 New Venture Planning
Emphasis will vary but may include in any given semester consideration of small business in the Canadian economy, career comparisons in small and large businesses, evaluation of new ventures, organization, capitalization, planning, marketing and financial management. (seminar) Prerequisite: BUS 312, BUS 343; 90 credit hours.

BUS 478-3 Seminar in Administrative Policy
Integration of the various areas of business for the purpose of analysing and recommending strategies for planning and decision-making within the firm and a defined environment. (seminar) Prerequisite: 90 credit hours and completion of the core business courses.

BUS 481-3 Human Resource Planning and Staffing
Development of specific manpower objectives from an analysis of organizational goals and strategy. An analysis of procedures and skills which are used to translate objectives into staffing decisions such as employee selection and placement. (seminar) Prerequisite: BUS 272 (or 372), BUEC 232 (or STAT 270), and BUS 381; 60 credit hours.

BUS 482-3 Reward Systems and Employee Development
The design and administration of reward systems and employee development programs. How these systems and programs are affected by internal and external factors such as organizational goals, corporate strategy, technology, labor markets, and government regulations. (seminar) Prerequisite: BUS 272 (or 372) and BUS 381; 60 credit hours.

BUS 484-3 Workplace Industrial Relations
The administration of the day-to-day employment relationships of both unionized and non-unionized settings. Workplace industrial relations as a system of resolving conflicts between employee and employer interests and its implications for the attainment of due process in the workplace and the flexibility and efficiency of work organization. (seminar) Prerequisite: 60 credit hours; one of BUS 381 or BUEC 384.

BUS 487-3 Organizational Development and Change
This course examines the underlying concepts, principles and assumptions of organizational development. Throughout the organization, organizations are viewed as systems composed of subsystems in dynamic interaction. (seminar) Prerequisite: 60 credit hours, BUS 374 or 381.

BUS 488-3 Human Relations in Business
The study of individual and group behavior in business organizations; management-employee relations; systems of communication; role and status; compensation, motivation, morale and productivity; organizational conflict, change and balance. (seminar) Prerequisite: 60 credit hours, BUS 374 or 381.

BUS 492-3 Selected Topics in Business Administration
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (seminar) Prerequisite: permission of the faculty; 60 credit hours.

BUS 493-3 Selected Topics in Business Administration
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (seminar) Prerequisite: permission of the faculty; 60 credit hours.

BUS 494-3 Selected Topics in Business Administration
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (seminar) Prerequisite: permission of the faculty; 60 credit hours.

BUS 495-3 Selected Topics in Business Administration
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (seminar) Prerequisite: permission of the faculty; 60 credit hours.

BUS 496-5 Selected Topics in Business Administration
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (seminar) Prerequisite: permission of the faculty; 60 credit hours.

BUS 497-4 Directed Studies
Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: permission of the faculty; 60 credit hours.

BUS 498-5 Directed Studies
An intensive and independent reading and research course on topics selected in consultation with the supervising instructor, and approved by the dean of the faculty. Prerequisite: permission of the faculty; 60 credit hours.

Business Administration and Economics
Faculties of Business Administration and Arts
See also course descriptions for Business Administration (BUS) and Economics (ECON).

BUEC courses are offered jointly by the Faculty of Business Administration and the Department of Economics. They may count for credit in either Business Administration or Economics programs, but not for both.

A student may not receive credit for both BUEC courses and (former) ECON/COMM courses which have the same number.

For a course to be accepted as fulfilling a prerequisite, or for a required course to be accepted in a student’s economics program, a grade of C- or higher must be obtained.

BUEC 232-3 Elementary Economic and Business Statistics I
An introduction to elementary statistical techniques with emphasis on their application to business and economics. Students will be required to carry out projects of individual interest. (lecture/tutorial) Prerequisite: MATH 157 and 15 credit hours. MATH 157 may be taken concurrently with BUEC 232. STAT 270, Introduction to Probability and Statistics, will be accepted in lieu of BUEC 232. Students with credit for STAT 270 may not take BUEC 232 for further credit.

BUEC 280-3 Introduction to Labor Economics
Basic analysis of the labor market and the industrial relations system with emphasis on the major issues of public policy in Canada. (lecture/tutorial) Prerequisite: ECON 103 or 290 and 105 or 205. Students who have taken ECON 301, 305 or 381 may not take BUEC 280 for further credit.
BUEC 333-3 Elementary Economic and Business Statistics II
An introduction to more advanced statistical techniques including an introduction to econometrics and operations research. Students will be required to apply statistical techniques discussed to data they collect in analysing problems of individual interest. (lecture/tutorial/laboratory) Prerequisite: ECON 103 or 200, 105 or 205, BUEC 232 or STAT 270, MATH 157 and 30 credit hours. Students with credit for ECON/COMM 236 may not take BUEC 333 for further credit.

BUEC 384-3 Industrial Relations
This course examines industrial relations systems, focusing on the economic and policy environment and how this shapes the strategic choice of alternate employment systems. Characteristics, conflict resolution processes and outcomes of various employment systems will be examined. (lecture/tutorial) Prerequisite: ECON 103 or 200 or 205; 60 credit hours. Students with credit for BUEC 386 may not take BUEC 384 for further credit. Recommended: BUS 272.

BUEC 391-3 Law in the Economic Society
An introductory examination of the history, evolution and aspirations of the rule of law in general, and as pursued and developed within civil and common law jurisdictions with emphasis on the working of the Canadian Federal and Provincial legislative, administrative and judicial forces, in particular. Students will be encouraged to identify and analyse various socio-economic legal issues and how legal principles are developed within the concepts of Canadian law and its reaction to evolving socio-economic forces that affect our individual and collective legal rights, duties and privileges and powers. (lecture/tutorial) Prerequisite: 60 credit hours. BUEC 391 may not be taken concurrently with BUS 393. Students with credit for BUEC 293 may not take BUEC 391 for further credit.

BUEC 396-3 The Structure of Industry
Examination of the structure, conduct and performance of specific industries, exploring the degree of concentration, the nature and extent of competitive behavior and the factors affecting particular industry patterns. Emphasis will be upon the Canadian economy, and consideration will be given to the efforts and implications of "non-pure" competitive structures, (lecture/tutorial) Prerequisite: ECON 103 or 200 or 205; 60 credit hours.

BUEC 397-5 Government and Business
The theory and practice of the control of monopoly and maintenance of competition. The need for development of public policies with regard to the regulation of business activity; anti-competitive business practices; anti-trust legislation in Canada and the United States and its judicial interpretation; the preservation of competition as a means of regulating private business; alternative approaches to the monopoly problem. (lecture) Prerequisite: ECON 103 or 200 or 205; 60 credit hours.

BUEC 433-5 Forecasting in Business and Economics
Modern techniques of statistical, econometric, population and technological forecasting are presented along with discussions of a wide range of topics including Box-Jenkins methods, leading indicators, survey data, world models and the use of information sets of increasing size. Applied work on the Canadian and BC economies. (lecture/tutorial) Prerequisite: BUEC 333; 60 credit hours.

BUEC 485-3 Collective Bargaining
The collective agreement negotiation process and work stoppage: analytics, experience, legal and market constraints. Contents of the collective agreement, Administration of the collective agreement, Roles of third parties in collective bargaining. (lecture/tutorial) Prerequisite: ECON 103 or 200 or 205 and BUEC 384; 60 credit hours. Students with credit for BUEC 385 or 386 may not take BUEC 485 for further credit.

Canadian Studies Faculty of Arts
CNS 160-3 The Social Background of Canada
This course analyses the foundations and attributes of modern Canadian society using an interdisciplinary approach. As an introduction to Canadian Studies, the major themes of the course are social conflict and social change. Topics include French-English relations, Canada and the United States, ethnicity and multiculturalism, industrialization, regional conflict, social movements, nationalism and Canada's social structure, classes and elites. (lecture/tutorial)

CNS 210-3 Foundations of Canadian Culture
An introductory study of Canada, which uses a variety of disciplinary methods to understand and assess Canada's unique culture. The course draws on material from history, law, literature, politics, sociology and the fine arts in order to explore regional diversity and compare the nation of Canada as a bilingual and multicultural state. (lecture/tutorial)

CNS 280-3 Canadian Political Economy
An introductory study of Canada's political economy, stressing the interrelated nature of Canada's economic and political life. The course focuses on current economic problems and policies, taking into account the geographical, historical and political environments. Topics include the resource and industrial structures, research and development, the public sector, fiscal and monetary policy, the role of the state, trade and foreign ownership, energy, regional disparity, corporate concentration and the political economy of federalism. (lecture/tutorial)

CNS 360-4 Interdisciplinary Readings in Canadian Studies
Allows students to pursue in depth a particular Canadian problem from an interdisciplinary perspective. Prerequisite: 60 credit hours. Please refer to course outline before registering.

CNS 390-3 Hockey in Canadian Popular Culture
The game of hockey is perhaps the most central and pervasive form of popular culture in Canada. It has been called the "tie that binds," the "common passion," and the "Canadian game." This course seeks to create a critical understanding of how hockey's significance extends far beyond the ice rink into the cultural, economic and political spheres of Canadian society. (lecture/tutorial) Prerequisite: at least 60 credit hours. Students who have taken this course as CNS 390 Topics in Canadian Popular Culture cannot take this course for further credit.

CNS 391-3 Special Canadian Topics
An intensive interdisciplinary exploration of particular topics that illustrate aspects of the Canadian reality. (seminar) Prerequisite: 60 credit hours.

CNS 392-3 Cyberspace: The Next Canadian Frontier?
Examines cyberspace and virtual reality as the next Canadian frontier to be explored. The cross-section of material from various disciplines will be used as a starting point to study the advancements in cyberspace and virtual reality research, with an aim to situate a "Canadian cultural consciousness," and/or a "Canadian sensibility" towards this new and burgeoning "space." (seminar) Prerequisite: 60 credit hours. Students who have taken CNS 391 Special Canadian Topics: Cyberspace: the Next Frontier? may not take CNS 392 for further credit.

CNS 481-3 Special Regional Topics
The role of the regions of regionalism in Canada is increasingly problematical, as the burden of the unity debate extends outwards from the Ontario/Quebec divide. This seminar will provide students with grounding in interdisciplinary readings pertaining to the topic and an opportunity to pursue directed research on a specific topic of their choice. (0-3-0) Prerequisite: 60 credit hours. Students who have taken CNS 481 Special Topics may not take CNS 481 for further credit.

CNS 490-5 The Canadian Intellectual Tradition
An interdisciplinary seminar examining some of the major forces that have shaped and continue to shape Canadian thought, expression and society. Materials and theories will be drawn from historiography, history, philosophy, religion, politics, political economy, policy studies, literature, art and sport. Prerequisite: at least 60 credit hours.

CNS 491-3 Technology and Canadian Society
This course examines and assesses technology and its impact on Canadian society. It concentrates on 20th century technology and uses a case study approach examining some broad themes in the study of technology such as: technological determinism, technological impact assessment, innovation, technology as progress, technological dependency, technological sovereignty, and bias in technology. Prerequisite: at least 60 credit hours.

CNS 495-5 Canadian Studies Honors Essay
An essay required of each honors student in Canadian Studies, based on a substantial interdisciplinary research effort by the student under the supervision of Canadian Studies faculty in the appropriate disciplines. A paper based on the essay must be presented in a Canadian Studies seminar. (independent study) Prerequisite: registration as honors student in Canadian Studies.

Chemistry Faculty of Science
See also courses listed under Nuclear Science (NUSC).

Students are not normally permitted to register in chemistry courses for which a grade of D was obtained in any prerequisite.

For courses marked with an asterisk (*), tutorials will be held in the open workshop format, i.e. unstructured periods each week when teaching assistants are available to answer questions and help with problem assignments.

Graduate Courses
Graduate courses are available to senior undergraduate students for upper division chemistry credit. Refer to the Graduate Studies section and consult an advisor for specific course offerings.

CHEM* 110-3 Introductory Chemistry
General fundamental concepts and nomenclature; stoichiometry and chemical calculations; nuclear and atomic structures, chemical bonding; properties of gases, liquids, solids and solutions; chemical kinetics and chemical equilibrium. This course has the same lecture component as CHEM 111 but no laboratory work. Students who intend to take further laboratory courses in chemistry must take CHEM 111. (3-1-0) Prerequisite: BC high school mathematics 12 (or equivalent) or permission of the department. No previous training in chemistry is required for this course. Students with credit for high school chemistry 12 (or equivalent), or any university chemistry course may not take CHEM 110 or 111 for further credit.

Students may not count both CHEM 110 and 111 for credit. Corequisite: If BC high school mathematics 12 credit not obtained, then MATH 100 must be taken as a corequisite to CHEM 110.
CHEM* 111-4 Introductory Chemistry and Laboratory
General fundamental concepts and nomenclature; stoichiometry and chemical calculations; nuclear and atomic structures, chemical bonding; properties of gases, liquids, solids and solutions; chemical kinetics and chemical equilibrium. This course includes a laboratory component. (3-1-2) Prerequisite: BC high school mathematics 12 (or equivalent) or permission of the department. No previous training in chemistry is required for this course. Students with credit for high school chemistry 12 (or equivalent), or any university chemistry course may not take CHEM 110 or 111 for further credit. Students may not count both CHEM 110 and 111 for credit. Corequisite: If BC high school Mathematics 12 credit not obtained, then MATH 100 must be taken as a corequisite to CHEM 111.

CHEM* 120-3 General Chemistry I
Atomic and molecular structure; chemical bonding; thermochemistry; elements; periodic table; gases, liquids, solids, and solutions. This course has the same lecture component as CHEM 121 but no laboratory work. Students who intend to take further laboratory courses in chemistry must take CHEM 121. (3-1-0) Prerequisite: BC high school chemistry 12 or CHEM 111 or CHEM 110 (or 101). Students may not count both CHEM 120 and 121 for credit. Recommended: MATH 151 (or 154) and PHYS 120 (or 101) as a corequisite.

CHEM* 121-4 General Chemistry and Laboratory I
Atomic and molecular structure; chemical bonding; thermochemistry; elements; periodic table; gases, liquids, solids, and solutions. This course includes a laboratory component. (3-1-2) Prerequisite: BC high school chemistry 12 or CHEM 111 or CHEM 110 (or 101). Students may not count both CHEM 120 and 121 for credit. Recommended: MATH 151 (or 154) and PHYS 120 (or 101) as a corequisite.

CHEM 122-2 General Chemistry II
Chemical equilibria; electrochemistry; chemical thermodynamics; kinetics. Students who intend to take further laboratory courses in chemistry should take CHEM 122 concurrently with CHEM 126. (2-0-4) Prerequisite: CHEM 121 or 120 (or 102) Recommended: MATH 152 (or 155) and PHYS 121 (or 102) as a corequisite.

CHEM 126-2 General Chemistry Laboratory II
Experiments in chemical equilibria, acids and bases, qualitative analysis, electrochemistry and chemical kinetics. (0-0-4) Prerequisite: CHEM 121 (or 102 and 115). Corequisite: CHEM 122.

CHEM 215-4 Introduction to Analytical Chemistry
The principles of analytical chemistry and their practical application to solution samples. Titrimetric and electrochemical methods. (2-0-4) Prerequisite: CHEM 122 (or 103) and 126 (or 118).

CHEM 230-3 Inorganic Chemistry
The chemistry of the elements and their inorganic compounds in terms of fundamental concepts of ponderity of properties, valence, ionization potential, electron affinity, electronegativity, stability of oxidation states, bonding, structure and stereochemistry. Coordination complexes and organometallic chemistry. (3-1-0) Prerequisite: CHEM 122 (or 103). Corequisite: students who expect to take further courses in inorganic chemistry should take the laboratory course CHEM 236 concurrently with 230.

CHEM 236-2 Inorganic Chemistry Laboratory
An introduction to the synthetic and spectroscopic techniques used in the preparation and characterization of both main group and transition metal compounds. (0-0-4) Prerequisite: CHEM 122 and 126 (or 103 and 118). Corequisite: CHEM 230.

CHEM 260-4 Atoms, Molecules, Spectroscopy
Elements of physical chemistry from the molecular point of view. Introduction to quantum chemistry, atomic and molecular structure, and spectroscopy. (3-1-2) Prerequisite: CHEM 122 (or 103), MATH 152, PHYS 121. Recommended: MATH 232.

CHEM 281-4 Organic Chemistry I
Structure, bonding, physical and chemical properties of simple organic compounds. Introduction to spectroscopy. Kinetics and mechanisms of organic reactions. This course includes a laboratory component. (3-1-2) Prerequisite: CHEM 121. Corequisite: CHEM 122 (or 103).

CHEM 282-2 Organic Chemistry II
Polyfunctional organic compounds and complex organic reactions. Introduction to natural products. (2-1-0) Prerequisite: CHEM 281.

CHEM 286-2 Organic Chemistry Laboratory II
Laboratory work chosen to complement CHEM 282. (0-0-4) Prerequisite: CHEM 281. Corequisite: CHEM 282.

CHEM 306-0 Practicum I
This is the first semester of work experience in a co-operative program available to students planning to pursue a career in chemistry or related areas. Prerequisite: completion of 28 credit hours in a science program, including first-year calculus, chemistry and physics. Minimum CGPA 2.67 (or permission of co-op co-ordinator).

CHEM 307-0 Practicum II
This is the second semester of work experience in the chemistry Co-operative Education program. Prerequisite: CHEM 306 and completion of 42 credit hours toward a BSc degree. Minimum CGPA 2.67 (or permission of co-op co-ordinator).

CHEM 316-4 Introductory Instrumental Analysis
Principles and applications of basic analytical instrumentation based upon spectroscopy, chromatography and electrochemistry. (2-0-4) Prerequisite: CHEM 215 (or 218). Students may not count both CHEM 316 and 416 for credit.

CHEM 317-2 Analytical Environmental Chemistry
Principles and applications of the methodologies of analytical chemistry employed in the determination of substances in air, water, and soil, with particular emphasis upon sampling and sample preparation. (0-0-4) Prerequisite: CHEM 316 and 371. Corequisite: CHEM 372 should be taken concurrently.

CHEM 332-3 The Chemistry of Transition Metals
The synthesis and characterization of classical and organometallic complexes of the transition metals, and their physical and chemical properties. (3-1-0) Prerequisite: CHEM 230 and 236.

CHEM 333-3 Inorganic Chemistry of Biological Processes
An introduction to the principles governing the formation, properties and investigation of metal-ligand complexes with special reference to the role of metals in biological processes. (3-1-0) Prerequisite: BICH 321 (or 301); or CHEM 282 (or 250) and CHEM 230 (or 223).

CHEM 336-2 Advanced Inorganic Chemistry Laboratory
Laboratory experiments in co-ordination, organometallic and solid state chemistry, inorganic synthesis, characterization and spectroscopy. (0-0-4) Prerequisite: CHEM 236. Corequisite: CHEM 332 must precede or be taken concurrently.

CHEM 340-3 Materials Chemistry
Bonding in solid state materials. Introduction to symmetry and its applications in materials science. Structure and physical properties of solid state materials. (3-1-0) Prerequisite: completion of 60 credit hours in a science or applied science program, including first year chemistry, physics and calculus.

CHEM 360-3 Chemical Kinetics and Thermodynamics
Elements of physical chemistry from the macroscopic point of view. Thermodynamics, and its applications to chemical equilibrium. Chemical kinetics and reaction rate theories. (3-1-0) Prerequisite: CHEM 122 (or 103), MATH 152 (or 155), PHYS 121 (or 102). Recommended: MATH 251.

CHEM 366-2 Physical Chemistry Laboratory I
Experiments in thermodynamics, chemical kinetics, electrochemistry, and atomic and molecular structure. (0-0-4) Prerequisite: CHEM 260. Corequisite: CHEM 360.

CHEM 367-2 Physical Chemistry Laboratory II
Continues CHEM 366. (0-0-4) Prerequisite: CHEM 366.

CHEM 371-3 Chemistry of the Aqueous Environment
An introduction to chemical processes in the aqueous environment. Quantitative treatment of the variables determining the composition of natural systems. Chemistry of aqueous toxic agents, wastewater treatment, and related matters. (3-1-0) Prerequisite: CHEM 281 (or 150) and CHEM 360 (or 261).

CHEM 372-3 Chemistry of the Atmospheric Environment
Quantitative treatment of chemical and physical processes in the atmospheric environment. Chemistry of the troposphere including air pollution and climate change. Chemistry of the stratosphere including ozone depletion. Environmental radioactivity. Current topics. (3-1-0) Prerequisite: CHEM 281 (or 150) and CHEM 360 (or 261).

CHEM 380-4 Chemical and Instrumental Methods of Identification of Organic Compounds
Basic principles of infrared, ultraviolet, nuclear magnetic resonance and mass spectroscopy as applied to the identification of organic compounds. (2-0-4) Prerequisite: CHEM 282 and 286 (or 250 and 255).

CHEM 406-0 Practicum III
This is the third semester of work experience in the chemistry Co-operative education program. Prerequisite: CHEM 307 and completion of 56 credit hours toward a BSc degree. Minimum CGPA 2.67 (or permission of co-op co-ordinator).

CHEM 407-0 Practicum IV
This is the last semester of work experience in the chemistry co-operative education program. Prerequisite: CHEM 406. Minimum CGPA of 2.67 (or permission of co-op co-ordinator).

CHEM 408-0 Practicum V
Optional semester of work experience in the chemistry Co-operative education program. Prerequisite: CHEM 407.

CHEM 411-3 Crystal Structure Analysis
Geometric features of crystals; X-ray and neutron diffraction by single crystals; structure determination and refinement techniques. (3-1-0) Prerequisite: PHYS 121.

CHEM 415-3 Selected Topics in Analytical Chemistry
Principles and applications of emerging techniques in analytical chemistry. (3-1-0) Prerequisite: CHEM 316.

CHEM 432-3 Organotransition Metal Chemistry
The organometallic chemistry of the transition elements; the synthesis, characterization and catalytic behavior of organometallic compounds. (3-1-0) Prerequisite: CHEM 332.
CHEM 439-3 Special Topics in Inorganic Chemistry
An in-depth treatment of a current topic in inorganic chemistry. Contact the department for information regarding the topic to be covered in a given semester. (3-1-0) Prerequisite: CHEM 332.

CHEM 450-3 Mechanistic Organic Chemistry
A study of the structure, stereochemistry and conformation of molecules and their effect on the reactivity of organic molecules. The physical basis of organic chemistry. (3-1-0) Prerequisite: CHEM 360 (or 261) and 380 (or 357). Recommended: CHEM 363.

CHEM 455-3 Organic Synthesis
This course teaches the principles involved in the planning and execution of the synthesis of organic molecules. Emphasis is on synthesis of naturally occurring compounds of biological importance. (3-1-0) Prerequisite: CHEM 380 (or 357) or permission of the instructor.

CHEM 459-3 Special Topics in Organic Chemistry
An advanced, in-depth treatment of a specialized area of organic chemistry. (3-1-0) Prerequisite: CHEM 380 (or 357) or permission of the instructor.

CHEM 460-3 Advanced Physical Chemistry
Statistical thermodynamics, kinetic theory of gases, transport properties, intermolecular forces, electrical properties of molecules, properties of ionic solutions, Debye-Hückel theory, electrochemistry. (3-1-0) Prerequisite: MATH 251; CHEM 260 and 360, or PHYS 385 and 344 (or 244).

CHEM 462-3 Molecular Spectroscopy
Atomic spectra. Electronic, vibrational and rotational spectra of diatomic and polyatomic molecules. The Raman effect. Nuclear and electron spin resonance. Symmetry classification of molecules and their energy levels. (3-1-0) Prerequisite: CHEM 260 or PHYS 385.

CHEM 464-3 Quantum Chemistry
Fundamentals of quantum mechanics and its principal results and techniques as applied to atoms and molecules: atomic structure, molecular bonding, rotations and vibrations of molecules, symmetry of atomic and molecular orbitals. (3-1-0) Prerequisite: CHEM 260, MATH 232, 251; or PHYS 385. Recommended: MATH 310.

CHEM 468-3 Selected Topics in Physical Chemistry
Selected topics of physical chemistry not regularly covered in the chemistry undergraduate course offerings. Topics may vary from year to year and may include (but are not limited to) chemical kinetics, electrochemistry, magnetic resonance, polymer chemistry, surface chemistry. (3-1-0) Prerequisite: CHEM 260 and 360, or permission of the instructor.

CHEM 469-3 Selected Topics in Physical Chemistry
Selected topics of physical chemistry not regularly covered in the chemistry undergraduate course offerings. Topics may vary from year to year and may include (but are not limited to): chemical kinetics, electrochemistry, magnetic resonance, polymer chemistry, surface chemistry. (3-1-0) Prerequisite: CHEM 260 and 360 (or 261 and 360) or permission of the instructor.

CHEM 481-5 Undergraduate Research
Experimental and/or theoretical research; preparation of a written report and oral presentation in research seminar format. Admission requires selection of a faculty supervisor and submission of a research proposal. Prospective students must contact the chemistry advisor to register their interest in this course before the last day of classes of the previous semester. The research proposal is due by the end of the examination period preceding the research semester. Prerequisite: permission of the department; knowledge of chemistry at an advanced level. Normally taken after completion of 300 level course requirements.

CHEM 482-3 Directed Study in Advanced Topics of Chemistry
Directed reading in a topic chosen in consultation with a supervisor. Admission requires selection of a faculty supervisor and submission of a study topic to the department a least one month prior to the start of the semester in which the course will be taken. Prerequisite: permission of the department. Normally taken during the fourth year of study.

CHEM 483-5 Honors Research
Experimental and/or theoretical research; preparation of a written report and oral presentation in research seminar format. Admission requires selection of a faculty supervisor and submission of a research proposal. Prospective students must contact the chemistry advisor to register their interest in this course before the last day of classes of the previous semester. The research proposal is due by the end of the examination period preceding the research semester. Prerequisite: CHEM 481 and permission of the department. Credit for this course may only be applied to the honors chemistry program.

Chinese Faculty of Arts Department of Linguistics

Language Training Institute
Students with a competence in the language beyond the level of the course in which they are registered will be required to withdraw. Students who are not sure of their language level are responsible for seeing that their level of proficiency is assessed prior to registration in the course. Arrangements for proficiency assessment in each language will be announced before the commencement of each semester. Consult the registration handbook or inquire at the Language Training Institute general office for the procedure to be followed.

Native speakers of Chinese (Mandarin or any other Chinese dialect), or students who received their secondary education within a Chinese speaking (Mandarin or any other dialect) community will not be admitted to a 100 or 200 level Chinese language course.

Students who read and write Chinese but speak a dialect other than Mandarin should take CHIN 151.

Students who have taken high school Mandarin courses up to grade 12 will not be admitted to a 100 or 200 level Chinese language course.

Students with some prior knowledge of Chinese who see the department for a placement interview with a Chinese language instructor to be placed at an appropriate level. The department reserves the right to withdraw or to transfer a student to a higher level course should the language proficiency of the student prove greater than initially supposed.

CHIN 100-3 Mandarin Chinese I
Introduction to the study of Mandarin Chinese and to the development of basic oral and written skills. The course will study phonetics, vocabulary, syntax, grammar and culture. (tutorial) Prerequisite: permission of the instructor.

CHIN 101-3 Mandarin Chinese II
Continues to build on all four skills of the language acquired in CHIN 101/102, with special emphasis on improving the students' spoken facility in the language (tutorial) Prerequisite: SFU CHIN 101, 102 or permission of the department. Students with credit for CHIN 201 (taken prior to spring semester 1999) cannot take CHIN 200 for further credit.

CHIN 201-3 Mandarin Chinese IV
Continues to build on all four skills of the language acquired in CHIN 201, with special emphasis on improving the students' spoken facility in the language. (tutorial) Prerequisite: SFU CHIN 200 or permission of the program advisor.

Cognitive Science Faculty of Arts

COGS 100-3 Introduction to Cognitive Science
This course provides a basic integrative overview of how cognitive science aspires to integrate the empirical findings, theories, and methods of psychology, neuroscience, linguistics, computing science and philosophy. (lecture/tutorial) Prerequisite: Open to all students. Students with credit for COGS 200 may not take COGS 100 for further credit.

COGS 300-3 Special Topics in Cognitive Science
An interdisciplinary exploration of recent work on some special topic in cognitive science (such as vision, reasoning, connectionism, etc.) (lecture) Prerequisite: lower division cognitive science course requirements. Students with credit for COGS 400 may not take COGS 300 for further credit.

COGS 490-5 Honors Project I
An in-depth investigation of a topic in Cognitive Science culminating in a critical literature review and the formulation of a research proposal. (seminar/tutorial) Prerequisite: completion of a Cognitive Science topic, culminating in the completion of a substantive piece of research. (seminar/tutorial) Prerequisite: approval of Cognitive Science steering committee after student has completed a cognitive science major and at least two courses specified under honors in the program calendar entry.

COGS 491-5 Honors Project II
Continuation of COGS 490 on a different in-depth investigation of a Cognitive Science topic, culminating in the completion of a substantive piece of research. (seminar/tutorial) Prerequisite: approval of Cognitive Science steering committee either when student has completed COGS 490 or when student is taking COGS 490.

Communication Faculty of Applied Sciences

CMNS 110-3 Introduction to Communication Studies
An introduction to selected theories about human communication. This course is required for a major, honors or minor in communication. (lecture/tutorial)

CMNS 130-3 Explorations in Mass Communication
An introduction to the role of mass communication (radio, television, telecommunications and the press) in Canadian society. This course is required for a
CMNS 200-3 Effective Communication
Introduction to techniques and methods of communicating effectively in complex organizations; with the media, government, the public; in the work place, in local and international business and trade, etc. The challenge of working in meetings, doing research in teams, preparing analytic/technical reports and press statements, managing complex interactive communication processes will be addressed, with special reference to the role of culture, policy, and law, technical change, and potential conflict. (lecture) Prerequisite: 25 credit hours. Recommended: for communication co-op students.

CMNS 205-3 Introduction to Interpersonal/Nonverbal Communication
An examination of the interpersonal dimension of nonverbal communication. Topics include body language, facial expressions, gestures, and acoustics. Consideration will also be given to how nonverbal communication operates through the mass media. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 210-3 Media History
An assessment of the social implications of developments in information technology from prehistory to the middle of the 20th century. Topics include: the origins of symbolic representation; the oral tradition; the significance of different systems of writing and numeration; the consequences of print; and the initial changes brought about by electronic media. (lecture/tutorial) Prerequisite: CMNS 110.

CMNS 220-3 Understanding Television
This course examines television, both as a medium of communication and an element of culture. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 221-3 Media and Audiences
An introduction to the study of popular culture and mass media, with a focus on the organization and role of audiences. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 223-3 Advertising as Social Communication
An interdisciplinary examination of the significance of advertising as a social message system in our consumer society. The course proposes an analytical method for appreciating the changing styles and functions of advertising in the 20th century. (lecture/tutorial) Recommended: CMNS 110 or 130.

CMNS 224-3 Social Issues and Communication
This course introduces students to the foundations of interdisciplinary analysis for the study of communication by examining how social issues are represented within the media and popular culture. The course examines images and arguments that characterize debates over social issues such as poverty, sexuality, morality, crime and the economy. Several critical perspectives on how ‘common sense’ understandings of social issues gain popularity in the media will be analysed in terms of the relationship of power to knowledge and of political economy to systems of representation and communication (lecture/tutorial) Prerequisite: CMNS 110.

CMNS 226-3 Introduction to Digital Video Techniques
This course provides entry level learning experience, introducing students to a variety of approaches to non-broadcast applications of video, including educational, promotional, advocacy, training, and community development. The course also introduces students to the whole range of design and management tasks involved in non-broadcast video production, including proposal writing, storyboarding, scripting, shooting, digitizing, editing, packaging, and presenting their work. (lecture/lab) Prerequisite: CMNS 110, 130 and 220.

CMNS 230-3 Introduction to Communication Media
Provides an overview of the development of broadcasting and telecommunication systems in Canada and their relationship to contemporary society. Topics covered include the history of the CBC, cable television, the domestic film production industry, Canadian satellite development, and alternative media in Canada. (lecture/tutorial) Prerequisite: CMNS 130.

CMNS 235-3 Introduction to Journalism in Canada
An overview of journalism as a social, cultural and political institution in Canada. Topics include: themes of news; print and electronic journalism; journalism and politics; history of Canadian journalism; legal, technological, professional, corporate and ethical influences. (lecture/tutorial) Prerequisite: CMNS 130.

CMNS 240-3 The Political Economy of Communication
Examination of the political and economic processes that have generated the policies and structures of mass media, telecommunications and related industries, and the role of the mass media in determining local, national, and international policy. (lecture/tutorial) Prerequisite: CMNS 130. Recommended: CMNS 230.

CMNS 247-3 International Communication
A survey and analysis of opportunities and constraints in the field of international communication. The course will consider perspectives from which to understand and address regional differences, universal patterns of communication in international relations, and in development co-operation. Comparative and contrastive examples will be drawn from communication practices current in the Asia-Pacific region. (lecture/tutorial) Prerequisite: 45 or more credit hours; at least two lower division courses in Communication. Students with credit for CMNS 346 may not take this course for further credit. Recommended: LING 260 and/or SA 101.

CMNS 253-3 Introduction to Information Technology: The New Media
An introduction to communication/information technologies, seen as new media of communication: the technologies, their uses, and the social issues arising from them. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 258-3 Introduction to Electroacoustic Communication
An introduction to the tape medium as a communicational tool and to electroacoustic aspects of communication in general. Specific techniques of field recording, interviewing, editing, tape transformations, sound object manipulation, and basic studio techniques will be presented and students will use the school’s studio facilities. Applications of the tape medium to such areas as media analysis, aural history, social documentation, interpersonal communication, and tape music composition will be discussed. (lecture/laboratory)

CMNS 259-3 Acoustic Dimensions of Communication I
A course designed to develop the student’s perception and understanding of sound and its behavior in the interpersonal, social, environmental, media and creative fields. The acoustic and psychoacoustic bases of sound will be introduced with special reference to acoustic design, the electroacoustic media, and sonic environments. (lecture/laboratory)

CMNS 260-3 Introduction to Empirical Communication Research Methods
An introduction to empirical research methods in diverse traditions of communication enquiry. Some methods recognize communication as everyday interactions; others analyze communication as a process; still others blend traditional scientific empiricism with analytical and critical methods derived from the arts and humanities. Topics include: paradigms, conceptualizing and operationalizing research, sampling, interviews, surveys, unobtrusive observation, content analysis, and the role of statistics in communication research. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 261-3 Documentary Research in Communication
Media and communication studies often utilize historical, governmental and corporate records. The course introduces the techniques necessary to analyze the primary source documents. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 286-3 Selected Topics
Analysis of a particular topic in the general area of communication. (lecture/tutorial) Prerequisite: CMNS 110 and 130.

CMNS 304-4 Communication and the Language of Everyday Life
An introduction to context theory and media literacy. Films and documentaries are used as texts for the study of communication and popular culture. (lecture/tutorial) Prerequisite: CMNS 205.

CMNS 310-4 Communication Thought in the Evolution of the Social Sciences
An examination of discussions of human communication in the social thought of the 18th and 19th centuries, including that of Rousseau, Monboddo, Marx, Darwin and Tylor. (lecture/tutorial) Prerequisite: CMNS 210.

CMNS 320-4 Children, Media and Culture
The course examines the part played by communication media in children’s lives by reviewing the debates and research in this field. Specific attention will be paid to the issues of violence, literacy, imagination, quality and marketing through an examination of the critical writing and advocacy movements which have arisen around the problem of children’s media. (lecture/tutorial) Prerequisite: CMNS 220 and either CMNS 260 or 363.

CMNS 321-4 The Cultural Production of Popular Music
Examination of the cultural production of popular music with emphasis on the relationship between the nature and strategies of popular music production and the patterns of its audience consumption. (lecture/tutorial) Prerequisite: CMNS 221.

CMNS 323-4 Cultural Dimensions in Advertising
An examination of the way that advertisements use messages to build an elaborate system of meaning. Some cultural dimensions to be studied include fashion, industrial design and popular culture. (lecture/tutorial) Prerequisite: CMNS 260 or 363; CMNS 221 or 223; one of CMNS 220, 226, or 230.

CMNS 326-4 Applied Media Workshop: On The Hill
This course provides an opportunity for students to build on the knowledge they have acquired in Introduction to Digital Video, and apply that knowledge to the production of the School of Communication’s cable program On The Hill. Students will draw on their communication backgrounds to create new and innovative visual communication. In addition, students will learn to apply whole range of design techniques and build teamwork skills as they produce the shows in small groups. The course seminars will emphasize
communication design, and the critical ethical issues which arise when working with documentary and news material for public broadcast. (seminar/ laboratory) Prerequisite: permission of instructor and either CMNS 226 or 286.

CMNS 331-4 Political Communication
An examination of the role of the public and the media in shaping public debate. (lecture/tutorial) Prerequisite: CMNS 230 or 235.

CMNS 333-4 Broadcasting Policy and Regulation in the Global Context
Television - in broadcast, cable and video-on-demand formats - has dominated the cultural industries of Canada. Traditionally seen as important to political and cultural self-determination, broadcasting strategy, business and government policies are now being adapted in view of globalization of technologies which are altering the production, financing, and distribution of new and existing information and entertainment services. This course focuses on developing applied business and public policy analytic skills. Tools of online searches, presentation software, the rudiments of strategic analysis of industrial sectors (strengths, weaknesses, threats, opportunities) and technical policy writing will be covered. A simulation will be staged around a convergence theme drawn from technology, business, or public interest policy issues. (lecture/tutorial) Prerequisite: CMNS 230 253, and 261.

CMNS 334-4 Cultural Policy
Examination of the modern foundations and current policy processes of federal, provincial and municipal policies for the arts, cultural industries and heritage. Related social policies, such as bilingualism and multiculturalism, and the international context of Canadian cultural policy, will also be addressed. (lecture/tutorial) Prerequisite: CMNS 230 and 261.

CMNS 335-4 The Newspaper Industry and Press Policy in Canada
An analysis of the various facets of the Canadian newspaper industry, and of policies and laws that affect the press. (lecture/tutorial) Prerequisite: CMNS 230 or 235, and CMNS 261.

CMNS 342-4 Science and Public Policy I: Risk Communication
The course examines communication in the relation between science (technology) and public policy, and more particularly, in the evaluation of risk. (lecture/ tutorial) Prerequisite: CMNS 260 or 261.

CMNS 345-4 Communication and Development
An introduction to explanations and interpretations of the roles of communication in development, and the historical framework through which such analysis is made. It shows how an unequal structure of world political economy is conserved in association with ever increasing amounts of information and new means to communicate. Examples from Canada and other countries will be used. (lecture/tutorial) Prerequisite: CMNS 110 or 130 and completion of 60 credit hours.

CMNS 347-4 Communication in Conflict and Intervention
The role of communication, and in particular the mass media, in various types of conflict and the uses of communication-based strategies in the intervention, arbitration and mediation of those conflicts. (lecture/ tutorial) Prerequisite: CMNS 382.

CMNS 353-4 Social Contexts of Information Technology
Examination of a particular application of information/ communication technology, focusing on the technology itself and its capabilities; how it is implemented, and what social impacts it has on the people who use it. Emphasis is placed on understanding how the system works in the ongoing social context in which it is developed, installed and used. The specific application studied may vary from semester to semester. (lecture/laboratory) Prerequisite: CMNS 253; and CMNS 261 or 362.

CMNS 354-4 Communication and Social Issues in Design
This course will explore social issues and values in design through a focus on both the objects and processes of design. Emphasis will be placed on communication between participants in the design process, and identification of social issues and values that influence design. Students will work in cross-disciplinary groups through labs. Lab exercises will emphasize making decisions that occur during the design process explicit, and making values that enter into design processes explicit. Prerequisite: 60 credit hours, including any one of CMNS 253; CMPT 275; KIN 201, 205; or ENSC 100.

CMNS 358-4 Sound Tape Recording: Theory and Uses
An intermediate level studio workshop to develop the student's skills in the tape medium and his/her understanding of the communicational implications of sound when processed in that medium. (seminar/ laboratory) Prerequisite: CMNS 258 with a grade of B or higher, and approval of instructor.

CMNS 359-4 Acoustic Dimensions of Communication II
A special topics course and small class work group at an intermediate level in acoustic communication dealing intensively with specific problems in psychoacoustics, acoustic design, soundscape studies, noise in the community, acoustics aspects of social organization, the acoustic aspects, language and interpersonal communication, electronic sound production, media analysis, theories of sound cognition, and information processing. (seminar/ laboratory) Prerequisite: CMNS 259.

CMNS 362-4 Evaluation Methods for Applied Communication Research
Research design and techniques for the study of the introduction, uses and consequences of new media and technologies, new communication policies and practices in their socio-economic and cultural context, and communication in innovation and change. (lecture/tutorial) Prerequisite: at least 60 credit hours, including two of CMNS 253, 260 or 261.

CMNS 363-6 Approaches to Media and Audience Research
A survey and application of research approaches to media and audience analysis including content analysis, textual analysis, agenda setting, effects research, focus group and survey research, message evaluation and audience studies. (lecture/tutorial) Prerequisite: at least 60 credit hours, including one of CMNS 220, 221 or 223, and CMNS 250.

CMNS 371-4 The Structure of the Book Publishing Industry in Canada
An analysis of the various facets of the book publishing industry in Canada including ownership patterns, legal foundations, criteria for book selection and marketing. Includes examination of both commercial and educational publishing. The industry will be analysed within the framework of Canadian cultural and other government policies affecting the industry. (distance education) Prerequisite: 60 credit hours.

CMNS 372-4 The Publishing Process
This course offers an overall view of the publishing process which transforms a manuscript into a book. Examined are the stages common to all publishing - editing, design, production and marketing - and the differences between different kinds of publishers. The contributions of modern computer technology are examined at each stage of the process. (lecture/ tutorial) Prerequisite: 60 credit hours.

CMNS 375-4 Magazine Publishing
This course addresses the basic concepts and practices used in the magazine publishing industry in the areas of business, writing, editing, design, marketing, advertising, distribution, and production. It emphasizes readership and editorial policy, new technology and changing costs and revenue patterns. (lecture/tutorial) Prerequisite: 60 credit hours.

CMNS 386-4 Special Topics in Communication
Intensive analysis of a particular topic in the general area of communication. (seminar) Prerequisite: depends on topic; published before registration.

CMNS 395-0 Communication Practicum I
Work experience in the School of Communication's co-operative education program. Prerequisite: Students must register with the co-op co-ordinator by the end of the third week of the semester preceding the work semester. Normally, students will have completed 28 semester hours and have a minimum GPA of 2.70. Credit is given as pass/withdraw (P/W).

CMNS 396-0 Communication Practicum II
The second semester of work experience in the School of Communication's co-operative education program. Prerequisite: CMNS 395 and normally the completion of 42 semester hours, and a minimum GPA of 2.70. Credit is given as pass/withdraw (P/W).

CMNS 408-4 Communication Network Project Group
An advanced workshop in network analysis focussed on applied research. (laboratory) Prerequisite: two upper division CMNS courses and permission of the instructor.

CMNS 422-4 Media and Ideology
An advanced seminar in media studies focussing upon theoretical debates about the allegedly ideological character of mass media and mass culture. (seminar) Prerequisite: 75 credit hours, including CMNS 221, 261 and 331. Recommended: SA 327.

CMNS 425-4 Applied Communication for Social Issues
An advanced seminar in applied communication that focuses on the research and strategic design of media messages, campaigns and programs for public awareness, education, and social change. This course involves the application of theories and approaches in critical media analysis to the tasks of media design and media use for public understanding, engagement and participation around social issues. (seminar) Prerequisite: 75 credit hours, including CMNS 260 or 261; and CMNS 321 or 323.

CMNS 426-4 Communication Design for Non-Broadcast Video
The workshop examines the growing role that video is playing in a variety of public relations, industrial, advocacy and educational contexts. The emphasis of this course is on issues of communication design in relation to the goals and values in specific communication forums. (seminar/lab) Prerequisite: 75 credit hours, including CMNS 226, 260 and two of CMNS 320, 323, 363.

CMNS 428-4 Media Analysis Project Group
An advanced workshop in media analysis focussed on applied research. (laboratory) Prerequisite: two upper division CMNS courses and permission of instructor.

CMNS 431-4 News Research and Analysis
Applied research seminar using techniques of textual and contextual analysis to test media themes and explore patterns of coverage and omission in Canada's new media. Students also have an opportunity to publicize their work through the NewsWatch Canada Project. (lecture/lab) Prerequisite: instructor's permission, normally granted on the basis of a CGPA of at least 3.0, and 75
credit hours, including at least one of CMNS 235, 331 or 335, and at least one of CMNS 261 or 363. Students who took CMNS 421, 428 or 486 when these courses were offered as the Project Censored Seminar (since 1994-1) may not take this course for further credit.

CMNS 433-4 Issues in the Information Society
Advanced seminar to discuss issues in the interplay between contemporary society and new computer/communication technologies, at the level of comprehensive theories of society, on one hand, and major public policy, on the other. (lecture/seminar) Prerequisite: 75 credit hours, including CMNS 253 and 362.

CMNS 454-4 Computer Mediated Work and Workplace Communication
An investigation of the content, quality and character of jobs and workplace communication systems that involve computer/communication technologies, at the level of managerial goals and workplace relations on the design and choice of hardware and software for: office automation; computer-aided and computer-integrated manufacturing systems; computer-aided design, expert systems, and electronic networks. (lecture/seminar) Prerequisite: 75 credit hours, including CMNS 253 or 353.

CMNS 455-4 Women and New Information Technologies
In the 1970s, technological change came under the scrutiny of a wide range of interest groups. Research concerned with women and technological change documented that women were affected differently by technology than men, and that, in general, women occupy different positions in the technological change process than men. As interest in women and technological change has grown in the past 25 years, the benefits of focusing on gender as a variable of study have extended beyond making women's experiences visible. Focusing on gender offers the possibility of discovering theoretical limitations which, when addressed, have implications that extend beyond the interests of women. (seminar/lab) Prerequisite: 75 credit hours, including any one of CMNS 253, 353, or 453; CMPT 320; WS 204.

CMNS 456-4 Communication to Mitigate Disasters
An examination of the special role communication and information systems play in efforts to mitigate effects of major emergencies and disasters. Topics include: Canadian and international disaster management programs, practices and issues; principles of emergency communication planning and operation, and the application and influence of new communication and information technologies (including electronic networks) in hazard information gathering, interpretation, exchange and management. (seminar/lab) Prerequisite: 75 credit hours, including one of CMNS 230, 253 or 353.

CMNS 474-4 The Business of Publishing
This course examines business practices within publishing firms. It emphasizes financial planning and operations, acquisitions, marketing and promotion. (lecture/tutorial) Prerequisite: 75 credit hours including CMNS 372.

CMNS 478-4 Publishing Project Group
An advanced workshop in publishing analysis or design focused on applied research. (laboratory) Prerequisite: two upper division CMNS courses and permission of the instructor.

CMNS 480-2 Directed Study
Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: two upper division CMNS courses and consent of instructor. No more than 10 hours of directed study may be taken.

CMNS 481-3 Directed Study
Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: two upper division CMNS courses and consent of instructor. No more than 10 hours of directed study may be taken.

CMNS 482-4 Directed Study
Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: two upper division CMNS courses and consent of instructor. No more than 10 hours of directed study may be taken.

CMNS 483-5 Directed Study
Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: two upper division CMNS courses and consent of instructor. No more than 10 hours of directed study may be taken.

CMNS 484-4 Special Topics in Communication
Intensive analysis of a particular topic in the general area of communication and/or attention to the work of a particular writer or school of thought. (seminar) Prerequisite: permission of the instructor.

CMNS 486-4 Special Topics in Communication
Intensive analysis of a particular topic in communication and/or attention to the work of a particular writer or school of thought. (lecture/seminar) Prerequisite: permission of instructor.

CMNS 489-4 Field Placement
For students who have at least 24 upper level credit hours in communication, this course offers the opportunity to work under faculty supervision in a field placement situation related to one of the areas of concentration in communication. Arrangements for field placement and faculty supervision are the responsibility of the student, and enrolment will depend upon the availability of faculty resources in any semester. Prerequisite: 75 credit hours and permission of the school.

CMNS 490-4 Communication Practicum III
The third semester of work experience for students in the School of Communication’s co-operative education program. Prerequisite: CMNS 396 and normally 56 semester hours, and a minimum GPA of 2.70. Credit is given as pass/withdraw (P/W).

CMNS 495-0 Communication Practicum IV
The last semester of work experience for students in the School of Communication’s co-operative education program. Credit is awarded as in CMNS 395, 396, or 494. Prerequisite: CMNS 494 and a minimum GPA of 2.70. Credit is given as pass/withdraw (P/W).

CMNS 496-0 Communication Practicum V
Optional semester of work experience for students in the School of Communication’s co-operative education program. Prerequisite: CMNS 495 and a minimum GPA of 2.70. Credit is given as pass/withdraw (P/W).
and apply their critical thinking in CED. The student must develop a readings list in consultation with the CED centre's academic supervisor and obtain approval for it. A critical, annotated bibliography must be regularly submitted throughout the semester, and a final paper will be required. Non post baccalaureate diploma students must apply for special permission to take this course. Enrollment is limited. Prerequisite: community economic development post baccalaureate diploma program approval, CED 301 and 401.

Computing Science Faculty of Applied Sciences
See also courses listed under Mathematics and Computing Science (MACM).

CMPT 001-3 Computers and the Activity of People
Concerned with computer literacy and appreciation. What are computers? What do they do? How do they do it? How will they affect us? Illustrations given of applications of computing in the arts, commerce, industry, science and everyday activity. Programming is introduced but not emphasized; instead, students will be exposed to a variety of computer hardware and software elements that are in wide use. (lecture/ laboratory) No special prerequisite. Students with a grade of B or higher in BC high school computer science 12, or those who have obtained credit for or are currently enrolled in any other Computing Science course may not take CMPT 001 for further credit.

CMPT 100-3 Software Packages and Programming
Introduction to the fundamentals of computer operation and computer programming. The use of software packages is emphasized, focussing on spreadsheets, databases, and presentation graphics. Techniques of solving problems using structured programs in a modern database programming environment are introduced. (lecture/ laboratory) Prerequisite: BC mathematics 12 or MATH 100 or MATH 110. Students who have taken CMPT 101, 102, or 103 may not take CMPT 100 for further credit.

CMPT 101-4 Introduction to Computer Programming
This course is an introduction to problem solving using a computer and is intended as a first computing course for those wishing to major in Computing Science or a related program. Topics include: techniques and methodologies for the analysis and decomposition of the problem; the structural and algorithmic design of a solution; and the modular implementation and testing of the design. Structured programming using sub-programs, recursion, modules and libraries. Structured data objects including arrays, strings and records. (lecture/ laboratory) Prerequisite: MATH 100. MATH 100 is waived for those with a minimum grade of B in BC high school mathematics 12. Students with credit for CMPT 102, 103 or 104 may not take CMPT 101 for further credit.

CMPT 102-3 Introduction to Scientific Computer Programming
A programming course which will provide the science student with a working knowledge of a scientific programming language and an introduction to computing concepts, structured programming, and modular design. The student will also gain knowledge in the use of programming environments including the use of numerical algorithm packages. (lecture/ laboratory) Corequisite: MATH 152 or 155 (or 158). Students with credit for CMPT 101, 103 or 114 may not take CMPT 102 for further credit.

CMPT 104-2 Computer Programming
This course is intended for students who may not take CMPT 101 because they already have credit for CMPT 102 or 103. The course includes a review of the concept of an algorithm and structured programming using sub-programs, modules, recursion, and structured data objects. (lecture/ laboratory) Prerequisite: CMPT 102 or 103. Students with credit for CMPT 101 may not take CMPT 104 for further credit.

CMPT 110-3 Event-Driven Programming in Visual Basic
Introduction to programming in the event-driven paradigm using the Visual Basic language. Forms, controls, events, menus, objects; subprograms, modular design; decisions and repetition; file and data management; special features. Students who have obtained credit for, or are currently enrolled in a computing science course at the 200 level or higher may not take CMPT 110 for further credit except with permission of the School of Computing Science. (lecture/laboratory) Prerequisite: BC mathematics 12 (or equivalent) or MATH 100 or MATH 110.

CMPT 116-3 Introduction to a Object-Oriented Programming in SmallTalk
This is a self-study course that introduces students to object-oriented design and programming using the SmallTalk programming language. A study guide is provided and the student will have regular meetings with the instructor. (self study) Prerequisite: CMPT 101 or 102 or 103. This course may not be taken for credit if the student has studied SMALLTALK in a previous course.

CMPT 117-3 Introduction to Internet Programming - Java
This is a course for students who wish to learn about the Java programming language and how to develop Internet based applications. Students who have obtained credit for, or are currently enrolled in a computing science course at the 200 level or higher may not take CMPT 117 for further credit except with permission of the School of Computing Science. (self study) Prerequisite: one semester in a university level programming course.

CMPT 118-3 Special Topics in Computer and Information Technology
Special topics in computing science which are of current interest to non-computing students. The course will be offered from time to time depending on availability of faculty and on student interest. Students who have obtained credit for, or are currently enrolled in a computing science course at the 200 level or higher, may not take CMPT 118 for further credit. (3-0-0)

CMPT 150-3 Introduction to Computer Design
Digital design concepts are presented in such a way that students will learn how logic blocks can be designed and employed to construct a simple computer. Topics covered include: basic Von Neumann computer architecture; an introduction to assembly language; combinational logic design; and sequential logic design. An interactive logic simulation environment will be provided for assignments. Assembly language programming is introduced. (3-1-0) This course is identical to ENSC 150 and students cannot take both courses for credit. Students who have taken CMPT 290 cannot take this course for further credit.

CMPT 165-3 Introduction to Multimedia and the Internet
The goal of this course is to serve as an introduction to the use of computers in everyday life. Concepts underlying the use of multimedia and the Internet are examined, as are its applications in various fields. Students who have obtained credit for, or are currently enrolled in a computing science course at the 200 level or higher may not take CMPT 165 for further credit. Students who have taken CMPT 118 may not take CMPT 165 for further credit.
CMPT 201-4 Data and Program Abstraction
Introduction to various widely used data structures such as strings, sets, stacks, queues, lists, hash tables and trees, and algorithms for searching and sorting. Several powerful tools and concepts such as abstract data types, object-oriented programming, specialized debuggers, extensible languages and automatic garbage collection will also be covered. (lecture/laboratory) Prerequisite: CMPT 101 (or 104) and MACM 101.

CMPT 212-3 Object-Oriented Applications Design in C++
Introduction to object-oriented software design concepts, the object-oriented features of the C++ language, other advanced C++ features, plus a simple introduction to the fundamentals of graphical user interfaces and the development of animated applications. (lecture/laboratory) Prerequisite: CMPT 101 (or 104). Recommended: CMPT 201.

CMPT 218-3 Special Topics in Computing Science
Special topics in computing science which are of current interest or are not covered in the regular curriculum will be offered from time to time depending on availability of faculty and on student interest. (lecture/tutorial) Prerequisite: CMPT 201.

CMPT 250-3 Introduction to Computer Architecture
This course deals with the main concepts embodied in computer hardware architecture. In particular, the organization, design and limitations of the major building-blocks in modern computers is covered in detail. Topics will include: processor organization; control logic design; memory systems; and architectural support for operating systems and programming languages. A hardware description language will be used as a tool to express and work with design concepts. Prerequisite: ENSC 150, or CMPT 290 or 105 with permission of instructor. This course is identical to ENSC 250 and students cannot take both courses for credit. Students who have taken CMPT 390 may not take CMPT 250 for further credit.

CMPT 275-4 Software Engineering I
An introduction to the various software engineering techniques used for both analysis/design and for software project management. The course centers on a team development project that involves requirements gathering and object-oriented analysis, examination of case use scenarios to drive user documentation and design phases, followed by implementation, testing, installation, support and maintenance issues. Throughout the course, software project planning, quality assurance, metrics, configuration management, and people management are examined. (lecture/laboratory) Prerequisite: CMPT 201, MACM 101 (or CMPT 205), MATH 151.

CMPT 300-3 Operating Systems I
This course aims to give the student an understanding of what a modern operating system is - and the services it provides. It also discusses some basic issues in operating systems and provides solutions. Topics include multiprogramming, process management, memory management, and file systems. (lecture/laboratory) Prerequisite: CMPT 201, MACM 101 (or CMPT 205). Students with credit for CMPT 401 may not take CMPT 300 for further credit.

CMPT 301-3 Information Systems Management
Topics include strategic planning and use of information systems, current ad future technologies, technology assimilation, organizational learning, end-user computing, managing projects and people, managing production operations and networks, evaluating performance and benefits, crisis management and disaster recovery, security and control, financial accountability, and proactive management techniques for a changing environment. (lecture/laboratory) Prerequisite: CMPT 201.

CMPT 305-3 Computer Simulation and Modelling
Introduces the techniques for modelling and computer simulation of complex systems. The philosophy and practice of modelling and of Monte Carlo simulation will be reviewed. The student will learn at least one simulation language (SIMULA, SIMSCRIPT, GPSS, CCS or other languages implemented at Simon Fraser University), apply it to a model, and simulate a non-trivial system from his/her area of interest. (lecture/laboratory) Prerequisite: CMPT 201, MACM 101 (or CMPT 205), STAT 270 (or MATH 272).

CMPT 307-3 Data Structures and Algorithms
Analysis and design of data structures for lists, sets, trees, dictionaries, and priority queues. A selection of topics chosen from sorting, memory management, graphs and graph algorithms. (lecture) Prerequisite: CMPT 201, MACM 201, MATH 152 and MATH 232.

CMPT 308-3 Computability and Complexity
This course introduces students to formal models of computations such as Turing machines and RAMs. Notions of tractability and intractability are discussed both with respect to computability and resource requirements. The relationship of these concepts to logic is also covered. Prerequisite: MACM 201.

CMPT 310-3 Artificial Intelligence Survey
Provides a unified discussion of the fundamental approaches to the problems in artificial intelligence. The topics considered are: representational typology and search methods; game playing, heuristic programming; pattern recognition and classification; theorem-proving; question-answering systems; natural language understanding; computer vision. (lecture/laboratory) Prerequisite: CMPT 201 and MACM 101 (or CMPT 205).

CMPT 318-3 Special Topics in Computing Science
Special topics in computing science at the 300 level. Topics that are of current interest are not covered in regular curriculum will be offered from time to time depending on availability of faculty and on student interest. Prerequisite: CMPT 201.

CMPT 320-3 Social Implications of a Computerized Society
An examination of social processes that are being automated and implications for good and evil, that may be entailed in the automation of procedures by which goods and services are allocated. Examination of what are dehumanizing and humanizing parts of systems and how systems can be designed to have a humanizing effect. (lecture/seminar) Prerequisite: a course in computing science and 45 credit hours. Students with credit for CMPT 260 may not take CMPT 320 for further credit.

CMPT 340-3 Computers in Biomedicine
The principles involved in using computers for data acquisition, real-time processing, pattern recognition and experimental control in biology and medicine will be developed. The use of large data bases and simulation will be explored. (lecture/laboratory) Prerequisite: completion of 60 credits including CMPT 101 (or 102, 103 or 104 with a grade of B or higher).

CMPT 354-3 Database Systems I
Logical representations of data records. Data models. Studies of some popular file and database systems. Document retrieval. Other related issues such as database administration, data dictionary and security. (lecture/laboratory) Prerequisite: CMPT 201, MACM 101.

CMPT 361-3 Introduction to Computer Graphics
This course provides an introduction to the fundamentals of computer graphics. Topics include graphics display and interaction hardware, basic algorithms for 2D primitives, antialiasing, 2D and 3D geometrical transformations, 3D projections/viewing, Polygonal and hierarchical models, hidden-surface removal, basic rendering techniques (colour, shading, raytracing, radiosity), and interaction techniques. (lecture/laboratory) Prerequisite: CMPT 201 and MATH 232. Students with credit for CMPT 351 may not take CMPT 361 for further credit.

CMPT 363-3 User Interface Design
This course covers a comprehensive study of user interface design. Topics include: goals and principles of UI design (systems engineering and human factors), historical perspective, current paradigms (widget-based, mental model, graphic design, ergonomics, metaphor, constructivist/iterative approach, and visual languages) and their evaluation, existing tools and packages (dialogue models, event-based systems, prototyping), future paradigms, and the social impact of UI. (lecture/laboratory) Prerequisite: CMPT 201.

CMPT 365-3 Multimedia Systems
Multimedia systems design, multimedia hardware and software, issues in effectively representing, processing, and retrieving multimedia data such as text, graphics, sound and music, image and video. (lecture/laboratory) Prerequisite: completion of 60 credits including CMPT 201.

CMPT 370-3 Information System Design
This course focuses on the computer-related problems of information system design and procedures of design implementation. Well-established design methodologies will be discussed, and case studies will be used to illustrate various techniques of system design. (lecture/laboratory) Prerequisite: CMPT 275 and 354.

CMPT 371-3 Data Communications and Networking
Data communication fundamentals (data types, rates, and transmission media). Network architectures for local and wide areas. Communications protocols suitable for various architectures. ISO protocols and internetworking. Performance analysis under various loadings and channel error rates. (lecture/laboratory) Prerequisite: CMPT 201, CMPT/ENSC 150 or CMPT 290 and MATH 152 or equivalent.

CMPT 379-3 Principles of Compiler Design
This course covers the key components of a compiler for a high level programming language. Topics include lexical analysis, parsing, type checking, code generation and optimization. Students will work in teams to design and implement an actual compiler making use of tools such as lex and yacc. Prerequisite: MACM 201, CMPT 150 and 201.

CMPT 383-3 Comparative Programming Languages
Various concepts and principles underlying the design and use of modern programming languages are considered in the context of procedural, object-oriented, functional and logic programming languages. Topics include data and control structuring constructs, facilities for modularity and data abstraction, polymorphism, syntax, and formal semantics. (lecture/laboratory) Prerequisite: CMPT 201, CMPT/ENSC 150 or CMPT 290 and MATH 152 or equivalent.

CMPT 384-3 Symbolic Computing
This course considers modelling and programming techniques appropriate for symbolic data domains such as mathematical expressions, logical formulas, grammars and programming languages. Topics include recursive and functional programming style, grammar-based data abstraction, simplification and reduction transformations, conversions to canonical form, environment data structures and interpreters, metaprogramming, pattern matching and theorem
CMPT 400-3 High Performance Computer Architecture
This course explores techniques and architectures for construction of high performance computing systems. Arithmetic pipelines, general instruction processing techniques, and vector processing. SIMD architectures including interconnection networks and algorithms. Introduction to MIMD architectures. (lecture/laboratory) Prerequisite: CMPT 201; and CMPT/ENSC 250 or CMPT 390, MACM 101 (or CMPT 205).

CMPT 401-3 Operating Systems II
This second course on operating systems studies in depth some of the issues introduced in CMPT 300, as well as new, more advanced topics in modern operating systems. Topics may include interprocess communication, threads, remote procedure calls, language constructs for concurrency, deadlocks, virtual machines, distributed systems, distributed concurrency control, group communication, issues in file system design, security and protection, performance evaluation. (lecture/laboratory) Prerequisite: CMPT 300 and 371.

CMPT 405-3 Design and Analysis of Computing Algorithms
Models of computation, methods of algorithm design; complexity of algorithms; algorithms on graphs, NP-completeness, approximation algorithms, selected topics. (lecture) Prerequisite: CMPT 307.

CMPT 406-3 Computational Geometry
Mathematical preliminaries; convex hull algorithms; intersection problems; closest-point problems and their applications. (lecture) Prerequisite: CMPT 307.

CMPT 407-3 Computational Complexity
Machine models and their equivalents, complexity classes, separation theorems, reductions, Cook's theorem, NP-completeness, the polynomial time hierarchy, boolean circuit models and parallel complexity theory, other topics of interest to the students and instructor. (lecture) Prerequisite: CMPT 307.

CMPT 408-3 Theory of Computer Networks/Communications
Network design parameters and goals, dynamic networks and permutations, routing in direct networks, structured communication in direct networks, other topics of interest to the students and instructor. Prerequisite: CMPT 307 and 371.

CMPT 409-3 Special Topics in Theoretical Computing Science
Current topics in theoretical computing science depending on faculty and student interest. (lecture) Prerequisite: CMPT 307.

CMPT 411-3 Knowledge Representation
Formal and foundational issues dealing with the representation of knowledge in artificial intelligence systems are covered. Questions of semantics, incompleteness, nonmonotonicity and others will be examined. As well, particular approaches, such as procedural or semantic network, may be discussed. (lecture/laboratory) Prerequisite: completion of nine credit hours in Computing Science upper division courses or, in exceptional cases, permission of the instructor.

CMPT 412-3 Computational Vision
Computational approaches to image understanding will be discussed in relation to theories about the operation of the human visual system and with respect to practical applications in robotics. Topics will include edge detection, shape from shading, stereopsis, optical flow, Fourier methods, gradient space, three-dimensional object representation and constraint satisfaction. (lecture/laboratory) Prerequisite: MATH 152, and nine credit hours in Computing upper division courses or permission of the instructor.

CMPT 413-3 Computational Linguistics
This course examines the theoretical and applied problems of constructing and modelling systems, which aim to extract and represent the meaning of natural language sentences or of whole discourse, but drawing on contributions from the fields of linguistics, cognitive psychology, artificial intelligence and computing science. (lecture/laboratory) Prerequisite: completion of nine credit hours in Computing Science upper division courses or, in exceptional cases, permission of the instructor.

CMPT 414-3 Model-Based Computer Vision
This course covers various topics in computer vision with the emphasis on the model-based approach. Main subjects include 2-D and 3-D representations, matching, constraint relaxation, model-based vision systems. State-of-the-art robot vision systems will be used extensively as study cases. The solid modelling and CAD aspects of this course should also interest students of computer graphics. (lecture/laboratory) Prerequisite: MATH 152 and nine credit hours in CMPT upper division courses, or permission of the instructor.

CMPT 415-3 Special Research Projects
To be individually arranged.

CMPT 416-3 Special Research Projects
To be individually arranged.

CMPT 417-3 Intelligent Systems
Development of intelligent (aka expert) systems, the MYCIN system, abduction and uncertain reasoning, intelligent systems in the Prolog language, modern model-based systems, constraint reasoning methods, exhaustive vs. incremental search techniques, constraint logic programming methods, applications in diagnosis, scheduling, planning, process control and animation. (lecture) Prerequisite: CMPT 384.

CMPT 419-3 Special Topics in Artificial Intelligence
Current topics in artificial intelligence depending on faculty and student interest. (lecture/laboratory) Prerequisite: CMPT 310 or permission of the instructor.

CMPT 426-0 Practicum I
The first semester of work experience for students in the computing science co-operative education program. It provides an opportunity to integrate theory and practice. Prerequisite: the computing science co-op co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

CMPT 427-0 Practicum II
The second semester of work experience for students in the computing science co-operative education program. It provides an opportunity to integrate theory and practice. Prerequisite: the computing science co-op co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

CMPT 428-0 Practicum III
The third semester of work experience for students in the computing science co-operative education program. It provides an opportunity to integrate theory and practice. Prerequisite: the computing science co-op co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

CMPT 429-0 Practicum IV
The fourth semester of work experience for students in the computing science co-operative education program. It provides an opportunity to integrate theory and practice. Prerequisite: the computing science co-op co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

CMPT 430-0 Practicum V
The fifth (and optional) semester of work experience for students in the computing science co-operative education program. It provides an opportunity for a high degree of specialization. Prerequisite: the computing science co-op co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

CMPT 454-3 Database Systems II
An advanced course on database systems which covers crash recovery, concurrency control, transaction processing, distributed database systems as the core material and a set of selected topics based on the new developments and research interests, such as object-oriented data models and systems, extended relational systems, deductive database systems, and security and integrity. (lecture/laboratory) Prerequisite: CMPT 354.

CMPT 459-3 Special Topics in Database Systems
Current topics in database and information systems depending on faculty and student interest. (lecture/laboratory) Prerequisite: CMPT 354 and 371.

CMPT 461-3 Advanced Computer Graphics
This course covers advanced topics and techniques in computer graphics. Topics include: solid modelling, curves and surfaces, fractals, particle systems, advanced rendering techniques (color spaces, shading, raytracing, radiosity, texture mapping, stereoscopy), animation, and post-production techniques. Applications in virtual reality, human figure animation, CAD, scientific visualization, and other research areas will be discussed. (lecture/laboratory) Prerequisite: CMPT 361 and MACM 201. Students with credit for CMPT 451 may not take CMPT 461 for further credit.

CMPT 466-3 Animation
Topics and techniques in animation, including: The history of animation, computers in animation, traditional animation approaches, and computer animation techniques such as geometric modelling, interpolation, camera controls, kinematics, dynamics, constraint-based animation, realistic motion, temporal aliasing, digital effects and post production. Prerequisite: CMPT 361 or permission of the instructor.

CMPT 469-3 Special Topics in Computer Graphics
Current topics in computer graphics depending on faculty and student interest. (lecture/laboratory) Prerequisite: CMPT 361.

CMPT 470-3 Web-based Information Systems
This course examines: two-tier/multi-tier client/server architectures; the architecture of a Web-based information system; web servers/browser; programming/scripting tools for clients and servers; database access; transport of programming objects; messaging systems; security; and applications (such as e-commerce and online learning). Prerequisite: CMPT 354 and 371.

CMPT 471-3 Networking II
This course covers the fundamentals of higher level network functionality such as remote procedure/ object calls, name/address resolution, network file systems, network security and high speed connectivity/bridging/switching. (lecture/laboratory) Prerequisite: CMPT 300 and 371.

CMPT 475-3 Software Engineering II
The team approach needed in the development of a software product will be examined in depth. Students will study team dynamics and team management, project estimation/planning/control, and the benefits of employing modern techniques at appropriate phases for a variety of software development lifecycles. The importance of configuration management, change management and control, release planning and of quality assurance throughout a project (reviews, inspections, testing strategies) will be brought out. A team project will allow students to...
try out these techniques. Prerequisite: CMPT 275 and 15 semester hours of upper division courses. Recommended: co-op experience.

CMPT 479-3 Special Topics in Computing Systems
Current topics in computing systems depending on faculty and student interest. (lecture/laboratory) Prerequisite: CMPT 401.

CMPT 481-3 Functional Programming
The functional style of programming will be examined in the context of a modern functional language such as Haskell. Topics will include lazy evaluation and infinite data structures, higher order functions, pattern matching, program transformation and verification, and polymorphic types. (lecture/laboratory) Prerequisite: CMPT 383.

CMPT 487-3 Software Engineering Tools and Environments
The design and construction of software engineering tools and environments is examined as well as the effects of their use in the software life cycle. Topics include design tools, language-based editors, tools for measurement, analysis, testing and documentation, program transformation and manipulation systems, configuration and version control tools, and software development and maintenance environments. (seminar/laboratory) Prerequisite: CMPT 275, 383 and 384.

CMPT 489-3 Special Topics in Programming Languages
Current topics in programming languages depending on faculty and student interest. (lecture/laboratory) Prerequisite: CMPT 383.

CMPT 499-3 Special Topics in Computer Hardware
Current topics in computer hardware depending on faculty and student interest. (laboratory) Prerequisite: CMPT/ENSC 250 or CMPT 390.

Contemporary Arts Faculty of Arts

Notes:
Courses marked with an asterisk (*) may be of particular interest to students in other departments. The subject matter (and prerequisites) of special or selected topics courses vary by semester.

Students are reminded that the School for the Contemporary Arts is an interdisciplinary fine and performing arts department, and are strongly advised to acquaint themselves with the courses available under all of the disciplinary sub-headings below.

Where a prerequisite is or includes 'prior approval', approval must be obtained before registering in the course. Contact the school for further information.

FPA courses are listed under the subheads noted below; the discipline is also indicated by the middle digit of the course number.

0. 8 Interdisciplinary or school-wide
1 art and culture studies
2 dance
3 film
4 music
5 performance stream in theatre
6 visual art
7 production stream in theatre
9 video (film)

Examples: FPA 120 – dance; FPA 140 – music; FPA 111 – art and culture studies

Art and Culture Studies

FPA* 111-3 Issues in the Fine and Performing Arts
This course introduces students to some basic issues in the fine and performing arts through the presentation and discussion of selected works in dance, film, music, theatre and visual art. It is designed to give students who intend further study in one or more of these arts some familiarity with critical issues affecting all of them. Recommended preparation for the school's upper division history and critical courses. (lecture/tutorial)

FPA 211-3 Introduction to Contemporary Theory in the Arts
This course extends the interdisciplinary study of the arts begun in FPA 111 by introducing some of the basic terms and concepts of contemporary cultural theory. Problems in the interpretation of specific works, selected from across the fine and performing arts, will be approached through concepts derived from semiotics, structuralism, post-structuralism, psychoanalysis and feminist theory. (lecture/tutorial) Prerequisite: FPA 111 or 24 credit hours in the Faculty of Arts.

FPA* 289-3 Selected Topics in the Fine and Performing Arts I
A specific topic in fine and performing arts which is not otherwise covered in depth in regular courses and which is not appropriately placed within a single arts discipline. The work will be practical (studio), theoretical, or a combination of the two, depending on the particular topic in a given semester. Prerequisite: will vary according to the topic.

FPA* 311-5 Interdisciplinary Studies in the Arts
An historical, theoretical or thematic topic in the fine and performing arts presenting an in-depth investigation of interdisciplinary approaches to the study of art and culture. (lecture/seminar) Prerequisite: 45 credit hours which must include FPA 111 or another critical or history course within the School for the Contemporary Arts. The course may be repeated when different topics are offered. Recommended: FPA 211.

FPA* 313-5 Arts, Audience, Patronage, Institutions
An investigation of the fine and performing arts, their audiences, patronage and institutions in a specific historical context. Students will gain an in-depth understanding of a selection of art works and their relationship to their specific cultural context. (lecture/seminar) Prerequisite: 45 credit hours which must include FPA 111 or another critical or history course within the School for the Contemporary Arts. The course may be repeated when different topics are offered. Students who have completed FPA 313 prior to 1998 may take this course for further credit only if the topic differs from the former course. Recommended: FPA 211.

FPA* 389-3 Selected Topics in the Fine and Performing Arts II
A specific topic in fine and performing arts which is not otherwise covered in depth in regular courses and which is not appropriately placed within a single arts discipline. The work will be practical (studio), theoretical, or a combination of the two, depending on the particular topic in a given semester. Prerequisite: will vary with the topic.

FPA 400-3 Directed Studies (Studio)
An opportunity for advanced students to carry out an independent project which is planned and completed in close consultation with the supervisory instructor. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. Directed Studies courses may not be used as a substitute for existing courses. (directed study) Prerequisite: 60 credit hours plus a minimum standing of completion of second year in any of the programs offered in the School for the Contemporary Arts and prior approval.

FPA 401-3 Directed Studies (Theory/History)
This course is intended to provide opportunity for advanced students to carry out an independent project which is planned and completed in close consultation with the supervisory instructor. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. Directed Studies courses may not be used as a substitute for existing courses. Prerequisite: 60 credit hours plus a minimum standing of completion of second year in any of the programs offered in the School for the Contemporary Arts and prior approval.

FPA 402-4 Directed Studies (Studio)
Provides an opportunity for advanced students to carry out an independent project which is planned and completed in close consultation with the supervisory instructor. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. Directed Studies courses may not be used as a substitute for existing courses. (directed study) Prerequisite: 60 credit hours plus completion of second year in any of the programs offered in the School for the Contemporary Arts and prior approval.

FPA 403-4 Directed Studies (Theory/History)
This course is intended to provide opportunity for advanced students to carry out an independent project which is planned and completed in close consultation with the supervisory instructor. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. Directed Studies courses may not be used as a substitute for existing courses. (directed study) Prerequisite: 60 credit hours plus completion of second year in any of the programs offered in the School for the Contemporary Arts and prior approval.

FPA 404-5 Directed Studies (Studio)
Provides an opportunity for advanced students to carry out an independent project which is planned and completed in close consultation with the supervisory instructor. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. Directed Studies courses may not be used as a substitute for existing courses. (directed study) Prerequisite: 60 credit hours plus completion of second year in any of the programs offered in the School for the Contemporary Arts and prior approval.

FPA 404-5 Directed Studies (Theory/History)
This course is intended to provide opportunity for advanced students to carry out an independent project which is planned and completed in close consultation with the supervisory instructor. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. Directed Studies courses may not be used as a substitute for existing courses. (directed study) Prerequisite: 60 credit hours plus completion of second year in any of the programs offered in the School for the Contemporary Arts and prior approval.

FPA 411-3 Interdisciplinary Studies in the Contemporary Arts
This course is an interdisciplinary investigation of key issues in the contemporary arts. (seminar) Prerequisite: at least 45 credit hours including FPA 211 or another critical or history course within the School for the Contemporary Arts.

FPA 412-4 Advanced Seminar in Art and Culture Studies
Provides an in-depth investigation of a selected theoretical, historical or thematic topic in art and culture studies. This course requires independent research leading to a substantial paper, as well as directed reading preparation for seminars. Topics will vary from semester to semester. The course may be repeated when different topics are offered. (seminar) Prerequisite: eight upper division credit hours including one of FPA 311 or 313.

FPA 489-3 Interdisciplinary Project in Fine and Performing Arts
This course permits students to explore the relationships among the arts by undertaking creative projects involving more than one art form. Students will work under the close supervision of one or more faculty and will be required to discuss their work on a regular basis with others involved in the course.
Dance
FPA* 120-3 Introduction to Contemporary Dance
Development of movement skills through fundamentals of contemporary dance technique, explorations in improvisation, and short composition studies. An introduction to dance literature will focus on selected topics. (studio)
Prerequisite: will vary according to topic.
FPA 122-4 Contemporary Dance I
First studio course in a series designed for students intending to pursue a major or extended minor in dance. Emphasizes work in modern dance and ballet technique and introduces theoretical approaches to modern dance. (studio) Prerequisite: prior approval as a result of an audition; Corequisite: dance majors and extended minors must take FPA 129 and 122 concurrently.
FPA 123-4 Contemporary Dance II
Second studio course in a series designed for students intending to pursue a major or extended minor in dance. Emphasizes work in modern dance and ballet technique and introduces theoretical approaches to modern dance. (studio) Prerequisite: FPA 122.
FPA 124-3 Dance Improvisation
Selected dance improvisational skills will be explored in a variety of solo, duet, small group and large group forms through structured movement themes. Emphasis will be on sensory awareness, elements of movement, and literal and abstract imagistic stimuli. (studio) Recommended: dance or theatre experience.
FPA* 127-3 History of Dance: Origins to the 20th Century
Survey of the function and form of dance from primitive culture through the 19th century ballet in tsarist Russia. Emphasis will be upon western theatre dance and evolution of the classical ballet. (Lecture/Seminar) Students with credit for FPA 326 or 327 or KIN 310 may not take FPA 127 for further credit.
FPA* 129-3 Fundamental Integration of Human Movement
This studio/theory course incorporates techniques of body awareness, centering, and structural re-alignment. The course will be of interest to dancers, actors, kinesiologists, and athletes. (Seminar/Studio) Corequisite: dance majors and dance extended minors must take FPA 122 and 129 concurrently.
FPA 220-4 Contemporary Dance III
Studio work designed to develop technical facility in movement and acquaint the student with form and style in contemporary dance and ballet. (studio) Prerequisite: FPA 123.
FPA 221-4 Contemporary Dance IV
Studio work designed to develop technical facility in movement and acquaint the student with form and style in contemporary dance and ballet. (studio) Prerequisite: FPA 220.
FPA 224-3 Dance Composition I
Study in the craft of dance composition emphasizing specific problems in space, time, dynamics, structure and imagery. Students will perform compositions for critical analysis and participate in the rehearsal and performance of their colleagues' compositions. (studio) Prerequisite: FPA 123.
FPA 226-3 Dancing in Cyberspace
This is an on-line course that introduces students to the virtual body in cyberspace and its creative potential. A 3-D human animation software program will be utilized to explore human movement through experientially designed sequences. Aesthetic and socio-technological issues of the human body representation will be addressed. (seminar/lab) Prerequisite: basic computer skills.
FPA* 227-3 History of Dance: The 20th Century
Study of the development of modern dance and the reformation of the ballet in the 20th century. Emphasis will be placed on seminal dance artists and the impact their work has had upon the art form in western theatre dance. (lecture/seminar) Students with credit for FPA 328 may not take this course for further credit. Recommended: FPA 127
FPA* 229-3 Selected Topics in Dance I
A specific topic in dance which is not otherwise covered in depth in regular courses. The work will be practical (studio), theoretical, or a combination of the two, depending on the particular topic in a given semester. Prerequisite: FPA 122 and/or prior approval.
FPA 320-4 Contemporary Dance V
The first of four upper division courses which build upon the movement vocabulary of modern dance. (studio) Prerequisite: FPA 221.
FPA 321-4 Contemporary Dance VI
Continues and expands upon the work undertaken in FPA 320. (studio) Prerequisite: FPA 320.
FPA 322-3 Ballet I
This course explores the vocabulary and movement range of classical ballet technique on the elementary level. Attention will be given to the understanding of body placement, balance, flexibility and strength. Practical studio experience is offered within the context of specific theoretical principles. (studio) Prerequisite: FPA 221.
FPA 323-3 Ballet II
This course explores the vocabulary and movement range of classical ballet technique on the lower intermediate level. Further attention will be given to the understanding of body placement, balance, flexibility and strength. Practical studio experience is offered within the context of specific theoretical principles. (studio) Prerequisite: FPA 322.
FPA 324-3 New Dance Composition
Students will be introduced to traditional choreographic structures and explore new directions in composition. Emphasis will be upon the creation and analysis of work generated by extending the parameters of source, style and form in contemporary dance. (studio) Prerequisite: FPA 124, plus one of 224, 230, 240, 245, 252, 253 or 260.
FPA 325-3 Special Project in Dance Composition
A specific topic or set of ideas will form the basis for choreographic exploration. Students will create one or more works and participate in research and critical analysis, depending upon the particular topic in a given semester. (studio) Prerequisite: 40 credits in FPA courses.
FPA 326-3 Repertory I
This is one of two courses which provide advanced level dance students the opportunity to work as an ensemble rehearsing and preparing for a series of public performances. Choreography will be created and/or selected by a faculty director. (studio) Prerequisite: FPA 123 and prior approval. Corequisite: students must be concurrently enrolled in a technique course at an appropriate level.
FPA 327-3 Repertory II
This is one of two courses which provide advanced level dance students with the opportunity to work as an ensemble rehearsing and preparing for a series of public performances. Choreography will be created and/or selected by a faculty director. (studio) Prerequisite: FPA 123 and prior approval. Corequisite: students must be concurrently enrolled in a technique course at an appropriate level.
1982/83 and prior years may not take this course for further credit.

**FPA* 137-3 The History and Aesthetics of Cinema II**
This course will examine selected developments in cinema from 1945 to the present, with attention to various styles of artistic expression in film. A substantial number of films will be shown during laboratory sessions. (lecture/tutorial/laboratory) Students with credit for FPA 237 offered in 1982/83 and prior years may not take FPA 137 for further credit.

**FPA 230-5 Filmmaking II**
The first of two courses (FPA 231-5 is the second) which form an intensive study of the craft of sync-sound 16 mm. filmmaking, with an emphasis on production planning, creative development and the shooting and editing of short films. In-class exercises and film screenings will lead to the production of several original films. Each student will be expected to play major creative and technical roles in these productions. (production) Prerequisite: FPA 131, one of FPA 136 or 137 and prior approval. Students should be advised that film production will probably incur significant costs in addition to lab fees. Students who have taken FPA 330 for credit may not take FPA 230 for further credit. Corequisite: FPA 233. A laboratory fee is required.

**FPA 231-5 Filmmaking III**
This course continues the work begun in FPA 230-5 Filmmaking II. Students will acquire proficiency in film technique through lab exercises, readings and film screenings. As well, all students will participate in the completion of short original sync-sound 16 mm. films which were begun in FPA 230. Emphasis is placed on the development of means for creative expression supported by technical skills. (production) Prerequisite: FPA 231 and prior approval. Recommended: CMNS 258.

**FPA 232-3 Film Sound**
Through lectures, demonstrations and studio work, students will be introduced to several aspects of sound recording and audio post production for film and video. Topics will include synchronization systems and techniques, editing, music scoring, mixing and both analog and digital sound technology. (lecture/laboratory) Prerequisite: FPA 131 or 147 and prior approval. Students who have completed FPA 330 may not take this course for further credit. Recommended: CMNS 258.

**FPA 233-2 The Techniques of Film**
This course covers the technical aspects of basic 16 mm. production skills: camera, lighting, sound, editing, lab processes. These skills are taught as discrete units of instruction, with lab exercises and exams at the end of each unit. (laboratory) Prerequisite: FPA 131 and prior approval. Laboratory fee required. This course is not a duplicate of FPA 233 Video Production. Corequisite: FPA 230.

**FPA* 236-3 Cinema in Canada**
Examines the achievements of dramatic, documentary and experimental filmmaking in Canada from the earliest days until the present. Special attention will be paid to the cinemas of Quebec and western Canada, and to the cultural, political and theoretical traditions that have shaped contemporary cinema in Canada. (lecture/seminar) Prerequisite: FPA 136 or 137, or 30 credit hours.

**FPA* 237-3 Selected Topics in Film and Video Studies**
This course will cover a specific topic within the field of film and video studies not covered in depth in regularly scheduled courses, such as: a national cinema; film and politics; Quebec cinema; documentary film and video, etc. Weekly screenings will be accompanied by lecture/seminar sessions. The course may be repeated for credit if a different topic is taught. (lecture/seminar) Prerequisite: FPA 136 or 137.

**FPA 238-3 Screenwriting I**
This course introduces techniques of writing for the screen in various styles, including dramatic, documentary and experimental forms, with an emphasis on structure and the creative expression of visual ideas. Students will perform a variety of writing assignments and each will be expected to complete one or more short original scripts. (seminar) Prerequisite: one of FPA 136, 137 or 253 and prior approval. Students who have taken FPA 332 for credit may not take FPA 238 for further credit.

**FPA 290-2 Video Production I**
This course will give students a grounding in technical aspects of video production. The course will be organized around a series of labs and demonstrations that will give students an opportunity to gain hands-on experience in video production and post production. It is expected that individuals will complete this course with sufficient technical training to be able to apply this knowledge to their own artistic pursuits. (production) Prerequisite: six hours credit in FPA and prior approval. Students who have taken FPA 233 Video Production for credit may not take FPA 290 for further credit.

**FPA 332-3 Film Production Seminar**
Facilitates an in-depth understanding of the organizational aspects of film production, with emphasis on preproduction planning. The class will study methods of proposal writing, preproduction and production, developing production packages for short film and video projects. This course is strongly recommended for all students intending to take FPA 430, 432. (seminar) Prerequisite: FPA 231 or prior approval.

**FPA 333-3 Cinematography and Lighting**
This course emphasizes advanced 16 mm. production skills in cinematography and lighting. Students are expected to participate in intensive camera exercises, as well as to play significant crew roles on fourth year films. (laboratory) Prerequisite: FPA 231 and prior approval. Students who have taken FPA 331 The Crafts of Film III may not take this course for further credit.

**FPA 334-3 Selected Topics in Film and Video Production**
This course will cover a specific topic within the field of film and video production not covered in depth in regularly scheduled courses, such as optical printing techniques, film and video editing, experimental film and video production, or documentary film and video production. (seminar/studio) Prerequisite: FPA 231 and prior approval.

**FPA* 335-4 Introduction to Film Theory**
This course is concerned with the systematic understanding of the general phenomenon called Cinema rather than with the properties or techniques of individual films. Various theoretical positions will be assessed and compared in terms of cinematic practice and its ideological functions. (lecture/seminar) Prerequisite: six credits from among FPA 136, 137, 211, 236, 237. Students who have taken FPA 234 for credit may not take FPA 335 for further credit. Recommended: FPA 211.

**FPA* 337-3 Intermediate Selected Topics in Film and Video Studies**
An intermediate course in critical studies, addressing a variety of topics under this number; for instance, specific genre or area studies (comedy, film noir, science fiction, etc.); national cinemas; film analysis; Third World film, video art, experimental film, etc. The course may be taken again for credit if the topic changes. (lecture/seminar) Prerequisite: will vary according to subject matter. Students who have taken FPA 339 Selected Topics in Film for credit may not take the same topic under FPA 337 for further credit.

**FPA 338-3 Screenwriting II**
This course will present advanced theory and techniques for writing dramatic, experimental and documentary film and video scripts. Additional topics covered include script analysis, production breakdown, and the writing of treatments and proposals. (lecture/seminar) Prerequisite: one of FPA 238 or 353 or 456 and prior approval. Recommended: strongly recommended for all students developing projects for production in FPA 430.

**FPA 339-3 Directing and Acting for Film and Video**
This course acquaints intermediate-level students in film, video and theatre with techniques of dramatic film performance. Students will be expected to perform as both actors and directors on scene work in class. Topics covered include auditioning, script analysis, role preparation, rehearsal, blocking for the camera, and directing techniques. (seminar/studio) Prerequisite: FPA 131 or 151 and prior approval. Students who have completed Directing and Acting for Film as FPA 379 in spring 1990 or earlier, may not take this course for further credit. This course is not a duplicate of FPA 339 Selected Topics in Film, available in summer 1990 and earlier.

**FPA 390-3 Video Production II**
This course is intended for students interested in video as a means of artistic expression. Students will be encouraged to challenge accepted notions of the video medium and explore the creative possibilities of multi channel presentations. The course comprises a series of technical workshops, screenings and group seminars whose purpose is to develop an awareness of creative and conceptual possibilities of the medium of video. Students will be expected to initiate and complete a short video project based on an idea of their own choosing. Projects which involve school-wide interdisciplinary collaborations will be encouraged. Prerequisite: prior approval through written proposal for a ten minute video project or installation; an interview; plus FPA 290 or equivalent video experience. A laboratory fee is required. Students should be advised that video production may require personal funding beyond the lab fee.

**FPA 393-2 Techniques of Video**
This is an intermediate course that examines the complete technical basis of the video medium. Emphasis is placed on the use of studio equipment, particularly video signal processing procedures. This course is a prerequisite for all directed studies work in video. (lecture/laboratory) Prerequisite: FPA 290 or equivalent and prior approval. Corequisite: FPA 390.

**FPA 430-5 Filmmaking IV**
The first half of a two-semester project in advanced film and/or video production. Students are expected to participate in the realization of one or more projects during the two semesters. Students seeking entry into this course are required to present a completed script (for a drama) or detailed proposal (for a documentary or experimental film) prior to registration. The exact nature of each student’s participation will be determined in consultation with the instructor. (production) Prerequisite: FPA 231 and 10 credit hours in film or video studies plus prior approval. This course is open only to approved film majors. A laboratory fee is required. Students should be advised that film production will probably incur significant financial costs in addition to lab fees.

**FPA 432-5 Filmmaking V**
This course is intended for completion of film and video projects begun in FPA 430. Particular emphasis will be given to advanced film craft in the post-production phase. The exact nature of each student’s
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Music

FPA* 104-3 Music Fundamentals
This course is designed to provide a basic understanding of the elements of music and teaches the skill of reading music notation. An introduction to music theory and exposure to the application of music materials in a wide spectrum of music literature will be accompanied by practical exercises. The course is designed for students with no formal music training. (seminar/studio)

FPA* 140-3 Music in the 20th Century
An introductory survey of major historical trends and practices of music in the 20th century as revealed by the study of selected music examples. Critical issues fundamental to an understanding of contemporary composition will be examined (eg, impressionism, twelve-tone music, indeterminacy, the role of technology, improvisation). (lecture) Prerequisite: FPA 104.

FPA 145-3 Introduction to Music Composition and Theory
This course introduces basic concepts of music composition such as melody and pitch organization, harmony, rhythm and form. The fundamental principles of theory and acoustics (eg, voice-leading, overtone structure, metre) will be studied with particular reference to composition. Students will compose short works within given guidelines that address specific compositional issues. (lecture/studio) Prerequisite: FPA 104.

FPA 147-3 Introduction to Electroacoustic Music
An introduction to the application of electroacoustic technology to music, including the concepts of the audio signal, signal processing and sound synthesis in their musical applications. The techniques of tape music, electronic music and computer music composition will be introduced and their role in both studio composition and live performance will be discussed. Practical experience in several of these areas is included in the lab component. (lecture/laboratory) Prerequisite: prior approval.

FPA 240-3 Contemporary Music Performance I
Performance of works from the contemporary music repertoire for instruments and voice. A range of material will be covered from more improvisational pieces to conventionally notated scores. (studio) Prerequisite: audition/interview.

FPA* 243-3 Gamelan I
Practical and theoretical study of music for gamelan ensemble, based on, but not limited to, traditional Javanese music. This course is designed as an introduction to the study of the music of non-western cultures and as a method of developing ensemble musicianship. (seminar/studio) Prerequisite: prior approval.

FPA 244-3 Theory of Contemporary Music
The theoretical investigation of the basic materials of the tempered chromatic scale, alternative tuning systems, and contemporary practices of texture and rhythm. Analysis of a wide range of music, score-reading and exposure to recorded music will be part of the course. (lecture/seminar) Prerequisite: FPA 140 and 145.

FPA 245-3 Music Composition I
Composition for small instrumental groups, electroacoustic resources or combinations of instruments and electronics. Students are also encouraged to do work involving collaboration with dance, film, theatre and visual art. In addition to individual composition lessons, students will be required to attend a composition seminar where the practice of composition will be discussed. Seminar topics will include orchestration, world repertoire, and issues of music technology. (seminar/studio) Prerequisite: FPA 145 and prior approval.

FPA 246-3 Music Composition II
This course is a continuation of FPA 245. (seminar/ studio) Prerequisite: FPA 245.

FPA 247-3 Electroacoustic Music I
The theory and practice of electroacoustic music technology and composition. In addition to expanding upon the issues introduced in FPA 147, the course will examine through lecture and studio work the following topics: analog and digital synthesis, microcomputer use, the multitrack studio, signal processing, communication protocols such as MIDI and sampling techniques. (lecture/laboratory) Prerequisite: FPA 147.

FPA* 249-3 Selected Topics in Music I
A specific topic in music which is not otherwise covered in depth in regular courses. The work may be practical, theoretical or a combination of the two, depending on the particular topic in a given semester. Prerequisite: FPA 140 and/or prior approval.

FPA 340-3 Contemporary Music Performance II
A continuation of FPA 240. (studio) Prerequisite: FPA 240.

FPA 341-3 World Music
The relationship of music and culture, with emphasis on traditional and contemporary music in Asia, Africa, the Middle East, Latin America and the Caribbean, and indigenous cultures of North America. Specific cultural areas may be selected for intensive study in any particular semester. (lecture) Prerequisite: 45 credit hours.

FPA 343-3 Gamelan II
Continuation of FPA 243, with increased emphasis on the theoretical and museological aspects of gamelan. (seminar/studio) Prerequisite: FPA 243.

FPA 344-3 Contemporary Music Analysis and Criticism
An in-depth investigation of selected social, critical and theoretical issues associated with contemporary music, with special emphasis on the period c. 1945 to the present. Issues discussed might include such theoretical concerns as integral serialism; indeterminacy; process music; timbral concerns; or new approaches to melody, harmony and tonality. Critical topics such as music and technology; popular music and the mass media; or critical issues connected with world music might also be considered. The material of the course will be presented through the study of scores, recorded examples and when possible, live concerts. (lecture) Prerequisite: FPA 244.

FPA 345-3 Music Composition III
This course is a continuation of FPA 246. (seminar/ studio) Prerequisite: FPA 246 or 247, and prior approval.

FPA 346-3 Music Composition IV
This course is a continuation of FPA 345. (seminar/ studio) Prerequisite: FPA 345.

FPA 347-3 Electroacoustic Music II
An advanced examination of the aesthetics, technology, and compositional approaches of electroacoustic music. Topics may include computer music programming, performance systems, compositional strategies and their relationship to technology, synthesis and processing techniques and the analysis of works. (seminar/studio) Prerequisite: FPA 245 and 247. Students with credit for FPA 347 under its former title may take this course for further credit.

FPA 349-3 Selected Topics in Music II
A specific topic in music which is not otherwise covered in depth in regular courses. The work may be practical, theoretical or a combination of the two, depending on the particular topic in a given semester. (studio) Prerequisite: FPA 245 and/or prior approval.

FPA 443-3 Gamelan III
Continuation of FPA 343 with emphasis on the technique of the elaborating instruments of the gamelan ensemble. (seminar/studio) Prerequisite: FPA 343.

FPA 445-3 Composition V
This course is a continuation of FPA 346. (seminar/ studio) Prerequisite: FPA 346.

FPA 446-3 Music Composition VI
This course is a continuation of FPA 445. (seminar/ studio) Prerequisite: FPA 445.

FPA 447-3 Computer Music Composition
The theory and practice of digital techniques and computer systems as applied to sound synthesis and music composition. The course will consider the major types of hardware and software systems developed for music from 1955 to the present, and will discuss such issues as machine programmability, user interaction, acoustic models for sound synthesis, and compositional algorithms. Students will have the opportunity for practical compositional work. (tutorial/studio) Prerequisite: FPA 347. Recommended: CMPT 001 or 110.

Theatre

FPA* 150-3 Introduction to Acting I
An approach to the elements of acting based on improvisation, with some attention to working from established texts. Focus will be placed on the development of the actor’s instrument. The work will include the development of individual powers of expression — vocally, physically, intellectually, imaginatively, and emotionally. (studio) Prerequisite: FPA 150. Students who have completed FPA 152 may not take 151 for further credit.

FPA* 170-3 Introduction to Production Technology
An introduction to the processes, tools and technology used in the production and presentation of the fine and performing arts. Course requirements will include hands-on assignments in the production of theatre, dance, music and visual art events. Students will work directly with equipment and materials, and are expected to be involved in work on productions and exhibitions outside of lecture and lab hours. Similar commitments in FPA 170 and 171 preclude taking the two courses concurrently. (lecture/laboratory)

FPA* 171-3 Stage and Production Management
An introduction to the management, and organization of the performing arts. This course will provide a grounding for students who wish to become further involved in the administration of the performing arts and will include practical experience. Students will be expected to be involved in production work outside of regular seminar hours. Similar commitments in FPA
170 and 171 preclude taking the two courses concurrently. (seminar/open lab)

FPA 250-3 Acting I
Begins the concentrated work of training the actor in both the freedom and the control of voice and body. This is accomplished through: work on the self as a source of personal imagery and as a potential wellspring of characters, work with other actors in ensemble relationships, work on text as a blueprint for expression, scene study as a vehicle for the realization of the specific dramatic content and overall shape of a play. (studio) Prerequisite: prior to registration in this course, the student must pass a successful audition. Corequisite: FPA 254.

FPA 251-3 Acting II
Continues and expands upon the work undertaken in Acting I. (studio) Prerequisite: FPA 250 and 254.
Corequisite: FPA 255.

FPA 252-3 Playmaking I
Introduces elements of playmaking such as self scripting, mask exploration, clowning and political theatre. The objective is to enable students to make their own theatre. (studio) Prerequisite: admission to FPA 250 or prior approval.

FPA 253-3 Playmaking II
Expands the work undertaken in Playmaking I emphasizing writing skills and story structure. (studio) Prerequisite: admission to FPA 250 or prior approval.

FPA 254-2 Theatre Laboratory I
This is the first of four courses in performance research, each of which is "attached" to one of the four courses: FPA 250, 251, 350 and 351. The work comprises voice and speech training. (laboratory) Prerequisite: prior approval. Corequisite: FPA 250 and FPA 124 or 129.

FPA 255-3 Theatre Laboratory II
This is the second of four courses in performance research. The work comprises voice and speech training. (laboratory) Prerequisite: FPA 250 and 254.
Corequisite: FPA 251 and FPA 124 or 129.

FPA 257-3 Context of Theatre I
A conceptual approach to a selected body of dramatic work focusing on the detailed structural analysis of dramatic texts, their historical context, their development and production histories. Particular emphasis will be placed upon the evolving relationship between theatre and its audience. (lecture/seminar) Prerequisite: FPA 250 or prior approval.

FPA 259-3 Selected Topics in Theatre I
A specific topic in theatre which is not otherwise covered in depth in regular courses. The work may be practical (studio), theoretical or a combination of the two, depending on the particular topic in a given semester. Prerequisite: prior approval.

FPA 270-3 Technical Theatre
For students who have gained a basic familiarity with technical theatre. The course will offer continued training in staging, audio and lighting for theatre, dance and musical productions. (lecture/laboratory) Prerequisite: FPA 170.

FPA 271-3 Stage Management Practice
Provides in-depth training for stage management in the performing arts. Intended for students who have some familiarity with theatrical production and will be of value to any student interested in the management of public presentations. Continues the exploration of stage management techniques begun in FPA 171 and uses both academic and professional productions as subjects for investigation. Prerequisite: FPA 171.

FPA 350-3 Acting III
Continues and expands work undertaken in FPA 250 and 251, with an increased emphasis on work with established text. (studio) Prerequisite: FPA 251 and 255.
Corequisite: FPA 354.

FPA 351-3 Acting IV
Continues and expands on the work undertaken in Acting III. (studio) Prerequisite: FPA 350 and 354.
Corequisite: FPA 355.

FPA 352-3 Playmaking III
Continues the development of playmaking research through intensive studio work consisting of the deconstruction or adaptation of a major dramatic text. Provides the basis for a public presentation in the subsequent semester. (studio) Prerequisite: FPA 251 and 255.

FPA 353-3 Playmaking IV
Black Box Theatre. Students will continue playmaking research through the creation of an ensemble season in a series of public presentations. (studio) Prerequisite: FPA 350 and 354.

FPA 354-2 Theatre Laboratory III
This is the third of four courses in performance research comprising voice and speech training. (laboratory) Prerequisite: FPA 251, 255. Corequisite: FPA 350.

FPA 355-2 Theatre Laboratory IV
This is the fourth of four courses in performance research, comprising voice and speech training. (laboratory) Prerequisite: FPA 350, 354. Corequisite: FPA 351 and 426.

FPA 357-3 Context of Theatre II
A conceptual approach to a selected body of dramatic work. The detailed structural analysis of dramatic texts, their historical context, their development and production histories. Particular emphasis will be placed upon the evolving relationship between theatre and its audience. (lecture/seminar) Prerequisite: 24 lower division credit hours or prior approval.

FPA 359-3 Selected Topics in Theatre II
A specific topic in theatre which is not otherwise covered in depth in regular courses. The work may be practical (studio), theoretical or a combination of the two, depending on the particular topic in a given semester. (studio) Prerequisite: FPA 250 and/or prior approval.

FPA 372-3 Technical Production I
Students with basic production and design experience will undertake intermediate level responsibilities. As crew chiefs, stage management personnel, designers, students will be required to research problems in construction, staging and organization of production and to apply their solutions within the production process. Prerequisite: prior approval.

FPA 373-3 Technical Production II
A continuation of FPA 372-3. Students with some intermediate level technical theatre experience will undertake further production responsibilities. Prerequisite: FPA 372 and prior approval.

FPA 374-3 Stage Lighting
This course explores contemporary stage lighting for theatre, dance and opera. Participants will review the principles of theatrical lighting installations, (lecture/laboratory) Prerequisite: FPA 270 and prior approval. Students with credit for FPA 371 may not take FPA 374 for further credit.

FPA 375-3 Stage Design
For students who have gained the basic knowledge of technical theatre. Students will study various scenicographic techniques and be required to solve theoretical problems related to aspects of production. (seminar/laboratory) Prerequisite: FPA 170. Students with credit for FPA 370 may not take FPA 375 for further credit.

FPA 450-3 Advanced Studio Skills
Primarily a course in public performance, with the option of focusing on other advanced studio skills. The objective is to integrate and implement the techniques acquired in the earlier studies. (studio) Prerequisite: prior approval or audition.

FPA 453-3 Selected Topics in Directing
Primarily a course in the fundamentals of directing leading to a series of public performances. The course allows the option of public performance with a professional director. The focus is to integrate and implement the techniques acquired in this course, the student must pass a successful audition. Corequisite: FPA 254.

FPA 457-3 Context of Theatre III
An analytical approach to a selected body of dramatic work. Course content includes an intensive consideration of practical dramatic techniques such as story structure and dramaturgy. (seminar) Prerequisite: 45 credit hours and prior approval.

FPA 472-3 Technical Production III
Senior students with extensive experience in production and design will be assigned major production responsibilities. As senior designers and production management personnel, students will be required to apply their skills in a major production role. Prerequisite: FPA 373 and prior approval.

FPA 473-5 Technical Production IV
Students with extensive experience in production and design will be assigned major production responsibilities. As senior designers and production management personnel, students will be required to apply their skills in a major production role. Prerequisite: FPA 373 and prior approval.

Visual Art
FPA 160-3 Introductory Studio in Visual Art I
A hands-on studio course modeled on the progressive development of artistic practice from simple mark-making to full scale installation. Through a process of continuous transformation, an original idea is developed in a sequence of methods, materials and scales. Some research is required. (studio) Prerequisite: prior approval, based on an application to the school. A course materials fee is required.

FPA 161-3 Introductory Studio in Visual Art II
A continuation of the work begun in FPA 160, with emphasis on particular problems in the visual arts worked through a series of projects, culminating in the Campus Project, a site-specific public work designed, built and installed at the end of the semester. Some research is required. (studio) Prerequisite: FPA 160. A course materials fee is required.

FPA 163-3 Issues in Spatial Presentation
An interdisciplinary studio course concentrating on ideas of spatial perception, modification and installation, as they generally apply to the arts. From conceptualization and drawn perspective plans, to methods of scaling, projection, and construction and manipulation in actual space. (studio)

FPA 167-3 History of Art: 1839-1939
An introduction to the history of the visual arts from the beginnings of photography around 1839 up to WW II. A chronological review of the major works, movements and artistic developments in Europe and North America, placed in their social, institutional and stylistic context. (lecture)

FPA 168-3 History of Art: 1940-Present
This course covers the development of western art from the second world war to the present with attention to the important artists, artworks, ideologies and movements of this period. Debates around modernity, postmodernism, postcolonialism, feminism and the avant-garde will be systematically explored in relation to these factors. (lecture)
FPA 260-3 Studio in Visual Art I
This course permits students to work extensively in a mature critical studio environment on a combination of freely chosen and assigned projects in various contemporary media. Reading will be required. (studio) Prerequisite: FPA 161. A course materials fee is required.

FPA 261-3 Studio in Visual Art II
Continues work done in FPA 260-3. Work will combine freely chosen and assigned projects in a variety of contemporary media. Readings will be required as an integral part of studio work. (studio) Prerequisite: FPA 260 and status as an approved visual art major. A course materials fee is required.

FPA 262-3 Drawing I
This studio course introduces basic drawing skills, media and techniques. Drawing is taught in the context of its functions in contemporary art. Basic skills, approaches and techniques are practised both to develop students' physical abilities and their capacities to use drawing as a creative and imaginative method in all artistic work. (studio) Prerequisite: FPA 262 and status as an approved visual art major. A course materials fee is required.

FPA 263-3 Painting I
This course introduces students to painting as an art form, through the acquisition and application of skills and concepts relevant to the practice of the medium in a contemporary context. Students will work through problems and projects assigned by the instructor to develop their technical abilities in relation to subjects and content. (studio) Prerequisite: FPA 160.

FPA 265-3 Photography I
This course introduces students to the technical and material problems of photography as an art form and its relation to current art discourses and issues. Students will work through projects assigned by the instructor to develop their technical abilities in relation to subjects and content. (studio) Prerequisite: FPA 160.

FPA 269-3 Selected Topics in Visual Art I
A specific topic in visual art which is not otherwise covered in depth in regular courses. The work may be practical (studio), theoretical or a combination of the two, depending on the particular topic in a given semester. (studio) Prerequisite: will vary according to the topic.

FPA 360-3 Studio in Visual Art III
An open critical studio course. Students are required to have a program of work prepared at the beginning of the semester. This program will constitute the basis of the student’s work in the course, and will be the subject of continuing critical discussion. This discussion will be integrated with theoretical studies in the parallel seminar course, FPA 366. (studio) Prerequisite: FPA 261 and status as an approved major in visual art. A course materials fee is required. Corequisite: FPA 366.

FPA 361-3 Studio in Visual Art IV
An open critical studio course. It will continue and extend work done in FPA 360. Students are required to have a program of work prepared at the beginning of the semester. This program will form the basis of the student’s work in the course, and will be the subject of continuing critical discussion. This discussion will be integrated with theoretical studies in the parallel seminar course, FPA 367. (studio) Prerequisite: FPA 360 and 366. Corequisite: FPA 367.

FPA 362-3 Drawing II
A studio course in advanced drawing skills, media and techniques. Drawing is taught in the context of its functions in contemporary art. Advanced skills, approaches and techniques are practised both to develop students' physical abilities and their capacities to use drawing as a creative and imaginative method in all artistic work. (studio) Prerequisite: FPA 262 and status as an approved major or extended minor in visual art. A course materials fee is required.

FPA 363-3 Painting II
This is an advanced course in contemporary problems of painting emphasizing the acquisition and application of skills and concepts relevant to the practice of the medium in a contemporary context. Students will work through problems and projects assigned by the instructor to develop their technical abilities in relation to subjects and content. (studio) Prerequisite: FPA 263 and status as an approved major or extended minor in visual art. A course materials fee is required.

FPA 364-3 Sculpture II
This is an advanced studio course in the development of sculpture as an art form, through the acquisition and application of skills and concepts relevant to the practice of the medium in a contemporary context. Students will work through problems and projects assigned by the instructor to develop their technical abilities in relation to subjects and content. (studio) Prerequisite: FPA 264 or 170, and status as an approved major or extended minor in visual art. A course materials fee is required.

FPA 365-3 Photography II
This is an advanced studio course in the technical and material problems of photography as an art form and its relation to current art discourses and issues. Course techniques are divided between darkroom work and computer digital imaging. Students will work through projects assigned by the instructor to develop their technical abilities in relation to subjects and content. (studio) Prerequisite: FPA 265 and status as an approved major or extended minor in visual art. A course materials fee is required.

FPA 366-3 Seminar in Visual Art I
A seminar course to be taken by all students in FPA 360. It deals with visual art topics of an historical, critical and theoretical nature which concern practicing artists in the contemporary context. Students will be required to present research papers. Each research subject will be studied in connection with the student’s own artistic work. Senior students in other disciplines with appropriate background may request approval to take this course. Prerequisite: FPA 211. Visual art major students transferring into third year may request approval to take FPA 211 concurrently. Corequisite: FPA 360.

FPA 367-3 Seminar in Visual Art II
A seminar course to be taken by all students in FPA 361. It deals with visual arts topics of an historical, critical and theoretical nature which concern practicing artists in the contemporary context. Students will be required to present research papers. Each research subject will be studied in connection with the student’s own artistic work. Senior students in other disciplines with appropriate background may request approval to take this course. Prerequisite: FPA 366. Visual art major students transferring into third year may request approval to take FPA 211 concurrently. Corequisite: FPA 361.

FPA 369-3 Selected Topics in Visual Art II
A specific topic in visual art which is not otherwise covered in depth in regular courses. The work may be practical (studio), theoretical or a combination of the two, depending on the particular topic in a given semester. (studio) Prerequisite: will vary according to the topic.

FPA 460-3 Studio in Visual Art V
This course permits students to work in an open studio situation. Students propose an independent program of work in the media of their choice at the beginning of the semester and develop it in critical dialogue with the instructor(s). (studio) Prerequisite: FPA 361, 367 and status as an approved major in visual art. A course materials fee is required.

FPA 461-5 Studio in Visual Art VI
Permits students completing the visual art major to work in an open and critical studio situation. Students continue to develop a body of work begun in FPA 460 for their graduating exhibition at the end of the semester. Preparation and installation of the exhibition is part of the course requirement. (studio/seminar) Prerequisite: FPA 460 and status as an approved major in visual art. A course materials fee is required.

Criminology
Faculty of Arts

101-3 Introduction to Criminology
Topics will include: examination of different terms and concepts commonly used in criminology, such as crime, delinquency, deviance, criminal, victim, rehabilitation and treatment. Criminology as a body of knowledge and as a profession. Position and subject matter of criminology. Relationship between criminology and other academic disciplines. Specificity of criminology. Relationship between theory and practice. History and evolution of criminological thought. Elements of continuity and discontinuity between classical and modern theories of criminality. Levels of explanations in criminology. Practical applications of criminology. The foundations of a modern criminal policy. (lecture/tutorial) Prerequisite: students who have completed any or all of CRIM 101, 103 and 104 may not register for CRIM 100 or 102.

CRIM 103-3 Psychological Explanations of Criminal and Deviant Behavior
An introduction to, and critical examination of, biogenetic, psychiatic, and psychological explanations of criminal and deviant behavior. Special attention will be given to the hypothesized links between criminality and genetics, physiology, the endocrine system, mental disorders, personality, moral development, and other forms of social learning. (lecture/tutorial) Students who have completed any or all of CRIM 101, 103 and 104 may not register for CRIM 100 or 102. Recommended: PSYC 100 and 102.

CRIM 104-3 Sociological Explanations of Criminal and Deviant Behavior
A survey of some major sociological perspectives on criminial behavior that will include both traditional and critical theories. These will include: anomie, neutralization, control, group conflict, sub-cultural, ecological, functionalist and critical theories. Critical analysis of the assumptions upon which each theory is based. Examination of the similarities and differences between/among the various explanations. (lecture/tutorial) Students who have completed any or all of CRIM 101, 103 and 104 may not register for CRIM 100 or 102. Recommended: SA 150.

CRIM 131-3 Introduction to the Criminal Justice System – A Total System Approach
Introductory analysis of the structure and operation of the Canadian criminal justice system. Examination of the patterns of crime and victimization; police operations, discretion and decision making; the criminal courts, including sentencing; the corrections system, including correctional institutions and community-based models; the youth justice system. Patterns of contact and conflict between various social groups and the criminal justice system. (lecture/tutorial)

CRIM 135-3 Introduction to Canadian Law and Legal Institutions: A Criminal Justice Perspective
A general introduction to the fundamental and competing principles of jurisprudence and to the basic legal institutions of Canada. Prepares students for those law and law related courses offered within
the School of Criminology and will consider the history of Canadian law, the development of the Canadian constitution, the system of Canadian courts and the roles and responsibilities of members of the legal profession. In addition, the course will consider the nature of legal reasoning, the doctrine of precedent, principles of statutory interpretation and will also introduce the fields of contract, torts, administrative law, and family law. Also examines the process of law reform in Canada. (lecture/tutorial)

CRIM 160-0 Practicum I
First semester of work experience in the criminology co-operative education program. (practicum) Prerequisite: 30 semester hours (at least fifteen completed at Simon Fraser University) including CRIM 101, 220, 131, 135 and one of PSYC 210, STAT 101 or 203, with a cumulative grade point average of not less than 2.75. Students should apply to the Faculty of Arts co-op co-ordinator one semester in advance.

CRIM 203-3 Historical Reactions to Crime and Deviance
Historical review of society's reaction to crime and deviance, relating this history to religious, political, social and philosophical movements and schools of thought. Consideration of the history and evolution of punishment and penal methods and the historical forces influencing the development, implementation, and modification of these methods. (lecture/tutorial) Prerequisite: any 100 level CRIM course.

CRIM 210-3 Law, Youth and Young Offenders
An analysis of the definition and control of youthful misconduct in an historical and contemporary context. Attention is focused upon: the social construction of 'juvenile delinquency', the decline of the concept, and the emergence of the concept of the 'young offender'; the Young Offenders Act and related legislation; the growth of the welfare state and the role of social workers in 'policing' youth and families; explanations for the criminal behavior of young persons; state and private sector programs designed to deal with such behavior. (lecture/tutorial) Prerequisite: any 100 level CRIM course.

CRIM 213-3 Introduction to Women and Criminal Justice
This course offers an historical and analytical overview of women and crime, taking into account the role of gender in both criminality and social responses to crime. Specific emphasis will be given to feminist theories. Attention will focus on the specific crimes and patterns of control and punishment. (lecture/tutorial) Prerequisite: any 100 level CRIM course.

CRIM 220-3 Research Methods in Criminology
An introduction to criminological research that is intended to develop the student's research and analytical skills. Specifically, the course will focus on the theory of inquiry, the logic, and structure of criminological inquiry, research design, data gathering, analysis and reporting. (lecture/tutorial) Students with credit for CRIM 120 may not take CRIM 220 for further credit. Recommended: any 100 level CRIM course.

CRIM 230-3 Criminal Law
Nature, purpose, scope, sources and basic principles of the criminal law. Study of certain fundamental legal concepts such as mens rea, negligence and strict liability. Analysis of the concept of criminal responsibility in Canada. Critical examination of the legislative policies expressed in the Criminal Code. Study of the basic elements of a criminal offence. Examination of the factors relating to certain specific crimes and to certain major offences. Impact of Canadian Charter of Rights and Freedoms on the specific crimes and to certain major defences. Impact Examination of the legal principles relating to certain major defences. Study of the basic elements of a criminal offence. (lecture) Prerequisite: CRIM 135.

CRIM 231-3 Introduction to the Judicial Process
A critical examination and evaluation of the judicial process. An introduction to the criminal courts and the legal profession. The structure and functions of the criminal court system and its relationship to other branches of government. The role of the criminal court judge, prosecutor, lawyer, jury, witness, expert, etc. Appointment, tenure, removal of judges; the social psychology of the courts; the jury system; plea bargaining; judicial behavior of the courts; the courts and the community; public opinion, attitudes and images of the courts; the mass media and the courts. (lecture/tutorial) Prerequisite: CRIM 131. Recommended: CRIM 135.

CRIM 241-3 Introduction to Corrections
An examination of the organization, structure and operation of contemporary Canadian corrections. A consideration of the history and development of provincial and federal correctional systems. The role of sentencing in the correctional process and alternatives to confinement. Discussion of the social organization of correctional institutions, including the inmates, correctional officers, correctional treatment staff and administrators. Parole board decision making and the issues surrounding the re-entry of offenders into the community. Community-based corrections programs and outcomes. (lecture/tutorial) Prerequisite: CRIM 131.

CRIM 251-3 Introduction to Policing
An examination of the organization and operation of contemporary Canadian policing. Consideration of the history and development of policing in Canada, the role of the police in Canadian society and the police occupation, including recruitment and training. Discussion of police decision making and the exercise of discretion, police powers, and structures of accountability. Managing the police organization. Examination of police-community relations and crime prevention initiatives. (lecture/tutorial) Prerequisite: CRIM 131. Students with credit for CRIM 151 may not take CRIM 251 for further credit.

CRIM 261-0 Practicum II
Second semester of work experience in the criminology co-operative education program. (practicum) Prerequisite: successful completion of CRIM 161 and 45 credit hours with a minimum CGPA of 2.75.

CRIM 300-3 Current Theories and Perspectives in Criminology
A detailed examination of current theories and perspectives in criminology. The content of the course will change with developments in the area. Students can expect to study biological, psychological and sociological theories and perspectives, as well as those from other relevant disciplines and fields of inquiry (e.g. geography, political science and cultural studies). (lecture/tutorial) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 301-3 Crime in Contemporary Society
Contemporary issues, problems and themes pertinent to the field of criminology. Development, character and function of crime in academic and professional discipline. Status of criminology in the Canadian context. Selected issues of the study of crime, law and justice which will vary depending on instructor. (lecture/tutorial) This course may not be taken by students who are majoring or minoring in Criminology.

CRIM 302-3 Critical Approaches to Crime and Deviance
Critique of traditional criminological theory and of the conventional approaches to the problems of crime and punishment. Critique of classical etiological criminology. Examination of the relationships between crime, class and power. The criminal as a scapegoat for the system. The stereotype of the criminal. Street crime vs. corporation and state crime. Criticism of treatment ideology and techniques. Comparison of conservative and radical criminal policy. The controversy about the possibility of a value-free social science. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 310-3 Young Offenders and Criminal Justice: Advanced Topics
This course will examine, on a semester basis, some of the more complex contemporary issues relating to young offenders and justice. For any given semester, the content of the course will reflect current controversies as well as faculty and student interests. Topics may include social control theory and juvenile justice; an assessment of theories of rehabilitation; the legal philosophy of the young offenders legislation and its Impact on Juvenile justice; and an evaluation of diversion, deinstitutionalization and Delegalization in Canada and the United States. (seminar) Prerequisite: one of CRIM 100, 101 or 102; 210.

CRIM 311-3 Minorities and the Criminal Justice System
An analysis of political, economic, and ethnic minorities and their relationship with the criminal justice system. Critical analysis of possible discordance, disharmony or conflict between ethnic and racial minorities such as Native Indians, Inuit, Metis, Doukhobor and others and the legal and social norms of the 'host' majority. Women and the criminal justice system. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 312-3 Criminological Perspectives on Social Problems
Involves detailed study of forms of deviance that have been commonly defined as constituting 'social problems'. Consideration of drug abuse (alcohol, nicotine, heroin and others), suicide, prostitution, obscenity, gambling and abortion. Justifications for present legislative policy and the relationship between these activities and the criminal justice system. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 313-3 Specific Types of Crimes
Critical analysis of a specific type of crime with particular emphasis on the nature, the incidence, correlates, control and prevention. Special attention may be given to white collar crime, computer crime, organized crime, violent crimes, political crimes, sexual offence, professional crimes, mortality crime, etc. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 314-3 Mental Disorder, Criminality and the Law
Critical examination of the impact of psychiatry and related clinical professions on the criminal justice system. Relationship between institutions of mental health and legal control. The relevance of psychiatric theory and decision-making for the processing of mentally disordered offenders. The role of forensic clinicians in the courts, prisons, mental hospitals and related agencies. Specific issues addressed in this course will include psychiatric assessment, criminal responsibility, fitness to stand trial, prediction of dangerousness, treatment of mentally ill criminals and the penal and therapeutic commitment of the insane. (lecture/tutorial) Prerequisite: one of CRIM 100, 101 or 102. Recommended: CRIM 131.

CRIM 315-3 Restorative Justice
An examination and analysis of the principles, assumptions and key concepts relating to restorative (Transformative) justice. The course will contrast restorative justice with the dominant retributive/punitive model of justice and provide an introduction to a variety of both established and emerging expressions of restorative justice including, victim/offender reconciliation programs, family/group
CRIM 320-5 Advanced Research Issues in Criminology
A detailed examination and application of the research methods and techniques most frequently used in criminological research. Advantages and shortcomings of each method and the appropriateness of each technique for the specific types of criminological research. Problems of pure and applied research. Ethics of criminological research. Specific issues of interdisciplinary research. Critical evaluation of the methods utilized in certain major criminological studies. (lecture/laboratory) Prerequisite: one of CRIM 100, 101 or 102; 220.

CRIM 330-3 Criminal Procedure and Evidence
Critical examination of selected topics in criminal procedure and evidence, including jurisdiction, police powers of search and seizure, the right to counsel and pre-trial and trial procedures. Brief survey of the system of rules and standards by means of which the admissibility of evidence is determined. Close examination of the Charter of Rights and Freedoms and its impact on criminal procedure and evidence. (lecture/tutorial) Prerequisite: one of CRIM 100, 101 or 102; 230.

CRIM 331-3 Advanced Criminal Law
An extension of CRIM 230, this course will examine Canadian criminal law in greater depth as well as in comparison with other jurisdictions. Each semester several substantive areas will be analysed closely. The areas to be examined will be determined by student interest but may include sexual offences, public order offences, mental disorder and the criminal process, property offences, etc. (seminar) Prerequisite: one of CRIM 100, 101 or 102; 230.

CRIM 332-3 Sociology of Law
Introduction to the theory of sociology of law. Law and social structure. Law as a product of a social system and as an instrument of social change. Social functions of the law. Relationship between law and the structure and function of various other social institutions. The process of law-making. Process by which various interests become translated into legal rules. The social reality of the law; the law in action. Social sciences findings into the operation and practice of the law. Critical and feminist perspectives on law. Public knowledge, awareness, opinions and attitudes to the law, sanctions and the criminal justice system. (lecture/tutorial) Prerequisite: one of CRIM 100, 101 or 102; 135.

CRIM 332-3 Women, Law and the State
This course will provide an in-depth consideration of feminist perspectives on the relationship of women to the state and the law. The nature of the contribution of criminal and family law to the reproduction of gender relations will be analysed. The implications of legal intervention and non-intervention in family relations, sex-specific and sex-related legislation will be examined. Theoretical concepts and issues such as patriarcal relations, sexuality and reproduction, and formal and informal control will be addressed. (seminar) Prerequisite: one of CRIM 100, 101 or 102; 135. Recommended: CRIM 213.

CRIM 335-3 Human Rights and Civil Liberties
A study of the relationship between the government and the individual. Focus upon the Canadian Charter of Rights and Freedoms and its interpretation by the judiciary. Examination of the issues of equality before the law, freedom of speech, freedom of religion and freedom of expression. A study of human rights at the international, federal and provincial levels. (lecture/seminar) Prerequisite: CRIM 330.
credit toward the degree more than three special
topics courses (i.e. CRIM 416, 417, 418).

CRIM 419-3 Indigenous Peoples, Crime, and
Criminal Justice
An in-depth examination of indigenous peoples and
the criminal justice system. Historical and
cultural and current-day considerations of indigenous-white
contact. Indigenous conflict with the law and
involvement in the criminal justice system. Crime and
the delivery of criminal justice services in the
Canadian north, including the role of the R.C.M.P and
the activities of the circuit criminal court. Examination of
federal and provincial policies designed to reduce
over-representation of indigenous peoples in the
criminal justice system. The creation of indigenous-
controlled programs and criminal justice structures to
reduce indigenous conflict with the law. Comparative
study of other jurisdictions including Greenland, the
United States and Australia. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 420-3 Advanced Topics in Criminological
Research
An extension of CRIM 220 and 320, this course will examine one or more of the following: evaluative
research in the criminal justice context; techniques and
efficacy of predicting delinquency and recidivism;
survey research; archival, historical or legal methods;
field research, etc. (lecture/seminar) Prerequisite: one of CRIM 100, 101 or 102; 320.

CRIM 431-3 Comparative Criminal Justice
Systems
Critical examination of the theory and method of
comparative criminal justice. Review of common law
systems, civil law systems, and socialist law systems.
Specific consideration of the development, structure
and operation of the criminal justice systems in
selected countries, which may include England,
France, Federal Republic of Germany, the former
Soviet Union, the People's Republic of China, and
Japan. Focus on the impact of historical, social,
political, religious and cultural factors on the criminal
justice process. Consideration, of the structure and
operation of various components of the criminal
justice process in selected countries, including the
police, criminal courts, and corrections. (seminar)
Prerequisite: one of CRIM 100, 101 or 102.

CRIM 432-3 Gender in the Courts and the
Legal Profession
The gendered nature of law will be addressed through
an examination of its underlying factual assumptions,
and the use of social science research as evidence in
equality litigation. The use of the charter, human
rights legislation, and other legal means to achieve
gender equality through the legal system in the areas of
work, employment and pay equity, and
compensatory schemes for personal injuries will also be
examined. This course will also examine women's
struggles to gain admittance to the legal profession,
and the barriers which may still prevent them from
participating equally in the profession today. (seminar)
Prerequisite: CRIM 330.

CRIM 436-3 Corporate Crime and Corporate
Regulation: Advanced Topics
A detailed examination and analysis of particular
types of corporate wrongdoing and the nature and
impact of the relevant legal and administrative
framework. The topics will be selected by the
particular course instructor and will, therefore, vary
according to the instructor's interests as well as
topicality. The areas of corporate crime which are
chosen may include one or more of the following:
'economic crimes' such as violations of statutes which
regulate competition, protect intellectual property, and
saveguard stock market investors; crimes against the
environment such as air and water pollutants and
and, crimes against consumers including the marketing of
hazardous products, contaminated food, or
dangerous drugs and devices. (seminar) Prerequisite:
one of CRIM 100, 101 or 102. Recommended: CRIM 336.

CRIM 437-3 Crime and Misconduct in the
Professions
This course will examine the use of self regulation by
professional organizations (e.g. law societies, colleges of physicians and surgeons, stock
exchanges) and the increasing demand by other
occupational groups and social and economic entities
to be governed by these internal controls in addition
to, or in lieu of, the criminal law. It will specifically
examine how the criminal law is used in the context of
self-regulation and how professionals can bypass the
criminal law through self-regulating organizations.
The professions will be examined in the context of
administrative, civil and criminal law. Implications for
self-regulation in other areas and the future of self-
regulation will also be considered. (seminar)
Prerequisite: CRIM 330.

CRIM 440-3 Correctional Administration and
Planning
Theory and practice of organization and
administration of correctional agencies. Particular
attention is given to the political/bureaucratic interface
in correctional administration, management styles,
labor relations, management support systems and
program planning. Identification and assessment of
corrections management objectives. The relationship
between corrections administration and other
components of the criminal justice system. (lecture/
seminar) Prerequisite: one of CRIM 100, 101 or 102;
131 and 241. Recommended: POL 251

CRIM 442-3 Correctional Practice: Advanced
Topics
An in-depth examination of the various community-
and institutional programs and techniques
utilized in correctional systems. The choice of
programs and techniques will depend upon the
instructor but may include a range of restorative
justice initiatives (e.g. victim-offender reconciliation,
family-group conferencing, and circle remedies),
traditional psychodynamic therapies (e.g. behaviour
modification and guided group interaction) and
education or skill development programs. The course
may include a consideration of the applicability of the
precepts of clinical criminology to correctional
practice. (seminar) Recommended: CRIM 315 and 343.

CRIM 450-5 Techniques of Crime Prevention II
Introduction to the modern techniques of crime
prevention. Emphasis will be on crime prevention and
reduction in fear of crime. Crime prevention through
social change. Crime prevention through
environmental design. Crime prevention through
physical planning and architectural design. The
concept of 'defensible space,' Obstructing and
reducing the opportunities for the commission of
crimes. Evaluating crime prevention programs.
(lecture/laboratory) Prerequisite: one of CRIM 100,
101 or 102.

CRIM 455-3 Law Enforcement Administration
and Planning
This course will cover the following topics: theory and
practice of organization and administration of law
enforcement agencies. Professional police
management, Internal relations. Police strikes.
Problems of law enforcement manpower: recruitment,
selection, education, training, manpower alternatives,
forecasting manpower needs. Problems of
development, promotion and advancement.
Personnel supervision, internal discipline. Problems of
communication, information and statistics.
Improving resource allocations by means of
operation research, Evaluative research; cost-
benefit analysis. Computer uses in law enforcement.
Police-community relations. Improving police image
and public attitudes towards the police. Relations with
other sectors of the criminal justice system. (lecture/
seminar) Prerequisite: one of CRIM 100, 101 or 102;
131 and 251.

CRIM 461-0 Practicum IV
Fourth semester of work experience in the
criminal justice agencies. Students are required to
to attend regular feedback seminar discussions
with faculty supervisors and other field practicum
students. Prerequisite: prior approval of the school
and a minimum CGPA of 2.5 is required. Applicants
must be formal criminology majors or honors
students, and must be registered in or have
completed CRIM 320 and CRIM 369. A minimum
grade of B- in CRIM 369 is required. Only under
exceptional circumstances, to a limit of three credit
hours, and with the formal written approval of the
director of the undergraduate program, will
registration for course work in addition to CRIM 462
be permitted.

CRIM 470-5 Directed Studies
Independent research in a selected criminological
area, under the direction and supervision of at least
one faculty member. A research report is required.
Prerequisite: CRIM 320 and 330. Written application
to the school no later than the last day of classes of
the preceding semester. Reserved for criminology
honors and majors. Recommended: CRIM 370.

CRIM 490-5 Honors Thesis I
An in-depth investigation of a selected topic in criminology, including a comprehensive review of the
literature and the formalization of a research
proposal. Open only to students who have been
admitted to the criminology honors program.

CRIM 491-5 Current Theory and Research in
Criminology: Advanced Topics
A detailed and comprehensive examination of the
dominant theoretical research programs currently
found in criminology. The subject matter of the
seminars may change from year to year according to
 topicality and may include the following: biological
theory and research; social psychological research
programs (e.g., social learning theory); environmental
 criminology; state theory; new social movements
theory; left realism; feminism; post structuralism and
post modernism. Students are also required to attend
a weekly pro-seminar. (seminar) Prerequisite: normally open only to students who have been
admitted to the criminology honors program. Other
students may be admitted under exceptional
circumstances with the written permission of the
director of undergraduate programs.

CRIM 499-12 Honors Thesis II
An honors thesis is a research report written under
the supervision of a faculty member, a copy of which
is to be permanently lodged in both the University
library and the School of Criminology. Students are
required to attend a weekly seminar at which various
issues associated with the linking of theory and method
are examined and where students can both
discuss their progress and share their research
experiences. On completion, the thesis is to be orally
defended in a school seminar. Open only to students
who have been admitted to the criminology honors
program. Students are not permitted to take other
courses while enrolled in this course.
Earth Sciences
Faculty of Science

EASC 101-3 Physical Geology
An introduction to the origin and character of minerals, rocks, earth structure, earth surface processes and plate tectonic theory. (2-0-3) Students with credit for GEOG 112 cannot take this course for further credit.

EASC 102-3 Historical Geology
An introduction to the study of the evolution of the earth; the geological time scale, fossils and evolution; stratigraphic concepts; geological history of western Canada. (2-0-2) Prerequisite or corequisite: EASC 101 or GEOG 111. With the permission of the instructor, students with credit for geology 12 may have the prerequisite waived.

EASC 201-3 Stratigraphy and Sedimentation
An introduction to the nature, origin and interpretation of stratified earth materials. Principles of lithostratigraphy, biostratigraphy and chronostratigraphy. Sequence stratigraphy. The facies concept. (2-0-2) Prerequisite: EASC 101 or GEOG 111; and EASC 102.

EASC 202-3 Introduction to Mineralogy
Introduction to crystallography, crystal chemistry and chemical properties and chemical principles necessary for the study of minerals. (2-0-3) Prerequisite: EASC 101. Corequisite: CHEM 121.

EASC 203-3 Paleontology
Principles of classification, morphology and development of the major groups of animals and plants in the geological record; the paleoecologic significance of fossils. (2-0-2) Prerequisite: EASC 102. Recommended: BISC 102.

EASC 204-3 Structural Geology I
Description, classification and interpretation of earth structures: folds, faults, joints, cleavage and lineations. Elementary rock mechanics. (2-0-3) Prerequisite: EASC 101 and 102, PHYS 120.

EASC 205-3 Introduction to Petrology
Optical phenomena related to the use of the polarizing microscope in the identification of minerals in thin section. Petrogenesis and classification of igneous sedimentary and metamorphic rocks. Hand specimen and thin section identification of rocks and minerals. (2-0-3) Prerequisite: EASC 202, CHEM 122, PHYS 121 and 122.

EASC 206-1 Field Geology I
Seven days of field excursions to demonstrate the geology of British Columbia, (field study) Prerequisite: EASC 101 and 102.

EASC 207-3 Introduction to Geophysics
An introduction to geophysics emphasizing seismic, magnetic and gravimetric observations of the Earth. Applied geophysics. (2-0-3) Prerequisite: EASC 101, PHYS 121 and 131.

EASC 208-3 Introduction to Geochemistry
Low temperature aqueous solution geochemistry. Geochemical problems in sedimentary and geomorphic environments. (2-0-3) Prerequisite: EASC 101, CHEM 121, 122 and 126.

EASC 301-3 Igneous and Metamorphic Petrology
Mineralogy, phase relations, origin of igneous rocks; classification of igneous rocks. Mineralogy and textures of metamorphic rocks; hand sample and thin sections. (2-0-3) Prerequisite: EASC 205.

EASC 302-3 Sedimentary Petrology
Description and classification, field and microscopic identification of sedimentary rocks; petrogenesis and paleoenvironmental reconstruction. (2-0-3) Prerequisite: STAT 101, EASC 201 and 205.

EASC 303-3 Environmental Geoscience
Environmental geology is a branch of ecology which deals with the relationship of people to their geological habitat. Topics covered will include environmental impact of mining extraction and logging; erosion and sedimentation in rural and urban environments; mass movements in mountainous terrain. (2-0-2) Prerequisite: 75 credit hours including six credit hours in Earth Sciences.

EASC 304-3 Hydrogeology
Introduction to the theory of groundwater flow; flow nets; well hydraulics; regional groundwater evaluation. (2-0-3) Prerequisite: EASC 201 and PHYS 121.

EASC 306-2 Field Geology II
A ten day field camp held after final exams in the Spring semester. The camp will focus on the field methods of logging, mapping and interpreting rocks in the field setting. Field locations will vary from year to year. (field study) Prerequisite or corequisite: EASC 201, 204, 205 and 206.

EASC 307-3 Applied Geophysics
Application, instrumentation and limitations of electrical, electromagnetic, ground penetrating radar and seismic methods for engineering and geoscience applications. (2-0-3) Prerequisite: EASC 207.

EASC 309-3 Global Tectonics
The study of motion and deformation of the earth’s crust and upper mantle at a regional and global scale. A detailed examination of plate tectonic theory; plate boundary types, mechanics of plate movements, basin formation and mountain building. Case studies of major orogenic belts of the world highlighting regional structural deformation processes in response to tectonic stresses. (2-0-3) Prerequisite: EASC 201, 204, 205, 206. Students who completed EASC 407 prior to fall 1998 may not take this course for credit.

EASC 317-3 Global Geophysics
Application of geophysical methods to the study of the Earth’s evolution and its interior structure; geometrical nature of plate tectonics on a sphere; the Earth’s magnetic field and its use in reconstruction of past plate motions; earthquake seismology and understanding the deep interior, gravity and lithospheric flexure, radioactive decay and an absolute geological time scale; heat loss and mantle convection; structure of oceanic lithosphere; structure of continental lithosphere; the early Earth and the tectonics of other planets. (2-0-2) Prerequisite: EASC 207 or permission of instructor.

EASC 401-3 Mineral Deposits
The petrology and genesis of metallic ore deposits; description of classic ore deposits; the occurrence and exploitation of industrial and non-metallic minerals. (2-0-3) Prerequisite: EASC 201, 204, 208 and 301.

EASC 402-3 Sedimentology
Sediment transport in fluids, the formation, character and classification of internal structures in sediments and paleoenvironmental analysis. (2-0-3) Prerequisite: EASC 302.

EASC 403-3 Quaternary Geology
Stratigraphy and history of the quaternary period with emphasis on glaciation, glacial sediments, and holocene alluvial fills. (2-0-3) Prerequisite: EASC 201 and GEOG 313.

EASC 404-3 Subsurface Methods for Environmental Geoscience
Theory, analysis and practical interpretation of well logs. Use of well logs in petroleum, coal resource evaluation, and environmental geoscience. (2-0-3) Prerequisite: at least 60 credit hours including nine hours of upper level earth sciences credits.

EASC 405-3 Basin Analysis
The study of major depositional systems. Methods of analyzing basin geometry, depositional and tectonic history; basin classification; basin models; basin chronology. Extensive use of western Canadian examples. (2-0-3) Prerequisite: 75 credit hours and EASC 306.

EASC 406-3 Field Geology III
Methods of observing, recording and correlating geologic data. A 14 day field school will be held after the spring examination period. (field study) Prerequisite: EASC 306.

EASC 408-3 Regional Geology of Western Canada
The stratigraphy, structure and historical geology of western Canada. Terrain analysis. Important mineral and fossil sites will be discussed. (2-0-3) Prerequisite: EASC 309. Students who completed EASC 305 prior to fall 1998 may not take this course for credit.

EASC 409-3 Rivers: Environments and Engineering
Fluid mechanics of open channel flow, channel formation and maintenance, sediment transport and deposition, and river engineering case studies. (2-0-2) Prerequisite: EASC 201, GEOG 313, MATH 152 and PHYS 121.

EASC 410-3 Groundwater Geochemistry and Contaminant Transport
An introduction to chemical and mass transport processes in groundwater regimes. Topics include the basic principles of aqueous geochemistry, the evolution of groundwater in different natural geological environments, and contaminant hydrogeology. The processes and principles governing mass transport, including advection, dispersion and diffusion are emphasized. (2-0-3) Prerequisite: EASC 304, CHEM 121. Recommended: CHEM 122.

EASC 411-3 Applied Environmental Geology
The application of geologic principles and techniques to environmental problems. Emphasis will be placed on urban and forested environments at both local and regional scales. Geologic case histories. (2-0-3) Prerequisite: EASC 206, 303, GEOG 253, 313.

EASC 412-3 Advanced Geochemistry
Application of thermodynamics to earth science problems, experimental study of mineral equilibria, thermodynamic development of geothermometers for earth systems science, the importance of aqueous and gaseous phases in the transport and precipitation of geological phases framed within the context of global tectonics, and the application of stable and radiogenic isotopes to problems within the earth sciences. (2-0-2) Prerequisite: EASC 208, 301.

EASC 416-3 Field Techniques in Hydrogeology
This course is intended to complement the theoretical aspects of hydrogeology by providing students with hands-on experience using dyrogeological equipment, and implementing sampling and testing protocols. The course involves a series of pre-field session assignments consisting of the analysis and interpretation of geophysical, geochemical and surficial geology data, and a week at a hydrogeology field site on the Fraser River delta, British Columbia. After the field work, students will conduct extensive analysis and interpretation of data gathered during the field session, complete exercises and prepare a written report. The course runs for about three weeks following spring semester final examinations. (field study) Prerequisite: EASC 304. Corequisite: EASC 410. Recommended: EASC 207 and/or 307.

EASC 417-3 Exploration Seismology
Application of seismic methods to the delineation of hydrocarbon deposits. Elasticity theory and the seismic wave equation; body and surface waves; plane wave partition at an interface; Zoeppritz’
equations, AVO and direct hydrocarbon detection; plane layer traveltine expressions; seismic field data acquisition methods; reflection data processing including deconvolution and migration, introduction to seismic interpretation, well logs and geological correlation. (2-0-2) Prerequisite: EASC 307 or 317 or permission of instructor. Recommended: MATH 252.

EASC 490-0 Undergraduate Seminar
A seminar for undergraduates in their final year of the earth sciences program. Visiting speakers, site visits to mines and drilling locations. Discussions of the application of earth science in industry. (1-0-0) Prerequisite: 90 credit hours and majoring in earth sciences or physical geography.

EASC 491-1 Directed Readings
A course in which reading and research, and/or field work will be supervised by a faculty member. (seminar) Prerequisite: 75 credit hours including 30 hours in earth sciences courses and permission of the department.

EASC 492-2 Directed Readings
A course in which reading and research, and/or field work will be supervised by a faculty member. (seminar) Prerequisite: 75 credit hours including 30 hours in earth sciences courses and permission of the department.

EASC 493-3 Directed Readings
A course in which reading and research, and/or field work will be supervised by a faculty member. (seminar) Prerequisite: 75 credit hours including 30 hours in earth sciences courses and permission of the department.

EASC 499-9 Honors Thesis
Will include experimental and/or theoretical research in earth sciences or a related discipline, and the preparation of a thesis (research report). Selection of a research topic and preparation of the thesis will be conducted in consultation with a faculty member. A research seminar will be held at the end of the semester. (student project) Prerequisite: 105 credit hours, admittance to the honors program and consent of a thesis supervisor.

Economics
Faculty of Arts
See also courses listed under Business Administration and Economics (BUEC).

Prerequisites for any course may be waived for individual students by the department. In order for a course to be accepted as fulfilling a prerequisite, or for a required course to be accepted in a student's program in Economics (i.e. major, joint major, honors, joint honors or minor), a student must have obtained a grade of C- or higher.

ECON 101-3 The Canadian Economy
An introduction to the development of the Canadian economy and the analysis of Canadian economic problems. (lecture/tutorial) Students with credit for Economics courses at the 200 (or higher) division (excluding ECON 200 and 205) may not take ECON 101 for further credit.

ECON 102-3 Contemporary World Economies
An examination of the nature, experience and prospects in the 20th century of economies with differing structures, systems and levels of economic development. Consideration of the role, merits and problems of economic planning, both in developed and less developed countries. (lecture/tutorial) Students with credit for Economics courses at the 200 (or higher) division (excluding ECON 200 and 205) may not take ECON 102 for further credit.

ECON 103-3 Principles of Microeconomics
The principal elements of theory concerning utility and value, price and costs, factor analysis, productivity, labor organization, competition and monopoly, and the theory of the firm. (lecture/tutorial) Prerequisite: 12 credit hours. Students with credit for ECON 200 cannot take ECON 103 for further credit.

ECON 105-3 Principles of Macroeconomics
The principal elements of theory concerning money and income, distribution, social accounts, public finance, international trade, comparative systems, and development and growth. (lecture/tutorial) Prerequisite: 12 credit hours. Students with credit for ECON 205 cannot take ECON 105 for further credit.

ECON 110-3 Foundations of Economic Ideas
A preliminary approach designed to familiarize students with economic ideas and methods of economic analysis. The focus will vary from semester to semester. (lecture) Students with credit for ECON 100 cannot take ECON 110 for further credit.

ECON 208-3 History of Economic Thought
An examination of the nature, experience and evolution of the main concepts of economic theory. Attention will be given to the relationship between doctrines and the economic, political, and social environment in which they developed. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205. Students with credit for ECON 308 may not take ECON 208 for further credit.

ECON 210-3 Money and Banking
Banking theory and practice in a Canadian context; the supply theory of money; the demand for money and credit creation; monetary policy in a centralised banking system and its relation to international finance. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205. Students with credit for ECON 310 cannot take ECON 210 for further credit.

ECON 250-3 History of Economic Development (A)
The pre-industrial period. History of the economic development of civilization from ancient times until the industrial revolution. Emphasis will be placed on the influence of geographical factors, discoveries and inventions, religion, and social organization and customs. (lecture/tutorial) Prerequisite: ECON 103 or 200 and ECON 105 or 205. Students with credit for ECON 150 cannot take ECON 250 for further credit.

ECON 252-3 History of Economic Development (B)
The industrial period. Analysis of the main historical features of economic development from the industrial revolution to the present (lecture/tutorial) Prerequisite: ECON 103 or 200 and ECON 105 or 205. Students with credit for ECON 152 cannot take ECON 252 for further credit.

ECON 260-3 Environmental Economics
Economic analysis of environmental problems (water and air pollution, etc.). Evaluation of market failures due to externalities and public goods. Market and non-market regulation of environmental problems. (lecture/tutorial) Prerequisite: ECON 103 or 200. Students with credit for ECON 360 cannot take this course for further credit.

ECON 261-3 Resources and the Economy of British Columbia
Review of the development of the British Columbia economy with particular emphasis on the role played by natural resources. Examination of the economics of major BC natural resources and the design of policies for their exploitation. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205. Students with credit for ECON 201 cannot take this course for further credit.

ECON 276-0 Economics Practicum I
First semester of work experience in the Economics Co-operative Education Program. Prerequisite: 30 credit hours including ECON 103 or 200 and ECON 105 or 205. At least 12 of these 30 credit hours must be completed at Simon Fraser University with a minimum CGPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester.

ECON 279-0 Economics Practicum II
This is the second semester of work experience in the economics co-operative education program. Prerequisite: economics lower division requirements and completion of 45 semester hours at least 12 of these 30 credit hours must be completed at Simon Fraser University, with a CGPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester.

ECON 282-3 Selected Topics in Economics
The subject matter will vary from semester to semester. (lecture/tutorial) Prerequisite: ECON 103 or 200, and 105 or 205.

ECON 290-3 Canadian Microeconomic Policy
A general survey of Canadian microeconomic policy issues. The course covers topics such as regulation, taxation, environmental and resource policy, health care, education and income distribution. (lecture/tutorial) Prerequisite: ECON 103 or 200 and ECON 105 or 205.

ECON 291-3 Canadian Macroeconomic Policy
A general survey of Canadian macroeconomic policy issues. Topics will include the costs of inflation and unemployment, monetary and fiscal policy, the effects of government debt and exchange rate policy. (lecture/tutorial) Prerequisite: ECON 103 or 200 and ECON 105 or 205.

ECON 301-5 Intermediate Microeconomic Theory
The study of the main principles and techniques of economic analysis in their application to modern theories of price, production, distribution, and the theory of the firm. (research report) Prerequisite: ECON 103 or 200 and ECON 105 or 205; MATH 157; and two 200 division ECON or BUEC courses (excluding BUEC 232), 60 credit hours or permission of the department.

ECON 305-5 Intermediate Macroeconomic Theory
Concepts and methods of analysis of macroeconomic variables - consumption, investment, government and foreign trade. Classical and Keynesian models compared; analysis of economic statics and dynamics. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; MATH 157; and two 200 division ECON or BUEC courses (excluding BUEC 232), 60 credit hours or permission of the department.

ECON 309-5 Introduction to Marxsian Economics
Examination of Marx's economic theory, with particular emphasis on capital, theories of surplus value, and the Grundrisse. Consideration of earlier work as the basis for studying the above. Identification of the critical differences between Marxian economic theory and the dominant schools of economic theory in North America. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205, or permission of the department; 60 credit hours.

ECON 325-3 Industrial Organization
Introduces students to the economics of imperfect competition. Topics covered include the theory of the firm, market structure, and various aspects of firm strategy such as pricing, advertising, product differentiation, and innovation. Related questions of public policy will also be addressed. Prerequisite: ECON 301; 60 credit hours.

ECON 331-5 Introduction to Mathematical Economics
The mathematical interpretation of fundamental economic concepts; demand, supply, competitive equilibrium. Application of the calculus to production and distribution theory, growth models and investment
theory. Differential and difference equations in dynamic economic models. Introduction to activity analysis. (lecture/tutorial) Prerequisite: ECON 103, 105 and MATH 157 or 151; 60 credit hours.

ECON 342-3 International Trade
Topics discussed in this course are: gains from trade in a classical world; the modern theory of international trade; factor price equalization; empirical tests and extensions of the pure theory model; economic growth and international trade; the nature and effects of protection; motives and welfare effects of factor movements; multinational enterprises; the Brain drain; customs union theory; pollution control and international trade. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours or permission of the department. Students with credit for ECON 442 cannot take this course for further credit.

ECON 345-3 International Finance
Foreign exchange markets; determination of spot and forward exchange rates; Euro-currency markets; balance of payments statistics; international adjustment theory; income price and exchange rate effects; the role of international short term capital flows; the international monetary system: gold standard, freely floating rates, dollar gold exchange standard, centrally created reserves. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours or permission of the department. Students with credit for ECON 445 cannot take this course for further credit.

ECON 353-3 Economic History of Canada
Analysis of leading issues in Canadian economic history. The historical experience of other areas will be examined when useful contrasts can be made. (lecture/tutorial) Prerequisite: ECON 301; 60 credit hours.

ECON 355-4 Economic Development
Analysis of theories of economic development. Consideration will be given to the requirements of successful development, to aspects of international co-operation, and to procedures of economic planning. Problems of emerging countries and models of various developing economies will be studied. (lecture) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours. Students with credit for ECON 455 may not take ECON 355 for further credit.

ECON 362-4 Economics of Natural Resources
Application of economic analysis to natural resource problems and efficient management practice; public policy considerations in respect to development and conservation; benefit-cost analysis. (lecture) Prerequisite: ECON 301; 60 credit hours.

ECON 367-3 Transportation
The economic function of transportation; analysis of cost, demand and pricing in various transportation industries; evaluation of public policy; provision of transportation facilities and the regulation of transport industries. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours.

ECON 368-3 Regional Economic Analysis
Introduction to regional impact analysis. Analysis of economic models of industrial location and spatial equilibrium. Examination of regional growth theories and their policy implications. Presentation of techniques for analysis of regional economic structure and performance. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours. Students with credit for ECON 365 may not take this course for further credit.

ECON 370-8 Economics Practicum III
This is the third semester of work experience in the economics co-operative education program. Prerequisite: economics lower division requirements and completion of 60 credit hours, at least 12 of these 30 credit hours must be completed at Simon Fraser University with a CGPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester.

ECON 379-0 Economics Practicum IV
This is the last semester of work experience in the economics co-operative education program. Prerequisite: ECON 301-5 or ECON 305-5 and 75 credit hours with a CGPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester.

ECON 381-4 Labor Economics
Analysis of the economics of the labor market with particular emphasis on wage determination, the concept of full-employment, and manpower policies. (lecture/tutorial) Prerequisite: ECON 301; 60 credit hours.

ECON 382-3 Selected Topics in Economics
The subject matter will vary from semester to semester. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours.

ECON 383-3 Selected Topics in Economics
The subject matter will vary from semester to semester. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours.

ECON 388-3 Introduction to Law and Economics
An introduction to the economic analysis of law, emphasizing the concepts of transaction costs and property rights. A variety of topics will be analyzed, ranging from the allocative effects of alternative property rights to contract tort and nuisance law, out-of-court settlements and alternative legal fee structures. (lecture/tutorial) Prerequisite: ECON 301; 60 credit hours.

ECON 390-3 Canadian Economic Policy
A description and analysis of all types of Canadian economic problems without devoting too much attention to any one specialized area. Both macro and microeconomic problems will be discussed. Topics will include inflation, employment, stability, growth, regional problems, agricultural policies, national identity problems, international policy, natural resource policies with particular emphasis on current problems. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours.

ECON 392-3 Public Finance
The study of public goods, redistribution of income, and taxation, with emphasis on efficiency and equity as criteria for decision-making in the public sector. (lecture/tutorial) Prerequisite: ECON 301; 305; 60 credit hours. Students with credit for ECON 491 may not take ECON 392 for further credit.

ECON 395-5 Comparative Economic Systems
Economic analysis of various methods of the allocation of resources and distribution of income. Comparative study of capitalist, communist, socialist, and mixed forms of national economic organization. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours.

ECON 398-3 Directed Studies
Independent reading and research on topics selected in consultation with the supervising instructor. This course can only be taken once for credit towards a degree or diploma. Prerequisite: ECON 103 or ECON 105 and 200 or 205; 60 credit hours.

ECON 402-3 Advanced Topics in Microeconomics
A series of topics of a more technical nature than those developed in ECON 301. The topics include demand, supply, general equilibrium, and applied welfare measures. (seminar) Prerequisite: ECON 301, 305 and 331; 60 credit hours.

ECON 403-3 Advanced Topics in Macroeconomics
A series of topics of a more technical nature than those developed in ECON 305. The topics include treatment of rational expectations, the welfare costs of inflationary finance, theories of unemployment and inflation. (seminar) Prerequisite: ECON 301, 305 and 331; 60 credit hours.

ECON 404-3 Honors Seminar in Methodology of the Social Sciences
Critical discussion of contemporary and original papers in the social sciences. Emphasis will be on the objectives, the logical aspects, and the testability of social science theories and models. (seminar) Prerequisite: 70 credit hours.

ECON 407-3 Seminar in Marxian Economics
Examination of particular areas of current interest and work in Marxian economics. Focus will vary from semester to semester. (seminar) Prerequisite: ECON 300 or permission of the department.

ECON 409-3 Seminar in Economic Thought
Consideration of particular economic theorists, schools of thought or themes in economic thought. Focus will vary from semester to semester. (seminar) Prerequisite: ECON 301 and 305, or permission of the department; 60 credit hours.

ECON 410-3 Seminar in Monetary Theory
Analysis of money as an economic variable; role of money in micro and macroanalysis. (seminar) Prerequisite: ECON 210 or 310, 301, and 305; 60 credit hours.

ECON 422-3 Seminar in Game Theory
An introduction to the basic concepts of game theory and their application to problems in a number of areas. (seminar) Prerequisite: ECON 301, 60 credit hours; or permission of the department.

ECON 425-3 Seminar in Industrial Organization
This course will cover topics in industrial organization in depth. Topics may include theories of the firm and contractual behavior, the economics of vertical restraints, product differentiation, theories of market structure, an analysis of empirical industrial organization studies, topics in competition policy or antitrust law, public utility regulation. Emphasis will be given to covering a limited number of issues in detail rather than attempting a broad survey of industrial organization theories. (seminar) Prerequisite: ECON 301; 60 credit hours.

ECON 428-3 Seminar in Behavioral and Applied Economics
This is a research course covering topics in experimental economics, tests and economic behavior, and issues in applied economics. Experimental economic methods, results, and their implications for economic analyses will be reviewed. Individual projects will be designed and carried out by participants. (seminar) Prerequisite: ECON 301 and 305, 60 credit hours; or permission of the department.

ECON 431-5 Intermediate Mathematical Economics
The application of input-output studies, linear programming and the theory of games to economic analysis. Dynamic models, general equilibrium models and the mathematics of marginal analysis. (lecture/tutorial) Prerequisite: ECON 301 and 305, 309 or permission of the department; 60 credit hours.

ECON 435-5 Quantitative Methods in Economics
The application of econometric techniques to the empirical investigation of economic issues. (lecture/tutorial) Prerequisite: ECON 301 and 305; BUEC 333; 60 credit hours.
ECON 443-3 Seminar in International Trade
Focus will vary from semester to semester. (seminar) Prerequisite: ECON 301, 305 and 342; or permission of the department; 60 credit hours.

ECON 446-3 Seminar in International Finance
Focus will vary from semester to semester. (seminar) Prerequisite: ECON 301, 305 and 345, or permission of the department; 60 credit hours.

ECON 450-3 Seminar in Quantitative Economic History
Focus will vary from semester to semester. (seminar) Prerequisite: ECON 301, 305 and 353 or permission of the department; 60 credit hours.

ECON 451-3 Seminar in European Economic History
A detailed examination of the major issues in European economic history. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours. Students with credit for ECON 351 may not take ECON 451 for further credit.

ECON 455-3 Seminar in Economic Development
Topics in economic development. (seminar) Prerequisite: ECON 305 and 355, and 60 credit hours.

ECON 459-3 Seminar in Economic Demography
Analysis of the economic forces that affect key population variables such as mortality, natality and migration. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours.

ECON 460-3 Seminar in Environmental Economics
Focus will vary from semester to semester. (seminar) Prerequisite: ECON 301, 305; 60 credit hours.

ECON 468-3 Seminar in Regional Economic Development
Examination of the regional disparity problem, with particular reference to the Canadian situation. Its causes and policy remedies. Analysis of migration, capital, and trade flows between regions. Economic effects of the policies and institutions of Canadian federalism. (seminar) Prerequisite: ECON 103 or 200 and 105 or 205; ECON 368; 60 credit hours.

ECON 478-0 Economics Practicum V
This is an optional semester of work experience in the economics co-operative education program. Prerequisite: ECON 301, 305, one 400 division course and 90 credit hours and a CGP A of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the third week of the preceding semester.

ECON 480-3 Seminar in the Economics of Labor Market Policy
Seminar focusing on public policy as it relates to employment and income security. Special emphasis will vary from term to term, but may include such topics as examinations of current manpower, welfare and public insurance programs, labor legislation, and private institutional practices (such as union-management pension arrangements) that may affect income security. (seminar) Prerequisite: either ECON 381 or both of 301 and 305; 60 credit hours.

ECON 482-3 Selected Topics in Economics
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours.

ECON 483-3 Selected Topics in Economics
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours.

ECON 484-3 Selected Topics in Economics
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours.

ECON 490-3 Seminar in Public Choice
The application of economic theory to political market place. Topics may include the economics of constitutions, voting, democracy, bureaucracy, rent-seeking, and redistribution. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours.

ECON 496-3 Selected Topics in Economics
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours.

ECON 498-3 Directed Studies
Independent reading and research on topics selected in consultation with the supervising instructor. This course may not be repeated for additional credits. Prerequisite: ECON 301 and 305 and permission of the undergraduate chair of the department; 60 credit hours.

ECON 499-6 Honors Seminar in Economics
The purpose of this course is to permit the student to expand and develop a paper that has been prepared for a previous course into an honors paper. (seminar) Prerequisite: ECON 301, 305; one additional 400 level course in Economics, minimum CGP A of 3.0. Pre- or corequisite: 435.

Education
Faculty of Education
EDUC 100-3 Selected Questions and Issues in Education
This course introduces students to a small but representative sample of basic questions and issues in education. Students will examine questions relating to: the concept or idea of education; learning and the learner; teaching and the teacher; and more generally, the broader contexts of education. This course also introduces students to different ways of exploring educational questions and issues - from philosophical and critical analysis, to historical and cross-cultural studies, to empirical research. Cannot be taken for credit by students with credit for 300 and 400 level education courses.

EDUC 220-3 Introduction to Educational Psychology
A survey of educational research and theories concerning motivation, learning, development, and individual differences in classroom settings. May be applied towards the certificate in liberal arts.

EDUC 222-3 Research Methods in Educational Psychology
An introductory survey of research methods used in developing and testing theories in educational psychology. Illustrations are drawn from published research in educational psychology. Corequisite: EDUC 220-3

EDUC 230-3 Introduction to Philosophy of Education
This course provides prospective teachers and others interested in education an opportunity to examine a variety of educational problems from a philosophical perspective. The central concern of the course is to elucidate the nature of education as a phenomenon distinct from such activities as training, schooling, and socialization. May be applied towards the certificate in liberal arts.

EDUC 240-3 Social Issues in Education
Social functions of the school; education and socialization; social, political, economic and cultural influences on the institutions and practices of education. May be applied towards the certificate in liberal arts.

EDUC 250-3 Studies in the History of Education in the Western World
This course will consist of a study of major trends in educational practice from antiquity to the present. May be applied towards the certificate in liberal arts.

EDUC 252-4 Introduction to Reflective Practice
Provides opportunities for prospective teachers to begin their development as reflective practitioners. Through readings, classroom activities and discussions, and interactions with students and practicing teachers, students will be exposed to various educational issues and questions. They will be given time to explore their own values and beliefs about education and teaching. Time will be spent observing in a selection of local schools, and there will be opportunities to work with children individually, and in small and large groups. Students with credit for EDUC 401 or holding a teaching certificate may not take this course for credit. Prerequisite: 30 credit hours.

EDUC 260-3 Learning and Teaching Through Technology
This course provides a practical and theoretical exploration of technology use in educational settings. Included are a primer on traditional technologies commonly used in these settings (e.g. classroom displays, overhead and video presentations) and current and emerging information technologies which have potential to significantly impact teaching and learning (e.g. word processors, Internet, e-mail, conferencing software, etc.). The course format includes a variety of self-directed modules and short seminars in combination with regularly scheduled lectures. Students with credit for any computing course cannot take this course for further credit.

EDUC 298-299 2,3 Special Topics
Courses will explore issues of current concern. Subjects to be taught and the exact assignment of credit (2 or 3) will be announced prior to the beginning of each semester. Course may be on a pass/fail basis. A maximum of 12 semester hours of credit in education special topics courses may be used towards a bachelor of education degree.

EDUC 300-3 Instructional Psychology
This course examines theories of instruction and research about learning, motivation, individual differences, and social environments as foundations for designing instruction. Topics include: models of cognition; models of motivation and beliefs; metacognition, self-regulated learning, and learning skills; problem solving and transfer; cognitive processing models of instruction in mathematics, science, social studies, reading and composition. Prerequisite: EDUC 220.

EDUC 325-3 Assessment for Classroom Teaching
A survey of assessment methods that contribute to improving teaching and learning, and for making judgements and decisions about qualities of teaching, the classroom environment, and student achievement and growth. Topics include: goal and task analysis, validity and reliability, observing and assessing classroom processes and environments, self-report methods, assessing student achievement, published tests of achievement and aptitude, marking and reporting. Prerequisite: EDUC 220.

EDUC 330-3 Movement Language Elements for Dance in Education
In this experiential course students will develop an understanding of the movement concepts (action, space, time, force, relationship) which are the framework for making and teaching dance. This course will explore dance as a non-verbal expressive language, and will introduce students to a variety of aspects of dance within the curriculum. Previous dance training is not required. Prerequisite: 60 credit hours.
EDUC 341-3 Literacy, Education and Culture
An introduction to the study of literacy from an interdisciplinary perspective, one which explores the role of literacy in social development, the economic and cultural values of literacy, and the effects of literacy on cognitive processes. The particular concern of this course is with the formal transmission of literacy in educational institutions. The course will especially address the varying conceptions of literacy that educators have traditionally valued, and the research that aims to explain, justify, and prescribe educational practices intended to increase literacy. This course is required for the Certificate in Literacy Education. Prerequisite: 60 hours of credit.

EDUC 342-3 Contemporary Approaches to Literacy Instruction
The focus of this course is adult literacy, understood as the basic ability to read and write. The course is organized around four discrete units: (1) a general introduction to adult literacy education; (2) models of adult literacy instruction in developing societies; (3) models of adult literacy instruction in developed societies; and (4) the practicum proposal: the selection, justification and preparation to implement, in a particular, practical context one model of adult literacy instruction. This course is required for the Certificate in Literacy Instruction. Corequisite: EDUC 341.

EDUC 343-5 Literacy Practicum
The literacy practicum is the vehicle through which students in the Certificate in Literacy Instruction implement and evaluate the model of adult literacy method developed in EDUC 342. Implementation may occur in a variety of contexts and institutions with adults; the literacy practicum will be supervised and may involve supervised teaching, curriculum development, or research field work. Prerequisite: EDUC 342.

EDUC 351-3 Teaching the Older Adult
This is a basic course in adult education for students from all disciplines, of particular interest to those working (or preparing to work) with older adults. The goal is to assist students to develop more effective strategies for meeting the needs of an aging population through education. Prerequisite: 60 credit hours.

EDUC 352-4 Building on Reflective Practice
Building on the experience of EDUC 252, prospective teachers will continue to develop their reflective practice. Various educational issues related to the caring for children and the creation of learning communities will be explored. Prospective teachers will spend time in classrooms exploring the importance of connected learning experiences for children. Students with credit for EDUC 401 or holding a teaching certificate may not take this course for credit. Prerequisite: EDUC 252.

EDUC 355-4 Theatre in an Educational Context
This course deals with teaching theatre in an educational context. It will develop knowledge of theatre skills, and introduce students to a variety of approaches and techniques for teaching theatre and doing theatre in the schools. Prerequisite: 60 credit hours.

EDUC 367-4 Teaching Children from Minority Language Backgrounds in Elementary Classrooms
This course is intended for prospective or practicing elementary school teachers who are interested in enhancing educational practice for children of minority language backgrounds (those often labeled as ESL students) within the context of their mainstream classrooms. Participants will consider theory and research in second language learning, examine recommendations for classroom practice and develop plans for practice relevant to their own educational milieu. Prerequisite: 60 hours of credit.

EDUC 370-399 2,3,4,6 Special Topics
Course will explore major issues of present concern. Subjects to be taught and the exact assignment of credit (3, 4 or 6) and prerequisites will be announced prior to the beginning of each semester.

EDUC 401-8 Introduction to Classroom Teaching
A half semester of observation and experience in a BC school during which two students work as a team with a teacher selected by school authorities and appointed by Simon Fraser University as a school associate. Students observe, teach and participate in school routines and programs. Grading is on a pass/withdraw basis.

EDUC 402-7 Studies of Educational Theory and Practice
A half semester of study which provides students with workshops, seminars, and lectures designed to introduce them to basic curriculum and methods appropriate for the age/grade level in which they expect to teach. Students will also be given an introduction to generic teaching skills, as well as to current issues in educational theory and practice. Grading is on a pass/withdraw basis. Prerequisite: EDUC 401.

EDUC 404-0 Course Work Semester
Students undertake 14 semester credit hours of studies in Education to complete the professional development program requirements. Prerequisite: EDUC 401/402.

EDUC 405-15 Teaching Semester
A full semester of classroom experience supervised by University appointed school associates. The school placement is appropriate to the grade level and subject specialties which the student expects to teach after graduation. Grading is on a pass/withdraw basis. Prerequisite: EDUC 401/402.

EDUC 406-12 Supervised Observation and Teaching
Education 406 is designed for those who need to meet BC certification requirements. It is a supervised orientation/observation/teaching sequence of approximately ten weeks, in a BC public school. This practicum is designed as an opportunity to familiarize students with the British Columbia school system and update their teaching skills. Prerequisite: permission will not be given to students without previous teaching experience. Grading will be on a pass/withdrawal basis. Students with credit for EDUC 407 may not take EDUC 406. EDUC 406 is not applicable toward the credit requirements for a degree or diploma, i.e. not counted in total credits.

EDUC 421-4 Learning Disabilities
A study of conceptual and historic foundations of learning disabilities and an introduction to the methodologies of diagnosis and of learning disabilities. Prerequisite: 60 hours of credit. Corequisite: EDUC 422.

EDUC 422-4 Learning Disabilities: Laboratory
Supervised experience in analyzing and evaluating treatment strategies to be used with classroom students having learning disabilities. Prerequisite or corequisite: EDUC 422.

EDUC 425-4 School Counselling for the Bachelor Degree
A study of the law and legal standards; discipline and corporal punishment; sexual harassment in the workplace; responsibility for curriculum fulfillment; liability outside school hours; and the AIDS controversy. Prerequisite: 60 hours of credit.

EDUC 430-4 Designs for Learning Dance
A full semester of classroom experience supervised by University appointed school associates. The school placement is appropriate to the grade level and subject specialties which the student expects to teach after graduation. Grading is on a pass/withdraw basis. Students with credit for EDUC 430 may not take EDUC 430 for further credit. May be applied toward the certificate in Liberal Arts.

EDUC 432-4 Ethical Issues in Education
An introduction to the study of ethics as it relates to the educational context and explores the role of ethics as a component of educational practice. May be counted as fulfilling educational requirement or as a course in liberal education. Prerequisite: 60 hours of credit.

EDUC 434-4 Multicultural Education
A study of the multicultural movement and its place in education. May be applied toward the certificate in Liberal Education. Prerequisite: 60 hours of credit.

EDUC 437-4 Social and Psychological Dimensions of Multiculturalism in Canada
A study of the multicultural movement and its place in education. May be applied toward the certificate in Liberal Education. Prerequisite: 60 hours of credit.

EDUC 438-4 Nature and Nurture of Gifted Students
An introduction to the nature and nurture of the potential for giftedness in educational settings and the effects of early education. Prerequisite: EDUC 342 or permission of instructor.

EDUC 441-4 Multicultural Education
A study of the multicultural movement and its place in education. May be applied toward the certificate in Liberal Education. Prerequisite: 60 hours of credit.
dimensions of the BC curricula. The major focus will be on the areas of law, and legal concepts and procedures included in the secondary social studies and law 12 curricula. Prerequisite: 60 hours of credit.

EDUC 448-4 Law in the Curriculum
The justification and practise of law-related education in the K-12 curriculum are the subjects of this methodology course. Students will examine the place of law in the curriculum, existing resources and appropriate teaching strategies and will have the opportunity to develop unit plans and curriculum materials. Emphasis is on developing and implementing law-related programs in the classroom. Prerequisite: 60 hours of credit.

EDUC 450-4 Classroom French Curriculum Studies
This course is intended for students who would like to gain a broader view of the French second language teacher profession while improving their knowledge of the language and culture in a classroom context. The general objective of this course is to help prospective French teachers to better understand the pedagogical relevance of and the relationship between cultural competence and communicative competence. Prerequisite: When the course is offered in French, 60 hours of credit and 12 credits of French or equivalent. When the course is offered in English, 60 hours of credit.

EDUC 451-4 Classroom French Curriculum Practices
The general objective of this course is to help prospective and practicing French teachers better understand the pedagogical and cultural relevance of a variety of French language registers and of their significance to second language teaching. Prerequisite: When the course is offered in French, 60 hours of credit and 12 credits of French or equivalent. When the course is offered in English, 60 hours of credit.

EDUC 452-8 Environmental Education
This course will examine the educational problems entailed in developing human awareness and understanding of the environment. The course will explore environmental issues through a multi-disciplinary approach and will relate historical and contemporary problems in human-environment interactions to school curricula from the elementary to the secondary level. Includes a laboratory component. Grading will be on a pass/fail basis. A 35 field activity fee will be levied in this course. Normally offered in summer session only. Prerequisite: EDUC 401/402.

EDUC 456-4 Models of the Contemporary Arts in Education
Major conceptions of educational value in the contemporary arts, and application of these ideas to the development of visual arts programs in the schools. Prerequisite: 60 hours of credit.

EDUC 457-4 Drama and Education
This course deals with theory, curricula and methodologies in drama education. Topics will include a selection from the following: aims of drama education; drama as methodology; role of the teacher in the drama classroom; evaluating students in drama classes; creative drama; the use of improvisation and storytelling; incorporating film and video work into drama classes; developing major projects with students such as choral dramatization, docudrama, anthology, and readers theatre; introducing scene work, stagecraft, and theatre history. Prerequisite: EDUC 401/402.

EDUC 459-4 Instructional Activities in Physical Education
This course focuses on theory and curriculum of school physical education programs. Emphasis is given to the movement education orientation as it pertains to the various program activities and approaches applicable to primary, intermediate and secondary levels. Prerequisite: EDUC 401/402.

EDUC 463-4 Multimedia for Curriculum Design
This course focuses primarily on the evaluation of the use of multimedia software packages in relation to important curriculum and instructional issues. A secondary focus will be the student design and production of a multimedia package for use in an educational setting. Prerequisite: EDUC 401/402.

EDUC 464-4 Early Childhood Education
Current trends, issues and research relating to the education of young children. Prerequisite: 60 hours of credit.

EDUC 465-4 Children’s Literature
Historical, sociological and literary perspectives on literature for children. Prerequisite: 60 hours of credit.

EDUC 467-4 Curriculum and Instruction in Teaching English as a Second Language
Students will learn to use English language teaching grammar appropriately, to evaluate and use methods of teaching English as a second language, to do error analyses, and to adapt commercial programmes to the specific needs of learners. This course is designed for teachers and prospective teachers. Prerequisite: 60 hours of credit and ENGL 370 or a linguistics course.

EDUC 468-4 Cognition and Language in ESL Instruction
Cognitive approaches to second language learning; syntactic and vocabulary differences in content-area subjects; language learning strategies; visual literacy; self directed language learning. Prerequisite: 60 hours of credit and one linguistics course.

EDUC 469-4 Music Education as Thinking in Sound
Understanding the language of music, both historical and contemporary, and use of electronic and acoustic instruments in the general music classroom. Prerequisite: 60 hours of credit.

EDUC 470-4 Experience in Teaching Students Who Have Limited English Proficiency
This course is for those who intend to teach people with limited proficiency in English. It permits teachers to develop classroom skills specific to teaching the English language to non-native speakers and to reflect upon their own development as teachers. Prerequisite: EDUC 467. A letter of approval is required from a qualified supporting agency willing to supervise the field work component of this course. The appropriate form is available through the Centre for Distance Education.

EDUC 471-4 Curriculum Development: Theory and Practice
Explorations of curriculum theory and processes of development with applications at different levels and in several subject areas. Prerequisite: 60 hours of credit.

EDUC 472-4 Designs for Learning: Language Arts
This course will focus on developing knowledge, skills and strategies to create a rich and stimulating language arts program in the classroom. Issues in reading, writing, speaking and listening will be examined through current theory and teaching practice. Prerequisite: EDUC 401/402.

EDUC 473-4 Designs for Learning: Reading
This course offers both theoretical and practical information about teaching reading in primary and early intermediate grades. Prerequisite: EDUC 401/402.

EDUC 474-4 Designs for Learning: Social Studies
This course focuses on the theory and practice of social studies education with major emphasis on instructional strategies. Topics include: the nature and purposes of social studies, the BC curriculum, unit planning and an examination of such strategies as inquiry methods, critical thinking, procedures, simulations, group work and community interaction. Prerequisite: EDUC 401/402.

EDUC 475-4 Designs for Learning: Mathematics
This is an introductory course to teach school mathematics. Students will examine their own mathematical thinking and explore how to reconstruct mathematics to assist children's learning of mathematics. Prerequisite: EDUC 401/402.

EDUC 476-4 Designs for Learning: Natural Sciences
This is an introductory course in the curriculum and methodology of science education. The course addresses contemporary programs in science intended for use in public schools, K-12, as well as public awareness programs related to the social impact of science and technology. Prerequisite: EDUC 401/402.

EDUC 477-4 Designs for Learning: Art
This course introduces students to the main ideas, skills, materials, resources, understandings and organizational concerns involved in teaching art in schools. Prerequisite: EDUC 401/402.

EDUC 478-4 Designs for Learning: Music
This course is designed for in-service and pre-service teachers who would like to acquire the skills that will allow them to teach music competently and creatively. They will learn basic conducting techniques, design their own curricula and have an opportunity to prepare and teach their own lesson plans. Previous musical experience is welcome, but not required. Prerequisite: EDUC 401/402.

EDUC 479-4 Designs for Learning: Physical Education
This course is designed to assist teachers in planning and implementing physical education programs in British Columbia schools. It will involve a practical consideration of instructional strategies and curriculum planning in physical education, particularly as they apply to the games, dance and gymnastics areas of the curriculum. Prerequisite: EDUC 401/402. Corequisite: EDUC 459.

EDUC 480-4 Designs for Learning: French as a Second Language
Deals with a variety of approaches, teaching strategies and curricula, for teaching French as a second language in elementary and secondary schools. Prerequisite: EDUC 401/402. Instruction given in French.

EDUC 481-4 Designs for Learning: French Immersion and Programme-cadre de Français
History, definition and growth of immersion (a Canadian phenomenon) and its relations to programme-cadre in British Columbia. Emphasis on integration of four skills (listening, speaking, reading and writing) particularly in speaking. Error analysis, teaching techniques and development of activity centres. Exploration and adaptation of various commercial programs in different subjects (e.g. French, math). Prerequisite: EDUC 401/402 (French Immersion). Instruction given in French.

EDUC 482-4 Designs for Learning: Information Technology
In this course, students develop a critical understanding of information technologies in education and learn how to integrate these technologies into classroom settings. An emphasis is on teaching strategies and methods as they complement the guidelines set forth in the BC Information Technology Curriculum. Prerequisite: EDUC 401/402.
EDUC 483-8 Designs for Learning: Curriculum Studies
Development of conceptual and technical skills through workshops, seminars, and directed and independent study. Deals with human development and learning in the school. Stress will be placed on approaches to individualizing instruction and to integrating the curriculum in different subject areas. It will normally be taught by two or more faculty members. Prerequisite: EDUC 401/402.

EDUC 485-8 Designs for Learning: Writing
The course is designed to help students become better teachers of writing. Students will be involved in four aspects of teaching writing: teacher as writer, teacher as teacher of writing, teacher as researcher, teacher as developer of curriculum. Techniques for providing effective writing experiences will be studied, demonstrated and practised. Students will observe, use and evaluate these techniques. Course content: teacher as writer - writing skills, audience, purpose, writing process, self-evaluation. Teaching writing - research, skill acquisition, self-disclosure, risk and creativity, thought and discipline, evaluation. Teacher as researcher - reflective observation, analysis of data, program evaluation, peer support systems. Teacher as developer of curriculum - student writing, drama, literature, use of texts. Prerequisite: EDUC 401/402.

EDUC 486-489 3,4,6 Special Topics
Sections will deal with major issues of present concern. Subjects to be discussed will be announced during the semester prior to that in which the course is to be offered. The exact assignment of credit hours (3, 4 or 6) and prerequisites for the special topics offering will be announced prior to the beginning of each semester.

EDUC 490-492 2,4 Directed Study
Directed study in education under the supervision of a faculty member. Prerequisite: 60 credit hours and a CGPA of 3.0, consent of supervising faculty member, and approval of the director of undergraduate programs. A maximum of three directed studies courses will be approved for a maximum of 12 credits. Directed studies courses may not parallel regularly taught courses. A student may take a maximum of two directed studies courses with the same faculty member. Applications are available in the undergraduate programs office.

EDUC 495-498 3,4,6 Special Topics
Sections will deal with major issues of present concern. Subjects to be discussed will be announced during the semester prior to that in which the course is to be offered. The exact assignment of credit hours (3, 4 or 6) for the special topics offering will be announced prior to the beginning of each semester. Prerequisite: this will be announced prior to the beginning of each semester.

Education Professional Faculty of Education
EDPR 347-3 Developmental Supervision
This course is intended for classroom teachers or administrators who wish to supervise student teachers in their classrooms as part of a professional preparation program. Concepts and practices related to the supervision of student teachers will be introduced. Theories and models of supervision will be discussed, and research on supervisory practices will be surveyed. Supervisory skills will be demonstrated and practised. The developmental model of supervision currently used in the professional development program will be studied in detail. Prerequisite: this course is available to any teacher or administrator with a minimum of two years of classroom experience who is interested in working with student teachers. Supervisory experience is not required.

EDPR 361-3 Contemporary Issues and New Developments in Educational Practice
Examines new developments and current issues in teaching and educational practice. Prerequisite: 60 hours of credit.

EDPR 384-399 3,4,5,6 Special Topics
These field based courses will explore issues of concern to experienced practitioners. Courses may be offered on a pass/withdrawal basis. Prerequisite: EDUC 405 or special permission of the instructor.

EDPR 407-5 Field Based In-Service: Theory and Practice of Implementation
EDPR 407 provides teachers to use their own classrooms as the setting for systematically implementing new curriculum or institutional techniques. The course includes the following components: instruction in the theory and practice of implementation; classroom work; and seminars.
- Theory and practice of implementation: This component allows teachers to systematically study theories, issues and practices in school based implementation and planned change. (10-20 hours).
- Classroom work: This component recognizes that feedback, coaching, consultation and other aspects of the implementation process are crucial to successful implementation. EDPR 407 includes visits by a trained supervisor for observation, feedback and coaching. (approx. 30 hours).
- Seminars: This component provides a forum for teachers to learn from one another. The seminar is scheduled on a regular basis to monitor progress, discuss concerns and solve problems (10-20 hours).
Related course work: EDPR 407 emphasizes the process of implementation and encourages teachers to identify relevant content unique to their professional needs. A fourth component, recent or concurrent education course work provides the academic and professional background on which to base the implementation projects. Prerequisite: EDPR 405, teaching experience and permission of the department. Grading will be on a pass/withdrawal basis.

EDPR 410-413 2,3,4,5 Field Based Studies in Curriculum Development
These courses are intended for practising teachers, school administrators or other practising educators who are involved in curriculum development. They provide opportunities for members of the teaching profession to work on curriculum development projects under the supervision of faculty members and/or distinguished practitioners designated by the faculty. Those wishing to undertake a field based studies course must submit a proposal form, available from the Office of Field Programs, before the end of the semester prior to the one in which the student intends to commence the study. The proposal must be approved by the director of field programs prior to registration in the course. Field based studies courses may have a credit value of 2, 3, 4 or 5 semester hours depending upon the nature of the project proposal. Evaluation is based on a pass/withdrawal system. Field based studies in educational practice may not form a component of EDUC 404. These courses may form a component of an approved program of studies for the post baccalaureate diploma. Prerequisites: teaching certificate or permission of the director of field programs. A maximum of 10 semester hours of credit in field based studies in educational practice may be used towards a BEd degree.

EDPR 418-421 2,3,4,5 Group Field Studies in Selected Professional Topics
These courses are intended for small groups of practising educators who wish to investigate a specific topic in education through focused inquiry. Seminars, readings and related field work are directed by a faculty member or field studies supervisor designated by the Faculty of Education.
The designated supervisor, on behalf of the group, must submit a proposal form, available from the Office of Field Programs, before the end of the semester prior to the one in which the students intend to commence the study. The proposal must be approved by the director of field programs prior to registration in the course. Field studies courses may have a credit value of 2, 3, 4 or 5 semester hours, depending upon the nature of the project proposal. Evaluation is based on a pass/withdrawal system. Groups field studies in selected professional topics may not form a component of EDUC 404. These courses may form a component of an approved program of studies for the post baccalaureate diploma. A maximum of 10 semester hours of credit in group field studies in selected professional topics may be used towards a BEd degree. Prerequisite: teaching certificate or permission of the director of field programs.

EDPR 461-4 Trends and Developments in In-Service Education
Examines trends and developments in in-service education as they apply to staff development and the implications for school improvement. Prerequisite: EDUC 401/402.

EDPR 490-499 2,3,4,5 Special Topics
These field based courses will explore issues of concern to experienced practitioners. Courses may be offered on a pass/withdrawal basis. Prerequisite: EDUC 405 or special permission of the instructor.

Engineering Science Faculty of Applied Sciences
ENSC 100-3 Engineering Technology and Society
This course is designed to provide an introduction to the practice of engineering, surveying its history and its current state. The social and political aspects of engineering decisions will be illustrated by a number of case studies. (3-0-0)

ENSC 101-1 Writing Process, Persuasion and Presentations
This course provides a general introduction to the principles of effective communication with special emphasis on the writing process, persuasive writing, research papers, and oral presentations. In conjunction with ENSC 100-3, the course also
explores current social and ethical issues in engineering. (1-0-0) Corequisite: ENSC 100.

ENSC 102-1 Form and Style in Professional Genres
The major focus of this course is on the style and format of technical writing with attention to laboratory reports and project documentation. This course also examines resumes, cover letters, interview skills and formal reports to help students prepare for their first internship semester. It also addresses listening skills and group dynamics in the context of the team projects undertaken for ENSC 151. (1-0-0) Corequisite: PHY 131.

ENSC 150-3 Introduction to Computer Design
Digital design concepts are presented in such a way that students will learn how logic blocks can be designed and employed to construct a simple computer. Topics covered include: basic Von Neumann computer architecture; an introduction to assembly language; combinational logic design; and sequential logic design. An interactive logic simulation environment will be provided for assignments. Assembly language programming is introduced. (3-0-0) This course is identical to CMPT 150 and students cannot take both courses for credit. Students who have taken CMPT 290 cannot take this course for further credit.

ENSC 151-2 Digital and Computer Design Laboratory
The practical concepts of assembly language such as programming, digital device interfacing, and hardware/software interfacing will be introduced through a group project. Topics will include: assembler concepts; micro-controllers; the hardware/software interface. Laboratory techniques will also be introduced as needed. This is a project course with a few lectures, or laboratory tutorials. (0-0-4) Prerequisite: ENSC 150.

ENSC 194-0 Optional Job Practicum
This is an optional semester of work experience in the co-operative education program available to first year engineering science students. This course will not be counted towards the three required co-operative education semesters; however, it will be recorded on the students' transcripts. Credit is awarded as in ENSC 195.

ENSC 195-0 Job Practicum I
This is the first semester of work experience in the co-operative education program available to engineering students. Credit is given as pass/withdrawal/p (P/W/F) only, based on the employer's and co-operative education co-ordinator's evaluation of the student's work during the semester and on the evaluation of the work report submitted and the oral presentation at the end of the work session.

ENSC 196-0 Job Practicum II
This is the second semester of work experience in the co-operative education program available to engineering students. Credit is awarded as in ENSC 195. ENSC 196 may or may not involve the same employer as ENSC 195. Prerequisite: ENSC 195.

ENSC 201-3 The Business of Engineering
This course covers the business, management and entrepreneurial concepts that are important to engineers who manage projects, run businesses, or need to decide on the most efficient method for accomplishing a task. The topics to be covered include: financial accounting, rates of return, taxes, cost-benefit analyses, marketing, financing methods, and business plans. (3-0-0) Prerequisite: 45 credit hours. This course will be offered for the first time in 99-2.

ENSC 204-1 Graphical Communication for Engineering
This course provides an introduction to graphical communication with attention to manual drafting and computer-assisted design. The course involves the use of several CAD packages for circuit schematic entry, mechanical design and circuit board layout. (1-0-0)

ENSC 220-3 Electric Circuits I
This course will cover the following topics: fundamental electrical circuit quantities, and circuit elements; circuits laws such as Ohm law, Kirchoff's voltage and current laws, along with series and parallel circuits; operational amplifiers; network theorems; nodal and mesh methods; analysis of natural and step response of first (RC and RL), as well as second order (RLC) circuits; real, reactive and rms power concepts. In addition, the course will discuss the worker safety implications of both electricity and common laboratory practices such as soldering. (3-0-1) Prerequisite: PHYS 121 and 131, MATH 232 and 310. MATH 232 and/or 310 may be taken concurrently. Students with credit for ENSC 125 cannot take this course for further credit.

ENSC 225-4 Microelectronics I
This course teaches analog/digital electronics and basic device physics in the context of modern silicon integrated circuits technology. Topics include: qualitative design issues; design validation; computer aided design; semiconductors; micro electromechanical systems (MEMS); basic diode circuits; transistors as amplifiers and switching elements; temperature effects and compensation; single-stage transistor amplifiers; biasing, current sources and mirrors. (3-0-2) Prerequisite: ENSC 150 or CMPT 150, and ENSC 220. Students with credit for ENSC 222 cannot take this course for further credit.

ENSC 230-4 Introduction to Mechanical Design
This course presents the elements and principles involved in design and analysis of basic mechanical structures and mechanisms. Topics include: mechanical elements such as gears, cams and bearings and fundamental relationships between the forces and corresponding motion or deflection are investigated through examples and experiments. This background can then be used in the design, analysis and development of computer controlled machines such as robotic devices. (3-0-2) Prerequisite: PHYS 120, MATH 310.

ENSC 250-3 Introduction to Computer Architecture
This course deals with the main concepts embodied in computer hardware architecture. In particular, the organization, design and limitations of the major building blocks in modern computers is covered in detail. Topics will include: processor organization; control logic design; memory systems; and architectural support for operating systems and programming languages. A hardware description language will be used as a tool to express and work with design concepts. (3-0-0) Prerequisite: CMPT 150 or ENSC 150. This course is identical to CMPT 250 and students cannot take both courses for credit. Students who have taken CMPT 390 may not take CMPT 250 for further credit.

ENSC 263-3 Special Topics in Engineering Science
Prerequisite: permission of the undergraduate curriculum chair.

ENSC 264-4 Special Topics in Engineering Science
Prerequisite: permission of the undergraduate curriculum chair.

ENSC 295-0 Job Practicum III
This is the third semester of work experience in the co-operative education program available to engineering students. Credit is awarded as in ENSC 195. ENSC 295 may or may not involve the same employers as preceding practicum semesters. Prerequisite: ENSC 196.

ENSC 296-0 Job Practicum IV
This is the fourth semester of work experience in the Co-operative Education Program available to engineering students. Credit is awarded as in ENSC 195. ENSC 296 may or may not involve the same employers as preceding practicum semesters. Prerequisite: ENSC 295.

ENSC 300-3 Engineering Design and Management
An introduction and overview of modern concepts of engineering design, problem solving and management. Material is presented through lectures, seminars, case studies, and historical review. Studies involve the interrelationship of such factors as problem definition, feasibility studies, specification, constraints, analysis techniques, evaluation, production project management, conflict resolution, and techniques of supervision. Student participation is expected through presentations of independent readings, case analyses and group projects. (2-2-0) This course will be offered for the last time in 99-3.

ENSC 301-3 Engineering Economics
The engineer as business people and entrepreneurs. Preparation of a business plan. The economics of capital projects and production processes. Financial analysis: mortgages, loans, direct costs, depreciation, taxes, financial statements, financing alternatives. Estimation of sales, capital and operating costs of new processes and products. Cash flows. Market evaluation comparison of alternatives. Study is in part through independent reading rather than formal lectures. (3-0-0) Prerequisite: completion of at least 60 credit hours. This course will be offered for the last time in 00-1.

ENSC 304-1 Human Factors and Usability Engineering
The user is often overlooked in the engineer's quest for a functional and efficient design. This course examines the factors that make designs more or less usable and how to integrate usability constraints and testing procedures into the design process. (1-0-0)

ENSC 305-1 Project Documentation and Group Dynamics
This course is integrated with an ENSC project course (typically ENSC 340 or 370) and covers the writing of various project documents including proposals, functional specifications, design specifications, progress reports, and user's manuals. The course also examines the issues of creative thinking, group dynamics, team leadership, dispute resolution and collaborative writing. (1-0-0) Corequisite: ENSC 340 or an alternative approved project course.

ENSC 306-1 Research Methods for Engineers
This course ensures that engineering students are familiar with library resources, database searches, patent searches, and industry standards. The course also covers strategies for formulating research questions and approaching the research task as well as literature surveys and bibliographic conventions. It also provides opportunities for students to explore the implications of technology and to lead group discussions of issues arising from their research. This course will be offered for the last time in 99-3.

ENSC 320-3 Electric Circuits II
This course is a second course on electric circuits and the topics covered include: the use of Laplace transform in circuit analysis, including poles and zeros, the frequency response and impulse response; convolution as a method for computing circuit responses; resonant and bandpass circuits; magnetically coupled circuits; three-phase circuits; two port circuits; and filtering. (3-0-1) Prerequisite: ENSC 220. Students with credit for ENSC 125-5 cannot take this course for further credit. Corequisite: ENSC 380-3.
ENSC 325-4 Microelectronics II
This course introduces students to analog integrated circuit design in the context of modern silicon integrated circuits technology. Topics include: integrated circuit technology and design tools; integrated component characteristics and limitations; differential amplifiers; multi-stage amplifiers; feedback amplifiers; reliability and frequency compensation; integrated operational amplifiers; bipolar and MOS digital circuits; analog aspects of digital electronics. (3-0-2) Prerequisite: ENSC 222 or 225.

ENSC 327-4 Communication Systems
This course represents an introduction to analog and digital communications systems. The main topics are: a review of Fourier Transform; the representation of bandpass signals; random signals in communications, including stationarity, ergodicity, correlation, power spectra and noise; amplitude and frequency modulation; circuits and techniques for modulation and demodulation; frequency division multiplexing; baseband digital communication; time division and multiplexing; an introduction to basic digital modulation schemes such as BPSK, FSK, and OQPSK. Laboratory work is included in this course. (3-0-2) Prerequisite: ENSC 281 or 382, and STAT 270.

ENSC 330-4 Engineering Materials
An introductory course in materials science which covers materials - their structures, properties, and performance; crystal structures and instruments for structure determination; polymers, ceramics, composites; quality control and reliability. (3-0-2) Prerequisite: CHEM 121, PHYS 121.

ENSC 340-3 Engineering Science Project
This course is based around a group project that consists of building and testing a hardware implementation of a working system. The course also includes material on how to design for safety and project management. (1-0-4) Prerequisite: ENSC 151 or CMPT 290, ENSC 222 or ENSC 225 and ENSC 351 or ENSC 385. Students with credit for ENSC 370 cannot take ENSC 340 for further credit. Corequisite: ENSC 305.

ENSC 350-3 Digital Systems Design
This course deals with advanced topics in digital design such as advanced state machine concepts, asynchronous design, hardware description languages, bus interfac ing and DSP architecture. It also covers both the architecture and programming of field programmable logic devices. Some laboratory work is expected. (3-0-1) Prerequisite: ENSC 151 and 250 or CMPT 250.

ENSC 351-4 Real Time and Embedded Systems
This course concentrates on the problems encountered when attempting to use computers in real time (RT) and embedded applications where the computer system must discern the state of the real world and react to it within stringent response time constraints. Both design methodology and practical implementation techniques for RT systems are presented. Although some hardware will be involved, it should be noted that this course concentrates on real time software. (2-0-4) Prerequisite: CMPT 101, 250 or ENSC 250 or CMPT 290. ENSC 151 is highly recommended. Students with credit for ENSC 385 cannot take this course for further credit.

ENSC 363-3 Special Topics in Engineering Science
Prerequisite: permission of the undergraduate curriculum chair.

ENSC 364-4 Special Topics in Engineering Science
Prerequisite: permission of the undergraduate curriculum chair.
Laboratory work is included in this course. (2-0-4) Prerequisite: ENSC 222.

**ENSC 426-4 High Frequency Electronics**
Transmission lines and waveguides, microwave devices, travelling wave devices. An introduction to the theory of radiation, antennae and wave propagation, and microwave scattering theory. The design of complete communication systems incorporating microwave, optical and satellite channels. Laboratory work is included in this course. (3-0-2) Prerequisite: PHYS 324.

**ENSC 427-4 Communication Networks**
Quantitative performance analysis and design of data and integrated services networks. Re-transmission error recovery schemes, networks of queues, congestion control, routing strategies. Multiple access techniques in data networks, design for specified throughput and delay performance. Wireless networks, routing approaches in mobile networks. Analysis and design of broadband integrated services digital networks, asynchronous time division multiplexing. Laboratory work is included in this course. (3-0-2) Prerequisite: ENSC 327 or permission of instructor.

**ENSC 428-4 Data Communications**
This course will cover the physical-layer design issues in digital communication systems. The major topics covered are: information measures and the notion of channel capacity; link budgets; digital modulation techniques, including the signal space concept and optimal detectors, error performance in noise, suboptimal detectors, pulse shaping, synchronization, and equalization; error control techniques such as block and conventional codes, as well as comparisons between FEC and ARQ. Laboratory work is included in this course. (3-0-2) Prerequisite: ENSC 327 and 351 or 385.

**ENSC 429-4 Discrete Time Systems**
Discrete time signals and systems, sampling and quantization. The Discrete Fourier Transform and fast transforms. Digital filters, IIR and FIR, design procedures and implementations. Quantization noise in digital filters and transforms. Random signals, the response to linear systems to random signals. Introduction to adaptive systems. Introduction to system architectures for digital signal processing. Laboratory work includes familiarization with digital signal processing software packages. (3-0-2) Prerequisite: ENSC 281 or 380, or 382, and 327.

**ENSC 450-4 VLSI Systems Design**
This course provides an introduction to the design of Very Large Scale Integrated (VLSI) circuits and systems using mainly CMOS technology. It links computer architecture and design limitations with integrated circuit physical layout issues. Topics will include: CMOS technology and circuit layout rules; combination and sequential logic; logic simulation; systems design; design for verification and testability. Some consideration is given to the question of when to use off-the-shelf programmable logic or full custom VLSI (e.g. for DSP). (3-0-2) Prerequisite: ENSC 151, 222 or 225, and CMPT 250 or ENSC 250.

**ENSC 460-4 Special Topics in Engineering Science**
Studies in areas not included within the undergraduate course offerings of the engineering science program. (3-0-2) Prerequisite: permission of the director.

**ENSC 461-4 Special Topics in Engineering Science**
Studies in areas not included within the undergraduate course offerings of the engineering science program. (3-0-2) Prerequisite: permission of the director.

**ENSC 462-4 Special Topics in Engineering Science**
Studies in areas not included within the undergraduate course offerings of the engineering science program. (3-0-2) Prerequisite: permission of the director.

**ENSC 463-4 Special Topics in Engineering Science**
Studies in areas not included within the undergraduate course offerings of the engineering science program. (3-0-2) Prerequisite: permission of the director.

**ENSC 464-4 Special Topics in Engineering Science**
Studies in areas not included within the undergraduate course offerings of the engineering science program. (3-0-2) Prerequisite: permission of the director.

**ENSC 465-4 Special Topics in Engineering Science**
Studies in areas not included within the undergraduate course offerings of the engineering science program. (3-0-2) Prerequisite: permission of the director.

**ENSC 466-4 Special Topics in Engineering Science**
Studies in areas not included within the undergraduate course offerings of the engineering science program. (3-0-2) Prerequisite: permission of the director.

**ENSC 467-4 Special Topics in Engineering Science**
Studies in areas not included within the undergraduate course offerings of the engineering science program. (3-0-2) Prerequisite: permission of the director.

**ENSC 468-4 Introduction to Robotics**
Fundamentals of robotics: mathematical representation of kinematics, dynamics and compliance. Planning and execution of robot trajectories. Feedback from the environment; use of sensors and machine vision. A brief introduction to robot languages. Different application domains for manipulator robots, e.g., assembly, manufacturing, etc. (3-0-2) Prerequisite: ENSC 383. Recommended: ENSC 230 is strongly recommended for Systems Option students.

**ENSC 469-4 Computer Aided Design and Manufacturing**
Survey of methods for computer aided design and manufacturing (CAD/CAM), including experience with basic systems in the laboratory component of the course. The student will be introduced to computer integrated manufacturing and flexible manufacturing systems concepts. The use of finite element modeling and analysis will be presented through examples from thermal studies as well as mechanical stress analysis. Issues in constructing and using integrated CAD/CAM in a production environment will be discussed. Emphasis will be on the use of such techniques in light industry, particularly related to electronics manufacturing. The Quick Chip facility will be available for student projects, as well as manufacturing cells consisting of several robots and computer control systems. (3-0-2) Prerequisite: ENSC 281 or 380 or 382.

**ENSC 491-4 Special Project Laboratory**
This course is intended for students wishing to pursue laboratory research on a specific topic outside the standard course offerings. Each student must be sponsored by a faculty member who will oversee the project. A proposal of the student's special project must be submitted to the school at least one month prior to the start of the semester in which the course will be taken. The credit value of the project will be assessed during this review phase, and the student will be directed to register in the appropriate course. Upon completion of a special project laboratory course, the student must submit a copy of the ‘deliverables’ to the chair of the undergraduate curriculum committee. Prerequisite: permission of the undergraduate curriculum committee.

**ENSC 492-4 Special Project Laboratory**
This course is intended for students wishing to pursue laboratory research on a specific topic outside the standard course offerings. Each student must be sponsored by a faculty member who will oversee the project. A proposal of the student's special project must be submitted to the school at least one month prior to the start of the semester in which the course will be taken. The credit value of the project will be assessed during this review phase, and the student will be directed to register in the appropriate course. Upon completion of a special project laboratory course, the student must submit a copy of the ‘deliverables’ to the chair of the undergraduate curriculum committee. Prerequisite: permission of the undergraduate curriculum committee.

**ENSC 493-4 Special Project Laboratory**
This course is intended for students wishing to pursue laboratory research on a specific topic outside the standard course offerings. Each student must be sponsored by a faculty member who will oversee the project. A proposal of the student's special project must be submitted to the school at least one month prior to the start of the semester in which the course will be taken. The credit value of the project will be assessed during this review phase, and the student will be directed to register in the appropriate course. Upon completion of a special project laboratory course, the student must submit a copy of the ‘deliverables’ to the chair of the undergraduate curriculum committee. Prerequisite: permission of the undergraduate curriculum committee.
which the course will be taken. Preparation of the undergraduate thesis project proposal is the formal requirement of this course and the basis upon which it is graded. Grading will be on a pass/fail basis. Prequisite: at least 115 credits or permission of the academic supervisor.

ENSC 499-9 Engineering Science 
Undergraduate Thesis 
A thesis is based on the research, development and engineering project undertaken in the student’s Co-operative Education Program. Registration for ENSC 499 takes place in the semester in which the thesis will be presented and defended. Formal approval of the topic by the School of Engineering Science is given by the granting of the grade of pass for ENSC 498. The locale of the work, supervision and other arrangements follow those for ENSC 498. Grading of the thesis will be on a pass/fail basis, but recognition will be given to outstanding work. Prequisite: ENSC 498.

English 
Faculty of Arts 
Course outlines for all courses vary each semester. Check at the Department of English general office.

ENGL 101, 102, 103 and 104 examine selected works of literature in order to develop a critical awareness of literary techniques and contexts in the representation of experience. Each course may include the comparative study of works in related literary and artistic genres, and will pay some attention to literature of the 20th century. Each course includes attention to writing skills.

ENGL 101-3 Introduction to Fiction 
ENGL 102-3 Introduction to Poetry 
ENGL 103-3 Introduction to Drama 
ENGL 104-3 Introduction to Prose Genres 
The literary study of a variety of prose genres, such as the essay, biography, autobiography, travel narrative, and journalistic writing. May include works which challenge the boundary between fiction and non-fiction.

ENGL 105-3 Introduction to Issues in Literature and Culture 
An introduction to the study of literature within the wider cultural field, with a focus on contemporary issues across genres and media.

ENGL 199-3 Introduction to University Writing 
An introduction to reading and writing in the academic disciplines. Prequisite: 12 university credit hours.

ENGL 204, 205, 206 and 207 undertake the study of individual work in relation to the times in which they were written. The emphasis is on the distinctiveness of literary perception and the relationship of that perception to changing social, historical and philosophical contexts.

ENGL 204-3 Twentieth Century Literatures in English 
The study of literary works of the twentieth century. May include Canadian, British, American, and other literatures. Prequisite: two 100 division English courses.

ENGL 210-3 Advanced University Writing 
Advanced study of writing in the scholarly genres in a variety of academic disciplines. Prequisite: 24 university credit hours; ENGL 199 or permission of the department.

ENGL 212-3 Introduction to the Study of Language 
An introduction to grammatical, stylistic and discursive features of the English language. Prequisite: two 100 division English courses.

ENGL 214-3 Introduction to the Study of Rhetoric 
An introduction to the principles of rhetoric, with special attention to those germane to the study of reading and writing. Prequisite: two 100 division English courses.

ENGL 216-3 Introduction to Critical Approaches to Literature 
An introduction to critical approaches to literature, with an emphasis on the application of theoretical perspectives to selected literary texts. Prequisite: two 100 division English courses.

ENGL 200-4 Old English I: Introductory Old English 
The study of the basics of the Old English language and the reading of several texts of relative simplicity. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 301-4 Old English II: Advanced Old English 
Intensive study of several Old English poems. Prequisite: ENGL 300, and two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 304-4 Studies in Medieval Literature 
Studies of medieval authors, genres or issues, from 500-1500. Texts will be studied in the original language or in translation. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 306-4 Chaucer 
The intensive study of selected works by Geoffrey Chaucer, read in the language in which they were written and situated in the context of 14th century European culture. Some course time will be dedicated to the study of the Middle English language. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 308-4 Studies in Renaissance Non-Dramatic Literature 
The study of selected works of Renaissance poetry and prose written in English, and situated in their cultural context. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 310-4 Studies in Drama to 1642 
The study of selected dramatic works written in English prior to the closing of the theatres in 1642. May be organized by various critical approaches or issues. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 312-4 Shakespeare 
The intensive study of selected works by William Shakespeare, situated in the context of Elizabethan and Jacobean culture. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 314-4 Studies in Seventeenth Century Literature 
The study of selected works of seventeenth century poetry and prose, situated in their cultural context. May include some writing from North America. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 316-4 Milton 
The intensive study of selected works by John Milton, situated in their cultural context. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 320-4 Studies in Restoration and Eighteenth Century Literature 
The study of selected works of late seventeenth century and eighteenth century literature, with an emphasis on genres other than the novel. May include some writing from outside Britain, and may be organized by various critical issues or approaches. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 324-4 Studies in the Eighteenth Century British Novel 
The study of selected 18th century novels, situated in their cultural context. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 325-4 Romantic Poetry 
The study of selected works by British Romantic poets. May be organized by various critical issues or approaches. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 327-4 Studies in Romantic Literature 
Address issues in Romantic literature in English. May include texts in a variety of genres and be organized according to various critical approaches. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 332-4 Studies in Nineteenth Century British Literature 
The study of selected works written after the Romantic era, with an emphasis on genres other than the novel. May be organized by various critical issues or approaches. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 333-4 Studies in the Nineteenth Century British Novel 
The study of selected 19th century novels. May be organized by various critical issues or approaches. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 336-4 Literature of Transition from the Nineteenth to the Twentieth Century 
The study of selected works written after the Romantic era, through a selection of texts organized by various critical issues or approaches. May include Canadian, British, American and other literatures. Prequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 334-4 Studies in Modernism 
Addresses issues in Modernism. May include Canadian, British, American and other literatures.
200 Undergraduate Courses

Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 340-4 Twentieth Century British Literature to 1945**
The study of selected works of British literature written from 1900 to 1945. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 342-4 British Literature Since 1945**
The study of selected works of British literature written since 1945. May be organized by various critical issues and approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 347-4 American Literature to 1900**
The study of selected works of American literature written before 1900. This course may survey a particular era or topic, and may be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Students with credit for ENGL 344 or 348 may not take this course for further credit.

**ENGL 349-4 Studies in American Literature**
Addresses issues in American literature. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 350-4 Twentieth Century American Literature to 1945**
The study of selected works of American literature written from 1900 to 1945. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 352-4 American Literature since 1945**
The study of selected works of American literature written after 1945. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 354-4 Canadian Literature to 1920**
The study of selected works of Canadian literature written before 1920. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 357-4 Canadian Literature since 1920**
The study of selected works of Canadian literature written after 1920. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 359-4 Literature of British Columbia**
The study of selected works of British Columbian literature. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 360-4 Studies in Canadian Literature**
Addresses issues in Canadian literature. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 364-4 History and Principles of Literary Criticism**
The study of selected works in the history of literary criticism, up to and including modern and contemporary movements in criticism. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 366-4 Studies in Critical Approaches to Literature**
Addresses specific issues or movements in literary criticism, up to and including the current era. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 368-4 Studies in Drama**
The literary study of selected dramatic works. May be organized by various eras, issues or critical approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 369-4 Studies in Prose Genres**
The study of selected texts in such genres as the essay, biography, autobiography, travel narrative and journalistic writing. May include works which challenge the boundary between fiction and non-fiction. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 370-4 Studies in Language**
The study of linguistic, pragmatic and social theories of language. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 371-4 Writing: Theory and Practice**
Students will engage in theoretically informed practice of writing in various non-academic genres. Emphasis will be placed on the kinds of writing that students are likely to use after graduation. Prerequisite: 60 university credit hours; ENGL 210 or permission of the department.

**ENGL 375-4 History and Principles of Rhetoric**
The advanced study of the history and theory of rhetoric. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Recommended: ENGL 214.

**ENGL 376-4 Special Studies A**
Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 377-4 Special Studies B**
Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 378-4 Special Studies C: Single Author**
Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 380-4 Literature in Translation**
A study of selected texts across world literatures not originally written in English. May include the Bible; may be organized by themes, historical periods, countries of origin, authors, or texts; and may be approached as comparative literature. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 382-4 Cultural Studies**
This course will investigate interconnections between literature and culture through the study of selected texts. May be organized according to particular theoretical approaches, issues or historical periods. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 383-4 Studies in Fantasy and Popular Literature**
This course may concentrate on a genre of fantasy such as the Gothic novel or dystopian fiction, or on various genres associated with popular literature such as the detective novel, the novel of international intrigue, or romance. The works will be considered in relation to literary theory, and may be organized by various different critical issues and approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Students with credit for ENGL 363 may not take this course for further credit.

**ENGL 387-4 Studies in Children's Literature**
The study of selected works of children's literature from different periods and places. The works will be considered in relation to literary theory, and may be organized by different critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Students with credit for ENGL 367 may not take this course for further credit.

**ENGL 392-4 World Literature in English I: Designated by Geographical Region**
Addresses international literatures in English, mainly from regions other than Canada, Britain and the United States. May include a variety of approaches but will organize texts on the basis of their relation to particular societies and their history. The course may focus on the literature of one or several regions. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 394-4 World Literature in English II: Designated by Topic**
Addresses international literatures in English, selected and organized according to specific topics. As distinct from ENGL 392, this course may be wholly concerned with writing from Canada, Britain and the United States, although it will be distinguished from other courses by its primary focus on such issues as nationalism, post-colonialism and multiculturalism. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 430-4 Writing and Response in the Research Genres**
This course introduces students to current research and theory in composing the academic genres. It includes observation and practice in the Writing Centre. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205; and/or permission of the instructor.

**ENGL 431-4 Theory and Practice of Technical and Professional Literacies**
Through course readings and seminar discussion, this course introduces students to current theory and research in technical and professional communication; through a selection of mini courses offered by the Professional Writing Program, this course also offers students opportunities for hands-on learning in areas such as editing, document design and on-line publishing. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205; and/or permission of the instructor.

**ENGL 441-4 Directed Studies A**
Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Admission is by permission of the instructor and the department.

**ENGL 442-2 Directed Studies B**
Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Admission is by permission of the instructor and the department.

**ENGL 443-4 Directed Studies C**
Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must
ENGL 444-2 Directed Studies D
Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Admission is by permission of the instructor and the department.

ENGL 445-4 Directed Studies E
Prerequisite: credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 199, and two 200 division English courses, one of which must be ENGL 204 or 205. Admission is by permission of the instructor and the department.

ENGL 446-2 Directed Studies F
Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Admission is by permission of the instructor and the department.

ENGL 461-0 Practicum I
First semester of work experience in the English Co-operative Education program. Prerequisite: normally 30 semester hours with a CGPA of 3.0; credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 199, and two 200 division English courses, one of which must be ENGL 204 or 205. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester.

ENGL 462-0 Practicum II
Second semester of work experience in the English Co-operative Education program. Prerequisite: successful completion of ENGL 461 and normally 45 semester hours with CGPA of 3.0; credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 199, and two 200 division English courses, one of which must be ENGL 204 or 205. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester.

ENGL 463-0 Practicum III
Third semester of work experience in the English Co-operative Education program. Prerequisite: successful completion of ENGL 462 and normally 60 semester hours with CGPA of 3.0; credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 199, and two 200 division English courses, one of which must be ENGL 204 or 205. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester.

ENGL 464-0 Practicum IV
Fourth semester of work experience in the English Co-operative Education program. Prerequisite: successful completion of ENGL 463 and normally 75 hours with CGPA of 3.0; credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 199, and two 200 division English courses, one of which must be ENGL 204 or 205. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester.

ENGL 494-4 Research Seminar for the Honors Graduating Essay
This course is intended for the research and preparation of materials for the honors graduating essay. In addition to regular meetings with their supervisors, students will attend a scheduled research seminar. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Open only to students who have been accepted into the honors program. The student must complete this course before taking ENGL 496. Admission is by permission of the instructor and the department.

ENGL 496-4 Honors Graduating Essay
In addition to regular meetings with their supervisors, students will attend a scheduled research seminar. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Open only to students who have been accepted into the honors program. Admission is by permission of the instructor and the department.

Environmental Science

Faculty of Science

EVSC 200-3 Introduction to Environmental Science
Introduction to the multi-disciplinary subject of environmental science. The course is presented in two parts. Basic concepts and application of the scientific method to problems in environmental science are presented in part I. Case studies which highlight the basic concepts covered in part I are presented in part II. (3-1-0) Students with credit for ENPL 200 may not take EVSC 200 for further credit.

EVSC 380-0 Practicum I
First semester of work experience in the environmental science co-operative education program. Prerequisite: acceptance in the science co-operative education program.

EVSC 381-0 Practicum II
Second semester of work experience in the environmental science co-operative education program. Prerequisite: EVSC 380 and readmission to the science co-operative education program.

EVSC 401-1 Current Topics in Environmental Science
This seminar course will expose students to a variety of speakers who will discuss a wide range of topics in environmental science. This course is required by all students wishing to graduate with a major in Environmental Science. (2-0-0) Prerequisite: declared major in environmental science; completed third year course requirements of environmental science major.

EVSC 480-0 Practicum III
Third semester of work experience in the environmental science co-operative education program. Prerequisite: EVSC 381 and readmission to the science co-operative education program.

EVSC 481-0 Practicum IV
Fourth semester of work experience in the environmental science co-operative education program. Prerequisite: EVSC 480 and readmission to the science co-operative education program.

EVSC 482-0 Practicum V
Optional fifth semester of work experience in the environmental science co-operative education program. Prerequisite: EVSC 481 and readmission to the science co-operative education program.

EVSC 491-3 Advanced Field Studies in Environmental Science
Apply the theories and methods of environmental science to evaluate quantitatively the environmental impact of an industry on a selected site. The site can vary from year to year. This laboratory course brings together students from all streams of the Environmental Science Program, and the field work will be conducted by small groups of students. (field study) Prerequisite: standing on the environmental science honors program, with at least 30 upper division credits, or with permission of the environmental science steering committee.

First Nations Studies
Faculty of Arts

FNST 101-3 The Cultures, Languages and Origins of Canada's First Peoples
An introduction to the nature and goals of First Nations studies as an academic discipline; survey of prehistory, traditional cultures and aboriginal languages of Canada's First Nations. (lecture/seminar)

FNST 201-3 Canadian Aboriginal Peoples' Perspectives on History
An examination of fact and ideology in history and historic events involving contact between native and European peoples. The course will also address questions of research methodologies in studying Native-European relations, such as the evaluation of oral history and written ethnohistoric sources. An additional focus will be on gender as it influences perspectives. (lecture/seminar) Pre/corequisite: FNST 101.

FNST 301-3 Issues in Applied First Nations Studies Research
An examination of research strategies and issues involving contemporary First Nations communities. Besides the study of methodology and ethical issues involving research on native peoples, students will critically examine a number of case studies and carry out a small scale research project under the supervision of the instructor. (lecture/seminar) Prerequisite: FNST 101 and 201. Recommended: SA 255 or equivalent lower division research methods course.

FNST 401-3 Aboriginal Rights and Government Relations
An examination of First Nations and aboriginal peoples' perspectives on political, social and legal issues involving their rights as first citizens of Canada and North America, and the practical and political relations with various levels of government. Issues examined include:aboriginal rights and title questions, self government models and concepts, constitutional matters, the impact of federal government policies, including their impact on women's lives, and native community and First Nations politics. (lecture/seminar) Prerequisite: FNST 101 and 201. Recommended: POL 221.

FNST 402-3 The Discourse of Native Peoples
Style and content of aboriginal people's discourse about their culture, world view, history and matters affecting their lives. Includes the analysis of selections from native oral literature, autobiography, expository writing, modern poetry and fiction. (lecture/seminar) Prerequisite: FNST 101 and 201.

French
Faculty of Arts

FREN 099-3 French for Beginners
This course is for complete beginners. Admission after an interview with the department. The emphasis is on oral communication and the basics of French grammar. (tutorial/laboratory)

FREN 100-3 Introductory French I
This course is designed for students with between two and three years of high school French. The course covers basic French structures, vocabulary and patterns of pronunciation. Communicative skills will be emphasized throughout. (tutorial/laboratory) May not be taken by students with grade 11 or 12 French, French immersion, programme cadre or IB, nor those who have completed any French courses at Simon Fraser University or in another university/college.
FREN 101-3 Introductory French II
Continuation of the work of FREN 100-3. It should be taken, wherever possible, in the semester immediately following FREN 100. (tutorial/laboratory) Prerequisite: grade 11 French or FREN 100, or equivalent. May not be taken by students with credit for FREN 151 and/or subsequent courses.

FREN 151-3 French I
Designed for students with prior knowledge of the language but who need further training in written and oral fluency before proceeding to higher level courses. (tutorial/laboratory) Prerequisite: grade 12 French or FREN 101. May not be taken by students from French immersion, programme cadre or IB, nor those who have taken subsequent language courses (FREN 201-299).

FREN 198-3 French for Reading Knowledge I
For students with little or no background in French who wish to acquire the ability to read periodicals, journals and basic literary and academic texts. May not be taken by students who have completed a French program through grade 12 or by students who have received credit for FREN 151 or its equivalent or higher. (lecture/tutorial) May not be taken by students who have completed French 12 or with FREN 151 or higher (or their equivalents).

FREN 199-3 Writing French I: Spelling and Grammar
An alternative to FREN 201 for francophone students who need practice in elementary grammar, composition and spelling. Offered as a correspondence course only. Prerequisite: fluency in French. Students will be accepted only after an interview (which may be by telephone) with a faculty member in the Department of French. Students may not get credit for both FREN 201 and 199.

FREN 201-3 Intermediate French I
Further development of the language skills of speaking, understanding and reading. (tutorial/laboratory) Prerequisite: grade 12 French with a grade of A or FREN 151. May not be taken by students with credit for FREN 216 or 199 or subsequent language courses (FREN 202 and up).

FREN 202-3 Intermediate French II
Training in the techniques of self-expression in writing French. (lecture/tutorial) Prerequisite: FREN 199 or 201 or 216. FREN 201 and 202 may be taken concurrently after completion of FREN 151 with a grade of A- or better.

FREN 203-5 French Language: Oral Practice
An intermediate oral course developing French oral communication, pronunciation and aural comprehension aimed at the level of students taking FREN 202. (tutorial/laboratory) Prerequisite: FREN 201 or 202 or 216. May not be taken by students with credit for FREN 300.

FREN 206-3 Intermediate French III
Study in depth of the structure of French and extension of competence in the skills of oral and written expression. (lecture/tutorial) Prerequisite: FREN 202.

FREN 216-3 French for Immersion Program Students
A course designed to answer the specific needs of French immersion program graduates. Emphasis will be placed upon the development of self-monitoring techniques to improve correctness in the use of the oral and written codes of French. (lecture/tutorial) Prerequisite: restricted to students entering Simon Fraser University from high school French immersion programs. Prior permission of course chair is required. May be taken in conjunction with other French language courses. May not be taken as part of the French certificate program. May not be taken by students with credits for FREN 201.

FREN 220-3 French for Business
This course is designed for students and professionals who wish to acquire language and cultural skills for conducting business in francophone countries. (lecture/tutorial) Prerequisite: grade 12 French or equivalent (not intended for native speakers of French).

FREN 230-3 Introduction to French-Canadian Literature
This will serve to introduce the student to French Canadian thought through literature and the arts. The course will be conducted in French. (lecture/tutorial) Prerequisite: any one of FREN 206, 299 or 301.

FREN 240-3 Introduction to French Literature: Modern French Literature
This will serve to introduce the student to French contemporary thought through literature. This course will be conducted in French; the object is to acquire a reading facility and a critical appreciation of modern French literature. (lecture/tutorial) Prerequisite: any one of FREN 206, 299 or 301.

FREN 270-3 Introduction to French Linguistics I
An introduction to the phonetics of French and to the linguistic concepts upon which phonological and morphological descriptions of French are based. (lecture/tutorial) Prerequisite: any one of FREN 202, 206 or 301. Students with credit for FREN 306 may not take this course for further credit.

FREN 299-3 Writing French II: Intermediate Composition
An intermediate composition course to help students with the techniques of writing essays in French, both at the grammar level and at the composition level. (distance education) Prerequisite: FREN 199 with C+ minimum or 202. May be taken concurrently with other French courses at the 200 or 300 level except by students who are taking or have completed FREN 301. Does not count towards the requirements for French minor, major, honors or certificate programs.

FREN 300-3 Advanced French - Conversation
For students who have a good command of oral French, but who wish to improve fluency and increase vocabulary. Discussion of selected topics and contemporary issues. In-class presentations. (tutorial) Prerequisite: any one of FREN 202, 205, 206, 270 or 299.

FREN 301-3 Advanced French - Composition I
Emphasis is placed on written command of French. Detailed study of syntax. (lecture/tutorial) Prerequisite: FREN 206. Students with a grade of A- (3.67) or higher in FREN 202 may request permission of the course chair of FREN 301 to enrol directly in FREN 301 and, if accepted and if they so desire, to thereby register to challenge FREN 206.

FREN 302-3 Advanced French - Composition II
Further practice in written expression by means of composition. (lecture/tutorial) Prerequisite: FREN 301.

FREN 310-3 Linguistics and French Language Learning
This course is intended for students who may be contemplating a career as French language teachers of core French or French immersion. The course studies the contributions of various branches of linguistics to the problems of second language acquisition and to the teaching of French as a second language. Prerequisite: FREN 301 and 307 or 306 (or permission of the course chair). Students who have taken FREN 303 may not take this course for further credit. This course may be used in partial fulfillment of the upper division requirements for honors, majors and minors in French in a bachelor of education program, and for honors and majors in French in a bachelor of arts program. This course counts toward an extended minor in a bachelor of general studies program.

FREN 311-3 The Acquisition of Vocabulary
This course is intended for students who may be contemplating a career as French language teachers of core French or French immersion. The course addresses the practical problems of acquiring the specialized vocabularies needed to teach French as a second language and to teach other school subjects in French. It also studies the techniques by which students may be taught to increase their vocabularies. Prerequisite: FREN 206 and 270 or 306 (or permission of the course chair). This course may be counted as upper division elective credit but may not be counted towards the 15 upper division credits required for an extended minor in French nor towards the 30/50 upper division credits required for a major/honors in French.

FREN 312-3 Corrective Phonetics
This course is intended for students who may be contemplating a career as French language teachers of core French or French immersion. The course is designed to help them to improve their own pronunciation of French; it also provides them with the knowledge and techniques needed to address the pronunciation problems of students in their language classes. Prerequisite: FREN 206 and 270 or 306. This course may be counted as upper division elective credit but may not be counted towards the 15 upper division credits required for an extended minor in French nor towards the 30/50 upper division credits required for an extended minor/honors in French.

FREN 330-3 Francophone World
An interdisciplinary analysis of the socio-cultural reality of French speaking countries. Prerequisite: any of FREN 202, 205, 206, 270 or 299.

FREN 342-4 Literature in Translation from the Francophone World
A study of representative and significant works (from one or more French speaking countries) from literature and cinema originally produced in French in their socio-cultural context. (2-2-0) Prerequisite: knowledge of French is not required; two courses in literature. This course does not count towards the degree requirements for an extended minor in French nor towards the 30/50 upper division credits required for an extended minor/honors in French.

FREN 360-3 Intermediate French Literature
Introduction to critical analysis based on the study of texts from the Middle Ages to the 19th century. (lecture/tutorial) Prerequisite: FREN 230 or 240.

FREN 370-3 Introduction to French Linguistics II
An introduction to the fundamental concepts and techniques used in the linguistic analysis of the morphosyntax, lexicology and semantics of French. (lecture/tutorial) Prerequisite: FREN 270. Students with credit for FREN 306 may not take this course for further credit.

FREN 406-3 French Stylistics
Introduction to the application of basic linguistic concepts to the study of French literature. (lecture/tutorial) Prerequisite: FREN 301, 370 or 306, and 360.

FREN 407-4 History of French: Phonology
The study of the evolution of the phonological system of modern French from vulgar Latin. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370.

FREN 408-4 History of French: Morphology and Syntax
The study of the evolution of Modern French morphology and syntax from vulgar Latin. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370.
FREN 411-4 Modern French: Morphology
The analysis of the morphological systems of modern French. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370.

FREN 412-4 Modern French: Syntax
Theoretical approaches to specific grammatical problems. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370. Recommended: LING 130.

FREN 413-4 Modern French: Phonology
Analysis of the sound system of modern French. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370. Recommended: LING 130.

FREN 414-3 French Linguistic Theories
Studies in French linguistic theories. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370.

FREN 420-3 French Semantics and Lexicology
Study of diachronic and synchronic organization of semantic and lexical fields. Formation and evolution of French vocabulary. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370.

FREN 421-3 Varieties of French
Studies in French dialectology and varieties of French in the French speaking world. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370. Recommended: FREN 407 and/or 408.

FREN 422-3 Canadian French
Description of Canadian French with special emphasis on its dialects. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370. Recommended: FREN 421.

FREN 430-3 The French-Canadian Novel and Theatre
(lecture/tutorial) Prerequisite: FREN 230 or 240; and FREN 360.

FREN 461-3 French Medieval Literature
Medieval French literature with special emphasis on a genre, author, or on a region. (2-1-0) Prerequisite: FREN 230 or 240, FREN 360.

FREN 462-3 French Renaissance Literature
A study of French Renaissance works and literary genres in their historical and cultural contexts. (2-1-0) Prerequisite: FREN 230 or 240, FREN 360.

FREN 463-4 Literature of the Seventeenth Century
(lecture/tutorial) Prerequisite: FREN 230 or 240; and FREN 360.

FREN 465-4 Literature of the Eighteenth Century
(lecture/tutorial) Prerequisite: FREN 230 or 240; and FREN 360.

FREN 467-3 Romanticism
(lecture/tutorial) Prerequisite: FREN 230 or 240; and FREN 360.

FREN 470-4 Realism to Naturalism
(lecture/tutorial) Prerequisite: FREN 230 or 240; and FREN 360.

FREN 472-3 The Contemporary Theatre
(lecture/tutorial) Prerequisite: FREN 230 or 240; and FREN 360.

FREN 474-3 French Poetry
(lecture/tutorial) Prerequisite: FREN 230 or 240; and FREN 360.

FREN 475-3 The Contemporary Novel
(lecture/tutorial) Prerequisite: FREN 230 or 240; and FREN 360.

FREN 476-3 Interdisciplinary Approaches in French Literature
A study of French and francophone literature from an interdisciplinary point of view. Topics will vary to include different disciplines: history, cultural studies, gender studies, psychology or the study of the relationships between literature and other media, i.e. cinema. (1-2-0) Prerequisite: FREN 230 or 240 and 360.

FREN 480-2 Seminar I
Study in depth of an area covered by a French literature or linguistics course in the 400 division. (tutorial) Prerequisite: FREN 230 or 240, and FREN 360; or FREN 301 and FREN 306 or 370, or by permission of the course chair. To be taken in conjunction with a 400 division course in French linguistics or literature.

FREN 491-3 Readings in French Linguistics and/or Literary Criticism
Guided readings in selected topics. May only be taken during the last semesters of study; required as a preparation for the honors essay but may be taken by other students with consent of the instructor. Students with credit for FREN 409 may not take this course for further credit.

FREN 492-3 Honors Essay
Candidates for honors will be required to submit a major paper on a topic of a comprehensive nature in literature or linguistics to be approved by the course chair. (seminar) Prerequisite: FREN 491 and at least nine 400 division courses in French literature and/or French linguistics.

General Studies
Faculty of Arts

GS 101-3 Introduction to University Studies
This course introduces students to the academic community, resources and support networks and services available at Simon Fraser University. Students will participate in activities designed to engage them in more effective and strategic learning. Through course presentations and assignments, students will learn about university life and achieve a knowledge of the academic options and goals of Simon Fraser University. (seminar)

GS 106-3 Opera
This course is designed to provide a broad general knowledge of opera and the history of opera. Attention also will focus on how voices are used in opera, and the way in which operas are presented and performed. The course does not assume prior knowledge of, or competence in, music. (lecture)

GS 240-3 Introduction to German Literature (in German)
A discussion of selected German literary texts. (seminar) Prerequisite: GERM 202 or consent of instructor.

GS 304-3 Richard Wagner: The Ring of the Nibelung
An interdisciplinary study of Wagner's monumental series of music dramas collectively known as The Ring of Nibelung. The aim of this course is to examine Wagner's ideas on music, drama, ethics, politics, aesthetics, religion, history, psychology, mythology, and metaphysics as they are reflected in and manifested by The Ring of the Nibelung. (lecture/seminar) Prerequisite: 45 credit hours.

GS 399-3 Individual Study Project
An intensive study project of the student's own selection. Prerequisite: completion of 75 credit hours of undergraduate work; completion of at least one upper division course in relevant areas; the signature of a faculty member who is willing to supervise the project; permission of the dean to enrol. This course may be used once only for credit towards a degree.

GS 400-5 Individual Study Project
An intensive study project of the student's own selection. Prerequisite: completion of 75 credit hours of undergraduate work; completion of at least one upper division course in relevant areas; the signature of a faculty member who is willing to supervise the project; permission of the dean to enrol. This course may be used once only for credit towards a degree.

GS 411-5 Selected Topics
The subject matter will vary from semester to semester depending upon the interests of faculty and students. Prerequisite: 45 credit hours.

GS 420-3 Selected Topics for Integrated Studies
These selected topics are offered only through integrated studies programs within the Bachelor of General Studies degree. They explore fields of professional practice through interdisciplinary approaches not available in regular academic departments. Prerequisite: admission to an integrated studies program.

GS 421-3 Selected Topics for Integrated Studies
These selected topics are offered only through integrated studies programs within the Bachelor of General Studies degree. They explore fields of professional practice through interdisciplinary approaches not available in regular academic departments. Prerequisite: admission to an integrated studies program.

GS 422-3 Selected Topics for Integrated Studies
These selected topics are offered only through integrated studies programs within the Bachelor of General Studies degree. They explore fields of professional practice through interdisciplinary approaches not available in regular academic departments. Prerequisite: admission to an integrated studies program.

GS 423-3 Selected Topics for Integrated Studies
These selected topics are offered only through integrated studies programs within the Bachelor of General Studies degree. They explore fields of professional practice through interdisciplinary approaches not available in regular academic departments. Prerequisite: admission to an integrated studies program.

GS 424-3 Selected Topics for Integrated Studies
These selected topics are offered only through integrated studies programs within the Bachelor of General Studies degree. They explore fields of professional practice through interdisciplinary approaches not available in regular academic departments. Prerequisite: admission to an integrated studies program.

GS 425-3 Selected Topics for Integrated Studies
These selected topics are offered only through integrated studies programs within the Bachelor of General Studies degree. They explore fields of professional practice through interdisciplinary approaches not available in regular academic departments. Prerequisite: admission to an integrated studies program.

GS 426-3 Selected Topics for Integrated Studies
These selected topics are offered only through integrated studies programs within the Bachelor of General Studies degree. They explore fields of professional practice through interdisciplinary approaches not available in regular academic departments. Prerequisite: admission to an integrated studies program.

GS 427-3 Selected Topics for Integrated Studies
These selected topics are offered only through integrated studies programs within the Bachelor of General Studies degree. They explore fields of
professional practice through interdisciplinary approaches not available in regular academic departments. Prerequisite: admission to an integrated studies program.

GS 428-3,4,5 Selected Topics for Integrated Studies
These selected topics are offered only through integrated studies programs within the Bachelor of General Studies degree. They explore fields of professional practice through interdisciplinary approaches not available in regular academic departments. Prerequisite: admission to an integrated studies program.

GS 498-3,4,5 Selected Topics for Integrated Studies
These selected topics are offered only through integrated studies programs within the Bachelor of General Studies degree. They explore fields of professional practice through interdisciplinary approaches not available in regular academic departments. Prerequisite: admission to an integrated studies program.

GS 498-10 Individual Study Project
An intensive study project of the student's own selection. (directed study) Prerequisite:
- completion of 75 credit hours of undergraduate work;
- completion of at least two upper division courses in a relevant area;
- the signature of two faculty members who are willing to provide supervision and other support necessary to the completion of the project; the supporting faculty should be from two different disciplines.
- students must apply to the dean for admission at least two months prior to the beginning of the semester in which they wish to enrol.

Note: Students who have completed an individual study semester course for at least 10 credit hours (e.g. GS 499-15, CMNS 498-16, 499-15) may not take this course for further credit towards a degree in the Faculty of Arts or for the degree bachelor of general studies.

GS 499-15 Individual Study Semester
A full semester spent on an intensive study project of the student's own selection. Prerequisite:
- completion of 75 credit hours of undergraduate work;
- completion of at least two upper division courses in relevant areas;
- the signature of three faculty members who are willing to provide supervision and other support necessary to the completion of the project. The supporting faculty should be from at least two separate disciplines;
- students must apply to the dean for admission at least two months prior to the beginning of the semester in which they wish to enrol.

Note: Students who have completed an individual study semester course for at least 10 credit hours (e.g. GS 498-10, CMNS 498-16, 499-15) may not take this course for further credit towards a degree in the Faculty of Arts or for the degree bachelor of general studies.

Geography

Faculty of Arts

GEOG 100-3 Human Geography
This course introduces the basic systematic approaches in the study of contemporary human geography including the distribution of population, spatial aspects of economic, cultural and political development, landscape and resource study. (lecture) Students with credit for GEOG 101, 121 or 141 may not take this course for further credit.

GEOG 102-3 World Problems in Geographic Perspective
Current world-scale problems are examined in their regional and global contexts, with emphasis being placed on the importance of dynamics of the natural environment in human affairs. (lecture/tutorial)

GEOG 111-3 Physical Geography
An introduction to landforms, climates, soils and vegetation; their origins, distributions, inter-relationships and roles in the ecosystem. Laboratory work and field trips are included. (lecture/laboratory)

GEOG 162-3 Canada
The geographical character of Canada; the Canadian environment, regions in social and economic growth. (lecture/tutorial) Students with credit for GEOG 262 may not take this course for further credit.

GEOG 212-3 Geography of Natural Hazards
An introduction to the occurrence and origin of natural hazards such as volcanic eruptions, landslides, etc. Interaction between the relevant natural processes and society will be examined, as well as prediction of natural events and the amelioration of the effects of such events within different cultural contexts. (lecture/tutoria) Prerequisite: GEOG 111 or EASC 101. Students who completed GEOG 312 prior to fall 1988 may not take this course for further credit.

GEOG 213-3 Geomorphology I
A review of the basic principles and processes involved in physical and dynamic climatology, with particular emphasis on global distributions of climate and change. (lecture/laboratory) Prerequisite: GEOG 111. Students who completed GEOG 314 prior to fall 1988 may not take this course for further credit.

GEOG 214-3 Climatology I
A review of the basic principles and processes involved in physical and dynamic climatology, with particular emphasis on global distributions of climate and change. (lecture/laboratory) Prerequisite: GEOG 111. Students who completed GEOG 314 prior to fall 1988 may not take this course for further credit.

GEOG 215-3 Biogeography
An examination of the abiotic and biotic factors that control the distribution and development of plant communities, including climatic and geological change. (lecture/laboratory) Prerequisite: GEOG 111. Students who completed GEOG 315 prior to fall 1988 may not take this course for further credit. Students granted credit for GEOG 215 may not be granted credit for BIOS 204.

GEOG 221-3 Economic Geography
The basic concepts of economic geography, involving consideration of the spatial organization and development of economic and resource based systems. (lecture/tutorial) Prerequisite: GEOG 100. Students with credit for GEOG 121 may not take this course for further credit.

GEOG 241-3 Social Geography
Systematic consideration of the spatial and environmental bases of societies, in historical and cultural perspective. (lecture/tutorial) Prerequisite: GEOG 100. Students with credit for GEOG 141 may not take this course for further credit.

GEOG 250-3 Cartography I
An introduction to the interpretation of maps and air photographs. (lecture/laboratory) Prerequisite: GEOG 100 or 221 or 241 and 111.

GEOG 251-3 Methods in Spatial Analysis
A systematic introduction to the quantitative and theoretical approaches to the study of geography. (lecture/laboratory) Prerequisite: GEOG 100 or 221 or 241; and 111.

GEOG 253-3 Aerial Photographic Interpretation
Uses of aerial photography and air photo interpretation in geography. The course is divided into four sections: (1) technical background regarding aerial photography and photo interpretation; (2) air photo interpretation and mapping; (3) application of air photo interpretation; and (4) introduction to remote sensing. (lecture/laboratory) Prerequisite: GEOG 100 or 221 or 241 and 111.

GEOG 261-3 Introduction to Urban Geography
This course will introduce basic concepts in the study of urban geography by systematically identifying and examining major components of urban structure. (lecture) Prerequisite: GEOG 100 or 102 or 30 credit hours. Students who have taken GEOG 361 cannot take this course for further credit.

GEOG 263-3 Selected Regions
A study of the geographical character of a major world region. (lecture/tutorial) Prerequisite: at least nine credit hours. This course may not be counted more than once toward a degree.

GEOG 264-3 Canadian Cities
This course will provide a systematic introduction to urbanization in Canada. Topics addressed will include Canadian urbanization as compared with other countries, especially the United States, metropolitan centres, resource towns, and the internal structure of cities. (lecture/tutorial) Prerequisite: GEOG 100 or 162 or permission of instructor.

GEOG 265-3 Geography of British Columbia
An examination of the physical landscape, the migration process, resource exploitation and the development of the settlement patterns. (lecture/tutorial) Prerequisite: at least nine credit hours.

GEOG 301-4 Geographic Ideas and Methodology
A study of contemporary geographical concepts in historical perspective, the course will examine the traditional approaches to the subject matter of geography, giving particular attention to present day methodological debate and foci of interest. (lecture/seminar) Prerequisite: completion of 30 credit hours, including 15 in geography.

GEOG 302-0 Geography Practicum I
This is the first semester of work experience in a co-operative education program available to students who plan to pursue a career in geography or related areas. Prerequisite: completion of the requirements for acceptance into either the Faculty of Arts or Faculty of Science co-operative education program. Students in the BA program should apply to the Faculty of Arts co-operative education program and students in the BSc program should apply to the Faculty of Science co-operative education program. Applications are due by the end of the third week of the preceding semester.

GEOG 303-0 Geography Practicum II
This is the second semester of work experience in the Geography co-operative education program. Prerequisite: GEOG 302 and acceptance by the Faculty of Arts or Faculty of Science co-operative education program. Students should apply to a co-op co-ordinator in the Faculty of Arts or Science by the end of the third week of the preceding semester.

GEOG 311-4 Hydrology I
Introduction to the hydrologic cycle, with an emphasis on the hydrology of British Columbia; description and analysis of the processes of water movement and storage; effects of climatic variations and land use on the hydrologic cycle. (lecture/laboratory) Prerequisite: GEOG 213 or 214; STAT 101 or 270 or 301 or GEOG 251; PHYS 100 or 101 or 120; or permission of the instructor.

GEOG 313-4 Geomorphology II
Intermediate analysis in fluvial and coastal geomorphology with particular reference to British Columbia. (lecture/laboratory) Prerequisite: GEOG 213 (formerly 313). Students who completed GEOG 313 prior to fall 1988 may take this course for further
credit. Students who completed GEOG 413 prior to fall 1988 may not take this course for further credit.

GEOG 314-4 Climatology II
An introduction to atmospheric science with emphasis on processes in the boundary layer; examination of the radiation, energy and water balances; description and analysis of heat and mass transfer. (lecture/laboratory) Prerequisite: GEOG 214 (formerly 314) or permission of instructor. Students who completed GEOG 314 prior to fall 1988 may take this course for further credit. Recommended: MATH 151 and 152 or MATH 154 and 155 or MATH 157 and 158.

GEOG 315-4 Regional Ecosystems
Physical and biological characteristics of regional ecosystems; historical evolution of biomes, management of biotic resources. (lecture/seminar) Prerequisite: GEOG 215 (formerly 315) or BISC 204. Students who completed GEOG 315 prior to fall 1988 may take this course for further credit.

GEOG 316-4 Ecosystem Biogeochemistry
Introduction to the cycling of essential chemical elements through ecosystems. Interactions among biological, hydrological, and geological controls on the structure and function of ecosystems and the spatial-temporal scales of elemental cycling are emphasized. Environmental problems resulting from disturbance to these systems and the role of elemental cycles are examined. (lecture/laboratory) Prerequisite: GEOG 215 or BISC 204 or permission of the instructor.

GEOG 317-4 Soil Science I
An introduction to the study of soils: physical, chemical and biological properties of soils; soil formation, description, classification, survey and use. Field and laboratory techniques of soil analysis. (lecture/laboratory) Prerequisite: GEOG 111 and 213 or permission of the instructor.

GEOG 322-4 World Resources
An analysis of the use and development of natural resources from a geographic, economic and institutional perspective. (lecture/tutorial) Prerequisite: at least 30 credit hours including GEOG 221.

GEOG 323-4 The Dynamics of Industrial Location and Regional Development
An examination of the factors affecting industrial location and the geographic organization of production systems within and among firms from the perspectives of national, regional and urban development. (lecture/tutorial) Prerequisite: GEOG 221 (formerly 121).

GEOG 324-4 Geography of Transportation
An empirical and theoretical examination of the geographical aspects of transportation systems. (lecture/tutorial) Prerequisite: GEOG 221 (formerly 121) and GEOG 241 (formerly GEOG 141).

GEOG 325-4 Geography of Service Activities
Central place theory, marketing and retail location, urban economic base, land use models, and tourism. (lecture/tutorial) Prerequisite: GEOG 221 or 261.

GEOG 327-4 Geography of Tourism and Outdoor Recreation
Factors underlying the changing geography of tourism and outdoor recreation. Issues of demand, supply and impact are examined. (lecture/tutorial) Prerequisite: GEOG 221 or 241, or permission of the instructor.

GEOG 351-4 Cartography II
Cartographic processes and techniques with an emphasis on thematic cartography; photographic process; the computer as a cartographic tool. (lecture/laboratory) Prerequisite: GEOG 250 or 251.

GEOG 352-4 Methods in Spatial Analysis II
Quantitative techniques for the analysis of spatial data and patterns, including trend surface analysis, spatial interpolation methods, and applications of multivariate statistics in geographic analysis. (lecture/laboratory) Prerequisite: one of GEOG 251, STAT 101, 102, 203 (formerly 103) or 270; GEOG 250 and 253.

GEOG 353-4 Remote Sensing
Applied remote sensing and image analysis. Topics include air photo interpretation, multispectral and color photography, thermal imagery, multispectral scanners, microwave applications, satellite imagery and SPOT data. The relation of remote sensing information and Geographic Information Systems is discussed. Manual interpretation and computer analysis will be used. (lecture/laboratory) Prerequisite: GEOG 253 (formerly 353). Students who completed GEOG 353 prior to fall 1988 may take this course for further credit. Students who completed GEOG 453 prior to fall 1988 may not take this course for further credit.

GEOG 354-4 Introduction to Geographic Information Systems
This course gives a basic overview of GIS. The emphasis is on: the nature and characteristics of spatial data; a review of software and hardware for GIS; data structures and data base models; data capture and sources of data; GIS operations and basic functions; applications of GIS and GPS products. (lecture/laboratory) Prerequisite: GEOG 250 or 253, or permission of instructor. Results who completed GEOG 452 prior to fall 1988 may not take this course for further credit.

GEOG 355-4 Technical Issues in Geographic Information Systems
This course emphasizes the technological side of GIS. The main issues are: GIS algorithms; data structures; advanced computational topics; error analysis in GIS. (lecture/laboratory) Prerequisite: GEOG 354 or permission of the instructor.

GEOG 356-4 Cognitive Cartography
Analyzes the map-user interface, the basic perceptual and cognitive processes used by the map reader, and the principles of design and presentation which lead to effective map use. (lecture/seminar) Prerequisite: GEOG 250 or 253.

GEOG 362-4 Geography of Urban Development
This course will apply the principles of urban geographical analysis to the study of urbanization as exemplified in the development of cities in Europe and North America. (lecture/tutorial) Prerequisite: at least 30 credit hours including either GEOG 241 or 261.

GEOG 369-4 Human Microgeography
An examination of human interaction with physical environment, focusing on the individual as the unit of analysis, with special emphasis upon designed environments. A series of field studies will be required of each student. (lecture/seminar) Prerequisite: GEOG 241 (formerly 141).

GEOG 375-4 Historical Geography I
Geographical factors in the settlement of Canada and the United States; the role of the frontier; and geographical factors in the changing nature of the perception of resources. (lecture/seminar) Prerequisite: GEOG 241 (formerly 141).

GEOG 381-4 Political Geography
Theoretical approaches to problems of the interactions of political decisions and power structures with territorial organization. (lecture/tutorial) Prerequisite: GEOG 241 (formerly 141).

GEOG 382-4 Population Geography
A study of the application of theories of population growth and demographic techniques; a consideration of the implications of these on the distribution and evolution of population in selected areas. (lecture/tutorial) Prerequisite: GEOG 221.

GEOG 383-4 Regional Development and Planning I
Theories and concepts of regional development and planning in the advanced capitalist and third worlds; methods of spatial analysis. (lecture/tutorial) Prerequisite: GEOG 221 (formerly 121) and GEOG 241 (formerly 141). Students with credit for GEOG 443 may not take this course for further credit.

GEOG 384-4 Food Production and the Environment
A critical examination of the current theories and issues in the study of human intervention into the environment and its implications for agricultural systems and food production. (lecture/tutorial) Prerequisite: GEOG 221 (formerly 121).

GEOG 386-4 Geography, Health and Health Care
An introduction to the study of health and health care issues from a geographic perspective covering: major spatial influences shaping the health status of populations, the distribution of disease, and the delivery of health care services. (lecture/tutorial) Prerequisite: GEOG 241 or GEOG 300 or SA 218.

GEOG 387-4 Geography and Gender
An examination of how gender difference interacts with spatial and environmental factors including the natural and built environments and rural and urban landscapes. (lecture/tutorial) Prerequisite: GEOG 241.

GEOG 389-4 Human Ecology: Human Relations to Nature
This course introduces the student to concepts and theories relating to the way human populations organize in order to maintain themselves in given environments. Major themes will be: 1) processes of adaptation to environmental conditions; 2) the development of a system of relationship which allows a population to act as a unit within the context of prevailing technology and communication; and 3) the evolution of the system according to the changing capacities for growth. Other themes will be the politics of nature, eco-feminism, and the social construction of nature. (lecture/tutorial) Prerequisite: REM 100 and EVSC 200 (formerly ENPL 100 and 200).

GEOG 402-0 Geography Practicum III
This is the third semester of work experience in the Geography co-operative education program. Prerequisite: GEOG 303 and acceptance by the Faculty of Arts or Science co-operative education program. Students should apply to a co-op co-ordinator in the Faculty of Arts or Science by the end of the third week of the preceding semester.

GEOG 403-0 Geography Practicum IV
This is the last semester of work experience in the Geography co-operative education program. Prerequisite: GEOG 402 and acceptance by the Faculty of Arts or Science co-operative education program. Students should apply to a co-op co-ordinator in the Faculty of Arts or Science by the end of the third week of the preceding semester.

GEOG 404-2 Directed Readings
Designed for upper level geography major and honors students who wish to continue research started in conjunction with an earlier course. Prerequisite: permission to enter directed readings courses requires written consent of both the faculty member willing to supervise the research, and the chair of the department.

GEOG 405-4 Directed Readings
Designed for upper level geography major and honors students who wish to continue research started in conjunction with an earlier course. Prerequisite: permission to enter directed readings courses requires written consent of both the faculty member willing to supervise the research, and the chair of the department.
GEOG 409-0 Geography Practicum V
This is an optional semester of work experience in the Geography co-operative education program. Prerequisite: GEOG 403 and acceptance by the Faculty of Arts or Faculty of Science co-operative education program. Students should apply to a co-op co-ordinator in the Faculty of Arts or Science by the end of the third week of the preceding semester.

GEOG 411-4 Hydrology II
An examination of hydrologic processes via experimental and observational studies; measurement and analysis of hydrologic data; application of hydrologic modeling; and recent research developments in selected sub-fields of hydrology. (lecture/laboratory) Prerequisite: one of GEOG 311, 313, or 314; one of GEOG 251, STAT 101, 102 or 203 (formerly 103).

GEOG 412-4 Glacial Processes and Environments
A critical evaluation of glacial processes and environments; application of field techniques. (Lecture/Field Work) Prerequisite: GEOG 313; EASC 201 recommended. Students who completed GEOG 412 prior to fall 1996 may also take this course for credit.

GEOG 413-4 Geomorphology III
Advanced treatment of topics in glacial and fluvial geomorphology with emphasis on current research problems. (lecture/laboratory) Prerequisite: GEOG 313.

GEOG 414-4 Climatology III
An examination of recent advances in climatology and application of atmospheric process models. (lecture/ laboratory) Prerequisite: GEOG 314.

GEOG 415-4 Advanced Biogeography
A survey of advanced biogeographic theory and techniques of vegetation analysis. The application of these theories and techniques to biotic resources management is also examined. (lecture/seminar) Prerequisite: GEOG 315. Students who completed GEOG 415 prior to fall 1988 also require permission of the instructor.

GEOG 416-4 Pleistocene Geography
An examination of the physical geomorphic, pedologic and biotic processes and evidence from human geography of the period will be studied as they affect landscape changes. (lecture/seminar) Prerequisite: one of GEOG 213 (formerly 313), 214 (formerly 314), 215 (formerly 315), 317.

GEOG 417-4 Soil Science II
Advanced treatment of topics in soil science: soil physics, soil chemistry, soil biology, soil classification and/or forest soils. (lecture/laboratory) Prerequisite: GEOG 317.

GEOG 419-4 Mass Transfer in the Biosphere
An introduction to the processes responsible for mass transfer in the biosphere. Emphasis will be given to the transfer of toxic agents in the environment. (seminar/laboratory) Prerequisite: MATH 151, 154 or 157, CHEM 103 or 122, and at least 60 semester hours of credit. Students with credit for EASC 410 may not take GEOG 419 for further credit.

GEOG 420-4 Comparative Cultural Geography
A comparative study of selected world cultures and landscapes in the light of recent theoretical developments in geography. (lecture/seminar) Prerequisite: at least 60 credit hours including eight hours of upper division geography courses.

GEOG 421-4 Geography of Resource Development
Geographical aspects of development and management of natural resources. Particular attention will be given to contemporary problems in Western Canada. (lecture/seminar) Prerequisite: at least 60 credit hours including eight hours of upper division geography courses.

GEOG 422-4 Geography of the Third World
A geographic study of 'development' and 'underdevelopment' with particular references to selected lesser developed regions. (lecture/seminar) Prerequisite: at least 60 credit hours including GEOG 111, 221 (formerly 121), and 241 (formerly 141).

GEOG 424-4 Urban Transportation
An extension of the theoretical and conceptual approach to transportation (GEOG 324), but with application to urban areas. (lecture/seminar) Prerequisite: GEOG 324 and 382.

GEOG 426-4 Industrial Change and Local Development
Relationships between multinational corporations and local development with reference to resource based towns in British Columbia. An analysis of the implications of changes in employment, organization, technology and resource utilization for community economic development. (lecture/seminar) Prerequisite: at least 60 credit hours including GEOG 323 or 383.

GEOG 427-4 Selected Topics in the Geography of Tourism
Selected topics in the geography of tourism. Topics emphasize policy, planning and management issues associated with tourism. (lecture/seminar) Prerequisite: GEOG 327 or 423, or permission of the instructor.

GEOG 441-4 Geography of Urban Regions
An evaluation of the nature of urbanization, having specific reference to theories of urban spatial structure and to comparisions of urbanization in Canada and abroad. (lecture/seminar) Prerequisite: at least 60 credit hours including GEOG 382.

GEOG 444-4 Regional Development and Planning II
The evaluation of regional development planning and practice; case study analysis of regional development programs with particular reference to Canadian experience. (lecture/seminary/laboratory) Prerequisite: 60 credit hours including GEOG 383.

GEOG 445-4 Resource Planning
This course introduces the student to the principles and practices of resource planning within a Canadian context. Special attention is paid to land-use planning as it relates to major resource sectors. (lecture/ seminar) Prerequisite: GEOG 322 or 385.

GEOG 446-4 Geography of Contemporary Societies
Examination and analysis of the contemporary landscapes as a cultural expression of Anglo-Saxon thought since the 1920's. The focus will be on North American landscapes, but with reference to convergent phenomena elsewhere in the world. The effect upon the contemporary landscape of certain ideas and institutions prevalent in Anglo-Saxon cultures since World War I. The origin, spread and differentiation of selected humanized landscape features are constructed. Students who completed GEOG 344 prior to fall 1988 may not take this course for further credit. (lecture/tutorial) Recommended: courses in the humanities and fine arts.

GEOG 448-4 Public Policy, Theory and Human Geography
This course will outline and explore the contributions that a theoretically informed human geography can make to debates on urban policy and the urban landscape. As will be demonstrated, a geographic perspective can provide a number of critical insights into both empirical and theoretical arenas. (lecture/ tutorial) Prerequisite: GEOG 301.

GEOG 449-4 Environmental Processes and Urban Development
An examination of environmental processes as they influence, and are influenced by, urban development, with attention to implications for urban policy and planning. (lecture/tutorial)

GEOG 450-4 Environmental Workshop
This is an interdisciplinary course whose principle objective is to act as a round table and forum for in-depth analysis and resolution of important environmental issues as they relate to economy, technology, politics and culture. (seminar) Prerequisite: EVSC 200 (formerly ENPL 200), REM 100 (formerly ENPL 100), 311, 356, GEOG 389 and 445.

GEOG 452-4 Advanced Issues in Geographic Information Systems
This course explores operational and management issues in GIS. Topics covered are: data exchange standards and large data bases; the use of spatial analysis techniques in the GIS context; applications of GIS in various fields; social impact of GIS; legal aspects; effects on management decisions; implementation of GIS in an institutional setting, including cost and benefit, benchmarking, request for proposals; future directions in GIS. (lecture/ laboratory) Prerequisite: GEOG 354 or 355. Students who completed GEOG 452 prior to fall 1988 may take this course for further credit.

GEOG 453-4 Digital Image Processing
Computational aspects of remote sensing. Systems consideration; statistical extraction; image enhancement; thematic information extraction; change detection. (lecture/laboratory) Prerequisite: GEOG 353. Students who completed GEOG 453 prior to fall 1988 may take this course for further credit.

GEOG 460-4 Selected Regions
A study of the geographical character of a major world region. (lecture/seminar) Prerequisite: at least 60 credit hours including eight hours of upper division geography courses.

GEOG 462-4 The Geography of the United States
Selected themes in the geography of the United States, addressing the biophysical environment, culture and landscape, resources and livelihood, population and settlement. (lecture/seminar) Prerequisite: at least 60 credit hours including eight hours of upper division geography courses.

GEOG 466-4 Latin American Regional Development
The course introduces students to a geographical analysis of patterns of Latin American development and planning. It is divided into two sections: geographical/historical development of selected countries; and analysis of common Latin American developmental models. A geographical perspective is used which stresses the interconnectedness of spatial and socio-economic structures. (lecture/ seminar) Prerequisite: 60 credit hours including eight hours of upper division geography.

GEOG 469-4 The Canadian North and Middle North
Special attention will be given to resource appraisal and utilization, spatial organization, and the consideration of future development; comparisons will be made with experience of sub-arctic development in other parts of the world. (lecture/seminar) Prerequisite: at least 60 credit hours including eight hours of upper division geography courses.

GEOG 470-4 The Geography of Western Canada
A regional geographic interpretation of British Columbia and the Prairies. The physical environment, population, land tenure, regional resource problems,
economic development and the settlement process will be examined to explain the geographic character of Western Canada. (lecture/seminar) Prerequisite: at least 60 credit hours including eight hours of upper division geography courses.

**GEOG 475-4 Historical Geography II**
An examination of the ways in which the study of historical geography has been adapting to new problems, new methodologies, new techniques, and new sources. The course will attempt to deal primarily with the application of historical geography to a North American context with an emphasis on Canada and British Columbia. (lecture/seminar) Prerequisite: GEOG 375.

**GEOG 489-4 Selected Topics**
The topics will vary from semester to semester depending on the interests of faculty and students. (lecture/tutorial) Prerequisite: 75 credit hours including 30 credit hours in geography.

**GEOG 490-4 Selected Topics**
The topics will vary from semester to semester depending on the interests of faculty and students. (lecture/tutorial) Prerequisite: 75 credit hours including 30 credit hours in geography.

**GEOG 491-4 Honors Essay**
All candidates for honors will be required to submit a major paper on a geographical topic to be selected in consultation with the department. Prerequisite: 105 credit hours and consent of supervisor. See a departmental academic advisor for details.

**German**
**Faculty of Arts**
**Department of Linguistics**
**Language Training Institute**
Students with a competence in the language beyond the level of the course in which they are registered will be required to withdraw. Students who are not sure of their language level are responsible for seeing that their level of proficiency is assessed prior to registration in the course. Arrangements for proficiency assessment in each language will be announced before the commencement of each semester. Consult the registration handbook or inquire at the Language Training Institute general office for the procedure to be followed.

**GERM 102-4 Introductory German I**
Emphasis on the acquisition of spoken fluency, correct pronunciation, and reading facility. This course will be for all students who have not taken BC grade 12 German or its equivalent. (lecture/tutorial/ laboratory)

**GERM 103-4 Introductory German II**
Continuation of the work of GERM 102 (formerly GERM 100-3); it should be taken wherever possible, in the semester immediately following GERM 102-4. (lecture/tutorial/laboratory) Prerequisite: GERM 102 (formerly 100), or the consent of instructor.

**GERM 141-3 Introduction to German Civilization**
An introductory course exploring the cultures of German-speaking peoples. (lecture/tutorial)

**GERM 201-3 Intermediate German I**
Emphasis on oral command, accurate and idiomatic expression; reading of intermediate texts. (lecture/tutorial) Prerequisite: GERM 102 (formerly 100) and 103 (formerly 101) or consent of instructor.

**GERM 202-3 Intermediate German II**
This course continues the work of GERM 201. Considerable emphasis will be placed on reading facility as well as oral and written command of the language. (lecture/tutorial) Prerequisite: GERM 201 or consent of instructor.

**GERM 205-3 German for Business: Wirtschaftsdeutsch**
This course is designed for students and professionals who wish to acquire language and cultural skills for conducting business in German-speaking countries. (0-3-0) Prerequisite: GERM 202 or permission of the instructor. This course is not intended for native speakers of German.

**GERM 300-3 Advanced German Composition and Conversation**
Practice in comprehension, reading, speaking and writing, combined with a review of the essential points of grammar. (seminar) Prerequisite: GERM 202 or consent of the instructor.

**Gerontology**
**Faculty of Arts**
**GERO 300-3 Introduction to Gerontology**
Examination of the aging process from a multidisciplinary perspective. Physical and health factors in aging, economic and vocational factors in aging, family and community relations of older people, social policy and politics of aging. Throughout the course, emphasis will be placed on normal aging. (lecture/seminar) Prerequisite: 60 semester hours credit.

**GERO 301-3 Research Methods in Gerontology**
This course examines research methodology applied to the field of gerontology. Key areas covered include: operationalizing gerontological concepts; sampling older populations; longitudinal designs; outcome and process evaluation of seniors’ programs; and elementary data analyses. (lecture/seminar) Prerequisite: 60 credit hours. Recommended: STAT 203 (or equivalent).

**GERO 302-3 Health Promotion and Aging**
This course includes an examination of the development of contemporary understanding and practice of health promotion. Students will be given the opportunity to explore theories and models designed to explain health related behaviors and the determinants of health. Strategies for behavioral change and development of socio-environmental approaches will be discussed in the context of an aging Canadian population. (3-0-0) Prerequisite: 60 semester hours. Recommended: GERO 300.

**GERO 400-4 Seminar in Applied Gerontology**
Discussion of current issues in applied gerontology. Interdisciplinary orientation, drawing upon resource persons from within the University and practitioners in the community. Course requirements include participation in a group research project. (seminar) Prerequisite: 60 credit hours. GERO 300, 31 and two of PSYC 357, SA 420 or KIN 461.

**GERO 401-3 Aging and the Built Environment**
Impact of the macro- and micro-environment as it affects the aged. Discussion of planned housing and institutional living arrangements, territoriality and the need for privacy, home range and use of space, urban planning, responsive design of housing and care facilities, effects of relocation and institutionalization. (lecture) Prerequisite: 60 semester hours credit. Recommended: GERO 300.

**GERO 402-3 Drug Issues in Gerontology**
Considers pharmacological issues as they apply to older people; uses and abuses of commonly prescribed and non-prescribed medication; medication reviews; government subsidy programs. (lecture/seminar) Prerequisite: 60 credit hours. GERO 300.

**GERO 403-3 Counselling with Older Adults**
An examination of the ways of adapting counselling theory and practice to meet the needs of older adults and their families. Emphasis will be placed on counselling techniques and outcomes appropriate to the needs of persons living independently, with their families, or in institutional settings. (lecture/seminar) Prerequisite: GERO 300 and PSYC 357 or SA 420.

**GERO 404-3 Health and Illness in Later Life**
An examination of issues related to health and illness among older adults, drawing upon theories and concepts from biological, social and public health sciences. An introduction to assessment and intervention skills useful to persons working with older adults in a broad range of practice settings. (lecture/seminar) Prerequisite: 60 credit hours. GERO 300.

**GERO 405-3 Aging in Small Communities and Rural Areas**
An examination of the demographic trends in aging in small communities and rural areas of Canada, the geographical and social contexts in which these are occurring and the experience of rural communities in assessing needs and providing support services and housing. (lecture/seminar) Prerequisite: 60 credit hours. GERO 300.

**GERO 406-3 Death and Dying**
The focus of this course is to provide the student with an in-depth understanding of the process of dying. By examining the process of dying, one’s personal response to death as well as society’s reaction and responsibilities toward dying, the student will gain new insights in caring for the dying person. (lecture/seminar) Prerequisite: 60 semester hours credit. Recommended: GERO 300.

**GERO 407-3 Nutrition and Aging**
This course examines specific nutritional conditions and concerns of the aging population. It does so by exploring the nutrient needs of the elderly as determined by physiological changes of aging, metabolic effects of common diseases, and biochemical interactions of medications. The course includes a broad investigation of the psychological, sociological, and physical factors which influence food choice and ultimately nutritional status in aging. (lecture/seminar) Prerequisite: 60 semester hours credit. Recommended: GERO 300.

**GERO 408-4 Families and Aging**
This course entails a comprehensive interdisciplinary study of families and aging. In addition to providing an overview of theory and research on this topic, a variety of substantive issues will be critically examined, including: families in mid life, sibling relationships, divorce and remarriage, dating in later life, care giving, poverty, elder abuse, and policy development. Prerequisite: 60 semester hours. Recommended: GERO 300.

**GERO 410-3 Special Topics in Gerontology I**
Selected psychological, sociological, economic, biological and practical aspects of the aging of individuals and populations. (lecture/seminar) Prerequisite: 60 semester hours credit. Recommended: GERO 300.

**GERO 411-3 Special Topics in Gerontology II**
Selected psychological, sociological, economic, biological and practical aspects of the aging of individuals and populations. (lecture/seminar) Prerequisite: 60 semester hours credit. Recommended: GERO 300.

**GERO 412-3 Special Topics in Gerontology III**
Selected psychological, sociological, economic, biological and practical aspects of the aging of individuals and populations. (lecture/seminar) Prerequisite: 60 semester hours credit. Recommended: GERO 300.

**History**
**Faculty of Arts**
**Note:** In the courses which follow, where it is shown under prerequisites that a course is ‘recommended,’
such a course is not mandatory, but is recommended
preparation for entry.

**Lower Division Courses**
100 division courses introduce students to the main areas of the department's offerings — Canadian, American, Asian, and Latin American history, European history, and African and Middle Eastern history.

**HIST 101-3 Canada to Confederation**  
A survey of Canadian history to 1867. (lecture/tutorial)

**HIST 102-3 Canada Since Confederation**  
A survey of Canadian history since 1867. (lecture/tutorial)

**HIST 104-3 History of the Americas to 1763**  
An examination of the pre-European Indian cultures; the explorations, conquest and colonialization of North and South America by the French, English, Spanish and Portuguese. Stress will be placed on the comparative nature of these new world societies. (lecture/tutorial)

**HIST 105-3 Western Civilization from the Ancient World to the Reformation Era**  
An introduction to the Greek and Roman origins of Western Civilization, and its development to the 16th century. (lecture/tutorial)

**HIST 106-3 Western Civilization from the Reformation Era to the 20th Century**  
A sequel to HIST 105 covering the expansion and modernization of the European world. (lecture/tutorial)

**HIST 146-3 Africa in Recent History**  
Colonialism, independence and nation building. (lecture/tutorial)

**HIST 151-3 The Modern Middle East**  
An introductory survey of the changing societies of the Middle East since 1900. Emphasis will be placed on familiarizing students with the basic aspects of Islamic society, the influence of European imperialism, the modernization of traditional societies, the origins of the Arab-Israeli conflict, and the social and political ferment in the period since the Second World War. (lecture/tutorial)

**HIST 201-3 The History of Western Canada**  
A history of the prairies and British Columbia dealing with the aboriginal cultures, the fur trade, the evolution of transportation and links with metropolitan areas, settlement and economic development, political evolution, evolving rural and urban systems, and intellectual and cultural identities. (lecture/tutorial)

**HIST 204-3 The Social History of Canada**  
A survey of major themes in Canadian social history from the arrival of Europeans to the present day. Particular attention will be paid to the effects of gender, race and class on the experience of Canadians over time. (lecture/tutorial) Recommended: HIST 101 and 102.

**HIST 208-3 Latin America: The Colonial Period**  
A study of the process and institutions of Spanish colonial administration with emphasis on the clash of European and Amerindian cultures. (lecture/tutorial) Recommended: HIST 104.

**HIST 209-3 Latin America: The National Period**  
A survey of Latin American history from Independence (1808-24) to the present; post-Independence political collapse and reconstruction; Latin America in the world trade system and the changing conditions of economic dependency; nationalist reform (Mexico) and socialist revolution (Cuba), liberalism, populism, and the rise of modernizing military. Treatment by topics and broad historical period rather than country by country. (lecture/tutorial) Recommended: HIST 208.

**HIST 212-3 The United States to 1877**  
The emergence and development of American civilization from the establishment of the colonies through the Civil War and Reconstruction. (lecture/tutorial) Recommended: HIST 104.

**HIST 213-3 The United States since 1877**  
An analysis of the transformation of American culture from post-Civil War to modern forms. Topics to be discussed will include industrialization, urbanization, foreign policy, cultural and political antagonisms. (lecture/tutorial) Recommended: HIST 212.

**HIST 215-3 The Making of the British Isles**  
Designed to provide students with a survey of some of the central developments that have shaped the history of the British Isles. The course is deliberately broad in scope and intended to whet students’ interest in the 300 and 400 level offerings in British history. Slides, music and film will be widely used.

**HIST 216-3 The Ancient World**  
Aspects of the ancient history of the Near East, Greece and Rome. (lecture/tutorial) Recommended: HIST 105 and 106.

**HIST 219-3 The Early Middle Ages**  
An examination of Eastern and Western Christendom from the late antiquity to the Renaissance of the 12th century emphasizing religious developments, political and social changes. (lecture/tutorial)

**HIST 220-3 Europe from the 12th to the Mid-16th Century**  
This course will examine European development from the high middle ages to the end of the Reformation. Considerable attention will be given to the changing character of medieval civilization, the Italian Renaissance and the Reformation. (lecture/tutorial)

**HIST 223-3 Europe from the Mid-16th Century to the French Revolution**  
A survey of early modern European history which will examine, among other topics, the wars of religion, the 17th century revolutions, 16th and 17th century economic development, the scientific revolution, the enlightenment and the political and social character of the old regime. (lecture/tutorial)

**HIST 224-3 Europe from the French Revolution to the First World War**  
A survey of European history emphasizing the French Revolution, and Napoleonic Europe and first Industrial Revolution, liberalism and its opponents, agrarian conservatism, liberalism and conservatism, the Revolutions of 1848, the struggles for political unification, the second Industrial Revolution and the origins of the First World War. (lecture/tutorial)

**HIST 225-3 20th Century Europe**  
A survey of European history from the First World War emphasizing the origins and effects of the World Wars, the emergence of the Soviet Union and of fascism. (lecture/tutorial)

**HIST 231-3 The Origins of Modern Africa: Conquest, Resistance and Resurgence**  
Continuity and change in sub-Saharan Africa from the era of the slave trade until World War II. (lecture/tutorial)

**HIST 249-3 The Origins of Islam and the Emergence of Islamic Civilization**  
This course offers a broad survey of the development of classical Islamic civilization. It begins with an examination of the origins of Islam in seventh century Arabia and concludes with the break-up of the Abbasid Caliphate of Baghdad in the 13th century. Emphasis will be placed on gaining an understanding of the doctrines of Islam, the significance of the rise and fall of the early Arab-Islamic empires, and the role of Islam in world history. (lecture/tutorial)

**HIST 251-3 The Western Imperial Presence in the Middle East and North Africa**  
A general history of British and French colonialism and imperialism in the Middle East with an examination of the different patterns of political, economic, military, educational, and administrative control established by these two powers, particularly in the period of European supremacy after World War I. An examination, also, of imperial rivalries and the process of decolonization culminating in the Suez crisis of 1956 and the involvement of the superpowers. (lecture/tutorial) Recommended: HIST 151.

**HIST 252-3 Islamic India**  
A survey of the cultural patterns, social and political forces, and historical contexts that have shaped the Islamic period of Indian history. Special attention will be directed toward the Mughal empire and its decline. (lecture/tutorial)

**HIST 254-3 China to 1800**  
This course offers a broad survey of the history of China from antiquity to the eve of its modern transformations at the turn of the nineteenth century. It aims to challenge the perception of an unchanging China and to encourage students to develop a critical understanding of the forces integrating and dividing this geo-cultural unit. (lecture/tutorial)

**HIST 255-3 China Since 1800**  
A survey of the history of China from the end of the eighteenth century, when traditional Chinese society was arguably at its height of development, to the end of the twentieth century when the social revolutions promised by the Communist regime have clearly failed to materialize. The main objectives are to provide students with vocabularies and tools to understand and interpret the political, social and cultural transformations in modern China and to initiate them in the art and techniques of historical analysis. (lecture/tutorial)

**HIST 299-3 Problems in History**  
This course is designed to allow students to pursue in greater depth a particular historical problem. It will be offered either as an individual reading course or in small seminars, depending upon student and faculty interest. Admission only by prior consent of instructor. Students may not take this course more than once or after they have completed 60 hours of course work. (seminar) Recommended: at least four university level courses in history.

**HIST 300-4 Approaches to History**  
An examination of the conceptual problems involved in the historian’s attempt to apprehend the past and its relationship to the present and future. Particular attention will be paid to the nature of historical knowledge and explanation, and to the broad systems and patterns in which history has been conceived. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

**HIST 301-4 Heritage Preservation**  
This course will deal with the historical, social and political aspects of architecture and conservation practices, as well as the integration of historical sites, structures and areas. Both the nature of physical structures, and techniques for their conservation, and the cultural setting of buildings will be analysed, with particular reference to British Columbia. The course will employ on-site as well as classroom materials. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. This course is primarily designed for students in the public history program. Other students will only be admitted with permission of the department.

**HIST 302-4 Archives Methods and Use**  
The course will introduce the student to the administration and uses of archives in modern society. It offers students instruction in the use of archival materials, examines current uses of archives
by scholars and the community at large, and reflects on the possible future social role of archives. Specific topics will include the history of Canadian archives, archive arrangement and description, records management, information retrieval, acquisition, care of special media, reference service, physical facilities, legal and ethical consideration and questions of professional status and role. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. This course is primarily designed for students in the public history program. Other students will only be admitted with permission of the department.

HIST 303-4 Museums Methods and Use
The course will introduce students to the social functions and the techniques of museum work. Specific topics for discussion will include the history and purposes of museums collections, collection cataloguing and management, conservation techniques, gallery design, educational programming, the organization, management, design and funding of museums and their relationships to museums organizations and governments, the roles and functions of museum professionals. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. This course is primarily designed for students in the public history program. Other students will only be admitted with permission of the department.

HIST 305-2 Honors Tutorial
Open only to honors students, this tutorial will be taken in conjunction with HIST 300. Readings in the philosophy of history and historiography will be discussed. (tutorial) Prerequisite: admission to the honors program in history.

HIST 308-4 The Byzantine Empire
Examines the earlier half of the Roman Empire, which survived, by twelve hundred years, the collapse of the Western empire in the fifth century AD, and its transformation by Greek culture, language, political traditions and religion. Prerequisite: nine hours of lower division history credit.

HIST 309-4 Early Modern Greek History: 1453-1821
Examines the development out of the legacy of the cosmopolitan Byzantine Empire of the distinct social, political and economic elements that led to the Modern Greek State and the Hellenic Diaspora, and the culture, religion and social structure of the Greek world. Prerequisite: nine hours of lower division history credit.

HIST 310-4 Women and the Family in Modern Europe
An introduction to the history of women and the family in Western Europe (mainly Britain and France) from about 1700 to the end of the British struggle for women's suffrage. Readings will include recent studies as well as primary sources. Attention will be given to methodological problems and conflicting interpretations. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 311-4 Education and Childhood in European History
A survey of changing perceptions of school and childhood in Europe since the 17th century. Some main themes are: child labor; education for gentlemen; technology and education; social mobility through education; and mass culture, the family, and the school. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 312-4 Poverty, Crime, and Madness: Society and the Outcast
An examination of changing attitudes toward poverty, vagrancy, insanity, crime, and disease in Europe since the 16th century. The influence of religion, philanthropy, medicine, and the social sciences in defining outcast groups and in formulating policies for dealing with them. Conflicting interpretations of the origins and functions of the welfare state. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 315-4 Politics and Society in England, 1500-1707
This course provides a general overview of the social and political history of Tudor and Stuart England. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 316-4 English Society since the Mid 18th Century
A study of English society, culture and politics from the accession of George III to the present. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 318-4 Early Modern France
An examination of the development of France from the religious wars of the sixteenth century through the French revolution. Particular attention will also be given to the Bourbon monarchy and to the enlightenment. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 319-4 France Since 1800
An examination of the political, social, economic and intellectual development of France from Napoleon to the Fifth Republic. (lecture/tutorial)

HIST 322-4 Atlantic Migration
Topics in the history of European migrations with attention given to the contexts from which the migrants came, why they migrated, and how they adjusted. Examples may be taken primarily from the United States, Canada or Latin America, but reference will be made to all three. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 324-4 Slavery in the Americas
An examination of slavery in the United States, Latin America, and Caribbean with reference to plantation systems, economic conditions, and cultural factors. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 326-4 The History of Native People in Canada
An examination of native history and the evolution of native policy in Canada with emphasis on a particular region or native group. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 327-4 Canadian Labor and Working Class History
An examination of the history of labor, primarily in English Canada, during the 19th and 20th centuries. The evolution of trade unions and labor-political movements will be examined together with the impact of industrialization, the rise of mass production, changing patterns of immigration and other contexts of working-class culture and material life. Special attention will be paid to British Columbia as a case study. Historically the course examines 'working class history' as a particular way of studying the past. What is the concept of 'the working class'? (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: HIST 101, 102 and 204.

HIST 328-4 The Province of Quebec from Confederation
The economic, social, political and cultural history of Quebec. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: HIST 101 or 102.

HIST 329-4 Canadian Family History
A detailed examination of the changing Canadian family, and its relationship to the state, since the eighteenth century. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.
HIST 344-4 East Africa
A regional study from the Arab and European penetration in the 19th century to the emergence of Kenya, Uganda, and Tanzania as independent states with emphasis on the patterns of economic, political, social and religious change. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 346-4 Central Africa
A regional study from the African, Arab and European incursions in the 19th century to the emergence of Zambia, Malawi and Zimbabwe with emphasis on the patterns of economic, political, social and religious change. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 348-4 A History of 20th Century South Africa
An examination of the economic, social and political history of 20th century South Africa. Particular attention will be paid to the factors which led to the rise of apartheid. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: at least one of HIST 146, 231.

HIST 350-4 Continuity and Change in the Ottoman Empire and Turkey from 1453 to 1938
A study of Ottoman society and the impact of Ottoman rule in the Middle East from the conquest of Constantinople to the death of Atatürk, the founder of the Turkish Republic. Emphasis will be on the conflict between preservation and reform in the nineteenth century and on the significance of the Ottoman legacy for twentieth century Turkey and the Arab world. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: one of HIST 151, 249, 251.

HIST 352-4 Religion and Politics in Modern Iran
The intellectual and social history of greater Iran from the Safavids to the twentieth century. Emphasis will be on the relationship between religion and politics. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: one of HIST 151, 249, 241.

HIST 354-4 Imperialism and Modernization in Asia and the Middle East
A comparative discussion of European intervention, over the last two centuries, in the socio-economic, intellectual, and political life of selected traditional societies in Asia and the Middle East. This course will study the interaction of these societies with the West, a common denominator in their experiences, while also comparing the ways in which imperialism furthered, hindered or distorted the course of their modernization. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: one of HIST 151, 249, 251.

HIST 355-4 The Arab Middle East in the Twentieth Century
An examination of this century's major themes in the history of Syria, Lebanon, Iraq, Jordan and Saudi Arabia, as well as other states of the Arabian peninsula. Topics to be investigated include the origins of Arab nationalism and Islamic reformism; the origins and development of the Lebanese question; the emergence of the politics of the military in Iraq and Syria, and the special role of the Jordanian and Arabian monarchies. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: one of HIST 151, 249, 251.

HIST 360-4 The History of Science: 1100-1725
Topics in medieval and renaissance science including Aristotelian/Platonism, cosmology, alchemy, physics and the human sciences. The rejection of medieval ideas during the scientific revolution will be studied through the work of Copernicus, Vesalius, Paracelsus, Brahe, Kepler, Galileo, Harvey and Newton. (lecture/tutorial) Prerequisite: nine hours of lower division history or science credit.

HIST 361-4 The History of Science: The 18th Century to the Present
Topics in the history of science and technology to be selected from the 18th/19th century chemistry, the history of the idea of evolution and of Darwinian science, physics to 1914, or 19th century industrial science. (lecture/tutorial) Prerequisite: nine hours of lower division history or science credit.

HIST 365-4 Self and Society in Imperial China
An in-depth examination of selected aspects of Chinese society and culture in the imperial period, particularly the relationships between self, family and society. This course seeks to challenge the perception of a static Chinese culture and demonstrate that a critical understanding of the imperial period remains a key to our comprehension of contemporary Chinese society. Prerequisite: nine hours of lower division history credit including HIST 254 or permission of the department. Recommended: HIST 254 or 255.

HIST 370-0 Practicum I
This is the first semester of work experience in co-operative education. It is meant to be exploratory in nature. Prerequisite: normally 60 semester hours with a minimum CGPA of 2.75. Students should apply to the co-op co-ordinator one semester in advance.

HIST 375-0 Practicum II
This is the second semester of the co-operative education program. Building on the experience of the first employment semester, this semester will provide a work experience that integrates and builds on the research and writing skills associated with the discipline of history. Prerequisite: normally 75 semester hours (including HIST 370) with a minimum CGPA of 2.75. Students should apply to the co-op co-ordinator one semester in advance.

HIST 379-4 The Transformation of American Culture 1830-1900
In 1830 most Americans lived on farms or in small towns, worked on the land, and dreamt of salvation. By 1900 cities, industry, the railroad, electricity, consumerism had transformed material lives. Ideals and fears had also shifted. This course discusses elements of this change, particularly in popular ideology, everyday life, and literary, political and artistic movements. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 212 or 213.

HIST 382-4 African-American History, since 1865
Examines black history from the end of the American Civil War. The course focuses on the external and internal forces which shaped black communities across the nation. Special attention will be paid to these communities' struggles against the forces which sought to confine black people to an inferior place in society.

HIST 384-4 North American Urban History
This course examines the development of North American cities and the social, political and economic forces which have shaped them. Emphasis will be placed on the lives of city dwellers and the distinctive urban cultures they have created.

HIST 390-4 Studies in History I
Special topics. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 391-4 Studies in History II
Special topics. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 400-4 Seminar in Historical Methods
A study of methodology, including such subjects as principles of historical criticism, annotation and transcription of source material, generalization, and the techniques of history and the social sciences. Examples will be drawn from all areas in which the department teaches. (seminar) Prerequisite: nine hours of lower division history credit.

HIST 402-4 Renaissance Italy
An assessment of the principal themes in the history of the Italian Renaissance, and of the role of Renaissance Italy in shaping the character of Early Modern Europe. In certain semesters the experience of one or more Italian cities will serve to elucidate these themes. (seminar) Prerequisite: nine hours of lower division history. Recommended: HIST 220.

HIST 403-4 The European Reformation
An advanced examination of the complex history and patterns of the Religious Reformation in sixteenth century Europe. Emphasis will be placed on the religious thought of the period, and on its social and political context. (seminar) Prerequisite: nine hours of lower division history credit including HIST 220 or 223 or permission of the department. Recommended: HIST 220.

HIST 404-4 Religion, Society and Politics in England 1530-1640
From the Reformation to the outbreak of the Civil War, this research seminar will examine the origins, development and impact of Protestantism within English society. (seminar) Prerequisite: nine hours of lower division history credit including HIST 315 or permission of the department.

HIST 405-4 Early Modern English Society
This research seminar will examine select themes in the social history of early modern England. Foundational subjects will be the social order, agriculture, industry, demography, family formation, religion and poverty. Optional themes include: crime and the law, literacy and education, women, urban life, perception and uses of the past, parish communities, government regulation of economic and social life and London. (seminar) Prerequisite: nine hours of lower division history credit including HIST 315 or permission of the department.

HIST 407-4 Popular Culture in Great Britain and Europe
This course will study culture in Great Britain and Europe since 1500. Themes may include the sixteenth century separation between popular and elite culture, Carnival, the witch craze, popular ballads, the institution of ‘rational recreation’ during the Industrial Revolution, the late Victorian Music Hall, the cultural emancipation of women, and the effects on working class culture of economic depression and world war. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 105 or 106.

HIST 409-4 Disease and Society
A seminar devoted to problems in the social history of medicine, which is a field concerned with health, disease, and medicine - in particular social, political, and cultural contexts. Particular attention will be given to the history of epidemic diseases since the eighteenth century.

HIST 413-4 Britain and Europe in the Twentieth Century
An examination, by means of a series of case studies, of the ways in which Britain's ambiguous relationships with Europe, the Empire/Commonwealth and the United States have shaped its identity in the Twentieth Century. Prerequisite: nine hours of lower division History credit. Recommended: at least one of HIST 225, 316, or 337.
HIST 414-4 The Impact of the Great War
A brief look at the political, social, and territorial changes of the Versailles settlement, followed by an examination of the impact of the war upon Europe, particularly through the examples of fascism in Italy, national socialism in Germany and the general breakdown of the liberal order during the 1930’s. In certain semesters additional attention may be given to the Soviet Union. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: at least one of HIST 225, 319, 332, 355, 357 or 338.

HIST 415-4 Victorian Britain
A study of major developments and controversies - social, cultural, political, religious, economic - during the period of the rise of industrial and class society. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: one or more of HIST 224, 229, 315, 316.

HIST 416-4 The French Revolution
An analysis of the origins of the Revolution, of its changing nature, and of its impact on society. The Revolution will be examined in its European context. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 223, 224, 229.

HIST 417-4 Modern French Social History
An examination of a principal aspect of, or period in, the history of French society since the Revolution. For example, attention may be given to the 19th century French Revolution Tradition, or to society and culture in the Third, Fourth, and Fifth Republics, or to social thought from the French Revolution to L’Action Française. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 224 or 225, 229.

HIST 418-4 Modern Spain and the Civil War
A survey of 20th century Spanish history with a special emphasis on the events of the 1930’s, the Second Republic and the Civil War. International aspects will be considered but not stressed. (seminar) Prerequisite: nine hours of lower division history credit.

HIST 419-4 Modernization and Reform in Russia 1860-1930
A detailed examination of the impact of modernization in late Imperial and early Soviet Russia. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 227 and either 224 or 225.

HIST 420-4 The History of Russian Foreign Policy from Catherine the Great to Stalin
A detailed study of the conduct of Russian foreign policy from the late 18th century to the middle of the 20th century. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 227.

HIST 421-4 Modern Greece, 1864-1925
Greece and Greek society will serve as a case study of a Balkan country that underwent several political and social transformations. Prerequisite: nine hours of lower division history credit.

HIST 422-4 Greece, 1933-1944: Occupation and Resistance
Examines the cycle of violence that followed the Axis occupation of Greece and created a political schism that lasted until the 1980s. The course will focus on Greek resistance, foreign relations and relations with the British intelligence services. Prerequisite: nine hours of lower division history credit.

HIST 423-4 Problems in the Diplomatic and Political History of Canada
Selected problems in the history of the Canadian constitution, Dominion-Provincial relations, Canadian politics, the Canadian military, and Canadian external affairs. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 101, 102.

HIST 424-4 Problems in the Cultural History of Canada
Selected problems in Canadian ideas and attitudes on such topics as the arts, religion, education, minority and native cultures, nationalism, and Canadian historiography. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 101, 102.

HIST 425-4 Gender and History
This course will study historical changes in masculinity and femininity. It will examine the ways in which gender identities of women and men are formed and changed, it will examine the influences of gender relationships upon politics, society and the economy. (seminar) Prerequisite: nine hours of lower division history credit.

HIST 426-4 Law and Society in Historical Perspective
An investigation of the social role of law, the courts, policing, crime and punishment from an historical perspective. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: PHIL 120 or 220.

HIST 428-4 Problems in the Social and Economic History of Canada
Selected problems in the history of Canadian agriculture and industry, migration and settlement, labor, native policy and class structure. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 101, 102.

HIST 430-4 New France
Social, cultural, intellectual, economic, military, and administrative aspects of New France. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 101, 102.

HIST 431-4 British North America, 1760-1850
The social and cultural life of British North America: religion, education, economic pursuits, social and humanitarian attitudes, politics, and English-French relations. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 101.

HIST 435-4 The Canadian Prairies
Selected problems in the social, economic and political development of the Canadian Prairies. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 101 and 102.

HIST 436-4 British Columbia
Selected problems in the social, cultural, economic and political development of British Columbia. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 101 and 102.

HIST 446-4 The Revolutionary and Early National Period in the United States
Selected topics may include the Revolutionary War Era; the American Enlightenment; the New Nation; American Diplomacy in the Formative Period. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 212.

HIST 450-4 The Era of the American Civil War
Examing the political, social, economic, and cultural elements that led to the break up of the American republic, the Civil War, and the problems involved in reconstructing the union. (seminar) Prerequisite: nine hours of lower division history credit. Students with credit for HIST 447 under the same topic may not take HIST 450 for further credit. Recommended: HIST 212 or 213.

HIST 452-4 The US in the Progressive Era
The United States emerged as a modern industrial nation in the two decades before it entered World War I. This course will explore the implications of that development, focusing on such topics as the ‘city boss,’ the ‘new immigrants,’ the social justice movement, and the rise of organized labor. (seminar) Prerequisite: nine hours of lower division history credit including HIST 213 or permission of the department. Students with credit for HIST 448 under the same topic may not take HIST 452 for further credit. Recommended: HIST 212 or 213.

HIST 453-4 The United States in Depression and War
An examination of the impact of the Great Depression and the Second World War in shaping modern American society. Topics covered will include the development of the welfare state, the rise of industrial unions, the evolution of Keynesian economic policy, and the battles over race, class and gender in the 1930s and on the wartime homefront. (seminar) Prerequisite: nine hours of lower division history credit including HIST 213 or permission of the department. Students with credit for HIST 448 under the same topic may not take HIST 453 for further credit. Recommended: HIST 212 or 213.

HIST 454-4 Gender and Sexuality in US History
This course will explore changing constructions of gender roles and sexuality in United States history. It will examine how prescribed norms have shaped definitions of acceptable and respectable behavior, and how these norms have been regulated over time. We shall also explore how gender and sexual relations have created and reflected power relations between men and women. Special emphasis will be placed on the 19th and 20th centuries. (seminar) Prerequisite: nine hours of lower division history credit.

HIST 458-4 Problems in Latin American Regional History
Advanced concepts and methodology applied to the study of one or more Latin American regions. Examples are: pre-Columbian and colonial Middle America; revolutionary Mexico 1910-1970, Brazil from Slavery to Militarism, frontier society to hyper-urbanism in the La Plata countries. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: one of HIST 104, 208, 209, LAS 200.

HIST 459-4 Problems in the Political and Social History of Latin America
Advanced concepts and methodology applied to the study of traditional and contemporary institutions (the church, the great estate, the peasantry, elite structures) and/or political movements (agrarian revolution, populism, the modernizing military). Emphasis placed on changing historiographical interpretations. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: one of HIST 104, 208, 209, LAS 200.

HIST 465-4 The Emergence of the Israelis and Palestinians in Historical Perspective
A discussion of the modern history of nation-building in the context of the Arab-Israeli conflict. The topics discussed include Zionism, the British Mandate in Palestine, the creation of the state of Israel, the rise of modern Palestinian nationalism, and the role of the Israeli-Palestinian dispute in regional and international affairs. (seminar) Prerequisite: nine hours of lower division history credit and one of HIST 151, 249, 251, 350, 354, 355 or permission of the department.

HIST 467-4 Change and Revolution in Modern Egypt
An interpretive discussion of the course of modern Egyptian history. This may range from the advent to power of Muhammed Ali Pasha until recent times, or may focus on specific periods of revolutionary change. (seminar) Prerequisite: nine hours of lower division history credit and one of HIST 151, 249, 251, 350, 354, 355 or permission of the department.
HIST 469-4 Islamic Social and Intellectual History
Advanced analysis of specific problems in Islamic social and intellectual development, with an emphasis on social and cultural patterns in the modern world. (Seminar) Prerequisite: nine hours of lower division history credit. Recommended: one of HIST 249 or 352.

HIST 470-0 Practicum III
This is the third semester of the co-operative education program. The work experience will be focused in a specialized area of the student’s choice. Prerequisite: normally 90 semester hours (including HIST 370 and 375) with a minimum CGPA of 2.75. Students should apply to the co-op co-ordinator one semester in advance. Students entering 400 division seminars should have an appropriate background in 100 and 200 division and/or 300 division. Normally, students should have completed 45 credit hours (or the equivalent) prior to enrollment in any upper division history course.

HIST 473-4 The Making of South African Society
An examination of the way in which South African society evolved before the union of 1910. Particular attention will be paid to the problem of race relations in the Four Pre Union South African states. (Seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 146, 231, HIST 348.

HIST 474-4 Modern Chinese Identities
This seminar offers an opportunity for upper level undergraduates to work in-depth on the history and constructed-ness of identities, especially in relation to the vast and diverse population known as ‘Chinese.’ Topic to be discussed include Orientalism, nationalism, race, ethnicity, and gender. The course aims to encourage students to develop a critical understanding of the political, social and cultural assumptions that are often behind the creation and perpetuation of identities. Attention will also be given to the history of Chinese diaspora (particularly in North America) and its significance to the project of reinterpreting ‘Chinese-ness’ in the modern world. (Seminar) Prerequisite: nine hours of lower division history credit including HIST 255 or permission of the department.

HIST 475-0 Practicum IV
This is the fourth semester of the co-operative education program. The work experience will require a high level of expertise in research and writing skills as well as an ability to exercise independent judgement. Prerequisite: normally 105 semester hours (including HIST 370, 375 and 470) with a minimum CGPA of 2.75. Students should apply to the co-op co-ordinator one semester in advance. Students entering 400 division seminars should have an appropriate background in 100 and 200 division and/or 300 division history. Normally, students should have completed 45 credit hours (or the equivalent) prior to enrollment in any upper division history course.

HIST 481-4 British India
An examination of the British community in India set against the background of British attitudes to India since the late 18th century. (Seminar) Prerequisite: nine hours of lower division history credit and HIST 339 or permission of the department.

HIST 482-4 Emergent African Nationalism
An examination of myths and realities in the emergence of mass movements, principally in Kenya and mainland Tanzania between World War II and independence. (Seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 344.

HIST 483-4 The Struggle for Identity in Sub-Saharan Africa
Selected topics in the history of an African state. (Seminar) Prerequisite: nine hours of lower division history credit.

HIST 484-4 History of Women in North America
An examination of women at home, women in the labor force, and women and politics in the private and public spheres from 1830 to the present. (Seminar) Prerequisite: nine hours of lower division history credit.

HIST 485-4 Studies in History I
Special topics. (Seminar) Prerequisite: nine hours of lower division history credit.

HIST 486-4 Studies in History II
Special topics. (Seminar) Prerequisite: nine hours of lower division history credit.

HIST 488-4 Studies in History
Allows students to pursue in greater depth a particular historical problem. It will be offered either as an individual reading course or as small seminars, depending upon student and faculty interest. (Seminar) Prerequisite: nine hours of lower division history credit. Recommended: at least three upper division courses in history.

HIST 490-4 Studies in History
Allows students to pursue in greater depth a particular historical problem. It will be offered either as an individual reading course or as small seminars, depending upon student and faculty interest. Admission only by consent of instructor. (Seminar) Prerequisite: nine hours of lower division history credit. Recommended: at least three upper division courses in history.

HUM 102-3 Classical Mythology
An introduction to the central myths of the Greeks and Romans. The course will investigate the nature, function, and meaning of myths in the classical world and their considerable influence on Western civilization. (lecture/tutorial)

HUM 151-3 Ancient Greek I
An introduction to the classical Greek language. (tutorial) Students who have taken GRE 100 cannot take this course for further credit.

HUM 152-3 Ancient Greek II
The continuation of Ancient Greek I. (tutorial) Prerequisite: HUM 151, or permission of the instructor. Students who have taken GRE 101 cannot take this course for further credit.

HUM 161-3 Latin I
An introduction to the Latin Language. (tutorial) Students who have taken LATN 100 cannot take this course for further credit.

HUM 162-3 Latin II
The continuation of Latin I. (tutorial) Prerequisite: HUM 161 or permission of the instructor. Students who have taken LATN 101 cannot take this course for further credit.

HUM 201-3 Great Texts in the Humanities I
An intensive study of some of the major works which have had a formative influence on the structure and development of Western thought. Reading and discussion of primary texts and the major themes which emerge from them will introduce students to essential philosophical, literary, social, and religious themes of Western civilization. Texts for this course will be drawn from the Ancient World, Middle Ages and the Renaissance. (lecture/tutorial) Prerequisite: HIST 105 or PHIL 150 or 30 credit hours.

HUM 202-3 Great Texts in the Humanities II
An intensive study of some of the major works which have had a formative influence on the structure and development of Western thought. Reading and discussion of primary texts and the major themes which emerge from them will introduce students to essential philosophical, literary, social and religious themes of Western civilization. Texts for this course will be drawn from the 17th century through to the modern period. (lecture/tutorial) Prerequisite: HIST 106 or PHIL 151 or 30 credit hours.

HUM 223-3 On the Seriousness of the Future
An exploration of the central controversies concerning the alleged seriousness of the future. (lecture/tutorial) Students who have taken GS 227 cannot take this course for further credit.

HUM 230-3 Introduction to Religious Studies
The examination of religion as expressed in the religious and humanistic traditions available through the investigation of primary textual sources. A critical and appreciative approach to religious phenomena will be emphasized through the theological, literary, historical, philosophical and behavioral backgrounds that influence our understanding of religion. (lecture/tutorial)

HUM 240-3 Studies in European Cultures
An interdisciplinary approach to European cultures through the examination of historical, literary, philosophical and aesthetic materials related to a specific period and place in the development of Western civilization. (lecture/tutorial) Prerequisite: 30 credit hours. Students with credit for GS 240 or 242 cannot take this course for further credit.

HUM 302-4 The Golden Age of Greece: An Integrated Society
The 5th century BC in Athens remains a period unique in the record of human achievement. During the space of less than a century, virtually all the major humanistic fields were either initiated or else received significant new impetus. This course seeks to integrate the remarkable achievements of this ‘golden age’ into one coherent examination of its elements, using slides or photographs for the artistic and architectural material and translated original texts as the basis of discussion. (Seminar) Prerequisite: 45 credit hours.

HUM 303-4 The Latin Humanist Tradition
Study of the major writings of Latin authors such as Plautus, Virgil, Seneca, Cicero, Augustine, and John of Salisbury. (Seminar) Prerequisite: 45 credit hours.

HUM 305-4 Medieval Studies
A detailed interdisciplinary analysis of a selected topic, issue, or personality in the Middle Ages. (Seminar) Prerequisite: 45 credit hours.

HUM 307-4 Carolingian Civilization
A focused interdisciplinary study of the Carolingian civilization achieved in early medieval Europe under
Charlemagne and his family. (seminar) Prerequisite: 45 credit hours.

**HUM 311-4 Humanities and Humanism in the Italian Renaissance**
A study of the major writings, cultural milieu, and influence of the humanist movement of the Italian Renaissance. (seminar) Prerequisite: 45 credit hours.

**HUM 312-4 Renaissance Studies**
A detailed interdisciplinary analysis of a selected topic, issue, or personality from the Italian and/or Northern Renaissance. (seminar) Prerequisite: 45 credit hours.

**HUM 320-4 The Humanities and Philosophy**
How does the study of the humanities, with its emphasis on expression, belief, and tradition, present the central concepts of western civilization in a way which cannot be understood simply as history or sociology? If different cultures, or different historical periods within a culture produce different interpretations of human value and different images of human beings, how are they to be reconciled and related to one another? These questions will be discussed through the integrated study of history, literature, arts and philosophy. (seminar) Prerequisite: 45 credit hours. Students who have taken this course as HUM 308 cannot take this course for further credit.

**HUM 321-4 The Humanities and Critical Thinking**
The humanities have traditionally been associated with 'the best that has been thought and said' throughout the history of civilization. But from its beginnings western civilization has also been characterized by the restless criticism of its own ideals. This course will compare and contrast diverse critical traditions within western culture, the attempts of great artists and thinkers to break with tradition, and the subsequent creation of new ideas and forms of experience and expression. (seminar) Prerequisite: 45 credit hours. Students who have taken this course as HUM 308 cannot take this course for further credit.

**HUM 325-4 Humanity and the Natural World**
Concern for a seemingly deteriorating natural environment has made the interaction of humans with the other-than-human natural world a central topic of humanistic, scientific, political, and ideological discourse. Using classic and contemporary sources, this course will compare and contrast diverse critical traditions within western culture, the attempts of great artists and thinkers to break with tradition, and the subsequent creation of new ideas and forms of experience and expression. (seminar) Prerequisite: 45 credit hours. Students who have taken this course as HUM 308 cannot take this course for further credit.

**HUM 327-4 The Study of the Future**
An exploration of some of the questions, issues, and problems that arise when we attempt to understand, to predict, or to control various aspects of the future. (seminar/tutorial) Prerequisite: 45 credit hours. Students who have taken this course as GS 427 cannot take this course for further credit.

**HUM 330-4 Religion in Context**
An in-depth investigation of a specific case of religious history and tradition. Religion will be studied through the cultural and historical contexts that pervade and structure religious meaning and expression. (seminar) Prerequisite: 45 credit hours. Students who have taken this course as HUM 304 cannot take this course for further credit.

**HUM 340-4 Great Cities in Their Time**
This course will explore the cultural and intellectual accomplishments of great cities that achieved prominence in their own time and had a substantial impact and influence on human civilization. We shall explore the political, social, religious, and cultural factors that help to explain a city's significance and will closely investigate the achievements of its citizens. (seminar) Prerequisite: 45 credit hours.

**HUM 350-4 Great Figures in the Humanistic Tradition**
An interdisciplinary study of the life and works of a man or woman who has made a lasting contribution to the humanistic tradition in more than one field of endeavor (e.g., philosophy, politics, literature, economics, religion). (seminar) Prerequisite: 45 credit hours. Students who have taken this topic under another Humanities course number cannot take this course for further credit.

**HUM 375-4 The Woodsworth Seminar**
A special topic in the humanities to be offered by the Woodsworth chair. (seminar) Prerequisite: 45 credit hours.

**HUM 381-4 Selected Topics in the Humanities I**
(seminar) Prerequisite: 45 credit hours.

**HUM 382-4 Selected Topics in the Humanities II**
(seminar) Prerequisite: 45 credit hours.

**HUM 383-4 Selected Topics in the Humanities III**
(seminar) Prerequisite: 45 credit hours.

**HUM 390-4 Directed Studies in Humanities**
Prerequisite: two of any 300 level humanities courses or permission of the co-ordinator plus permission of instructor. This course may be used only once for credit towards a degree.

**HUM 400-5 Humanities Study Project**
A substantial research and writing project culminating in the completion of an essay on a humanities topic. Prerequisite: completion of 75 semester hours of credit which should include at least two 300 level humanities courses; the signature of a faculty member who is willing to supervise the project; approval of the humanities co-ordinator. This course may be used only once for credit towards a degree.

**Italian Faculty of Arts Department of French**

**Kinesiology Faculty of Applied Sciences**

**KIN 105-3 Fundamentals of Human Structure and Function**
This course will provide students with basic physiology of the nervous system, and muscle, endocrine system, cardio-respiratory system, kidney and gastrointestinal system. (distance education) Kinesiology majors and honors students may not recalculate grades. Students who have credit for KIN 105 may not receive credit for KIN 105. Recommended: grade 11 Biology, Chemistry and Physics.

**KIN 110-3 Human Nutrition: Current Issues**
An introduction of the principles of human nutrition with an emphasis on topics of current interest. The material is presented in a Canadian context to focus on nutrition practices and problems in this country. Students will gain an understanding of the factors affecting food selection and the role of nutrition in maintaining good health. Students will develop the ability to discriminate between reliable and unreliable information on the subject of food and nutrition. (lecture/tutorial)

**KIN 111-3 Food and Food Safety**
This course includes basic information on food, the safety of the food supply and current issues about the production, storage and distribution of food. Students will gain an understanding of basic food components, the physical foundations of food science, and the elements of food processing and preservation. Food-borne disease, biotechnology, irradiation of food, contaminants and additives in food, Canadian food labeling and advertising regulations, and food consumption trends will be examined. Nutritional biochemistry concepts will be interfaced with practical questions of food choice and eating practices.
KIN 140-3 Contemporary Health Issues
Explores health from a holistic perspective, in which health is viewed as physical, psychological, and social well-being. Considers genetics, environment, personal health behaviors (such as diet, exercise, stress management, and drug use), socioeconomic status, health care delivery systems, and aging with the intent to improve students' abilities to evaluate health information. (lecture/tutorial)

KIN 142-3 Introduction to Kinesiology
Basic procedures for the assessment of the status and performance of the individual according to the principles of anthropometry, functional anatomy, biomechanics, exercise physiology, and motor learning. (lecture/laboratory) Recommended: grade 11 biology, chemistry and physics.

KIN 143-3 Exercise Management
Introduces the student to the areas of exercise management and exercise physiology. The importance of individual variation and personal exercise prescription is emphasized. (lecture/laboratory) Recommended: medical clearance from a personal physician.

KIN 201-3 Basic Biomechanics
This course will cover the application of basic mechanics to human movement. It will provide students with a basic understanding of how forces act on body segments and how movements are produced. The subject matter of this course is relevant to quantifying all forms of physical activity, from activities of daily living, physically challenged movement patterns, to elite athletic performance. It also has applications in medical settings, including rehabilitation and sports medicine. (lecture/tutorial) Prerequisite: MATH 152 or 155, PHYS 101 or 120, KIN 142. Students with credit for KIN 401 may not take KIN 201 for further credit.

KIN 203-3 Computer Applications in Kinesiology
An introductory course on the various applications of computers to the study of Kinesiology. Topics to be covered include operating systems and programming languages, computer simulations, computer-aided instruction, data capture and analysis and real-time control. (lecture/laboratory) Prerequisite: KIN 142 and approved kinesiology major.

KIN 205-3 Introduction to Human Physiology
An introductory survey of human physiology with an emphasis on mechanisms of regulation and integration. Anatomy of structures will be detailed only when it is critical to a functional understanding. Although this is an introductory course, some topics will be covered in reasonable detail in order to give insight into mechanisms of function. (lecture/tutorial) Prerequisite: BICH 221 (or BISC 201), CHEM 102, and PHYS 101 (or 120). Students with credit for KIN 100 may not receive credit for KIN 205.

KIN 207-3 Information Processing in Human Motor Systems
Students are introduced to human motor systems from psychological, physiological and computational approaches. Although a behavioral (information processing) approach to understanding voluntary goal-directed movement is stressed, research from a variety of distinct areas is integrated in an attempt to provide a coherent picture of our understanding of human motor systems. (lecture/tutorial) Prerequisite: KIN 142 or permission of instructor.

KIN 212-3 Food and Society
This course deals with the cultural, social, agricultural and economic factors which influence food selection and nutrition. Students will explore traditional diets of various ethnic groups, and diet modification as immigrants adjust to life in a new country or to an urban setting. The course will also examine domestic and global food security, hunger in the developing and developed world, and sustainable methods of meeting the increasing world food demand. Prerequisite: KIN 110, 111.

KIN 221-3 Special Topics in Kinesiology
Selected topics in areas not currently offered within the undergraduate course offerings in the School of Kinesiology. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 241-3 Sports Injuries - Prevention and Rehabilitation
Includes delineation of the role of the sports therapist and will study the structural and functional characteristics of the body with regard to the prevention of injury in sport. A first aid approach to athletic injuries will be developed with practical experience in routine treatments. (lecture/laboratory) Prerequisite: KIN 142.

KIN 301-3 Biomechanics Laboratory
This laboratory course covers the quantitative biomechanical evaluation of human movement. Analysis techniques for quantifying motion of body segments in athletes, normal populations and special populations will be included. Experiments will measure force production in whole body activities such as walking and jumping. Experiments will also look at the nature of muscular force generation and the mechanical properties of the musculoskeletal system. Prerequisite: PHYS 130 or 131, KIN 201. Students with credit for KIN 401 may not take KIN 301 for further credit.

KIN 303-3 Kinanthropometry
A study of human size, shape, proportion, composition, maturation and gross function related to basic concepts of growth, exercise, performance and nutrition. (lecture/tutorial/laboratory) Prerequisite: KIN 142 and 203.

KIN 305-3 Human Physiology I
Deals with the physiology and pathophysiology of the cardiovascular, respiratory, and renal systems in detail. (lecture/tutorial) Prerequisite: KIN 205 (formerly KIN 100), CHEM 150, 155, PHYS 102 (or 121), MATH 155 (or 152).

KIN 306-3 Human Physiology II (Principles of Physiological Regulation)
Examines the regulation of body functions with an emphasis on the endocrine, gastrointestinal and neuronal systems. The course focuses on integration of physiological mechanisms at the cellular and organ levels. Examples of abnormal human physiology are used to illustrate important principles. (lecture/tutorial) Prerequisite: KIN 201, 205, 206, CHEM 150, 155, PHYS 102 (or 121), MATH 155 (or 152).

KIN 310-3 Exercise/Work Physiology
The study of human physiological responses and adaptations to acute and chronic exercise/work. Cardiorespiratory, cellular and metabolic adaptations will be studied and discussed in detail. (lecture/seminar) Prerequisite: KIN 205. Students with credit in KIN 410 may not take KIN 310 for further credit. Recommended: KIN 201 and 207.

KIN 311-3 Applied Human Nutrition
The principles of nutritional biochemistry are applied to nutrition in life cycle - pregnancy, lactation, infancy, childhood, adolescence and aging. The second part of the course deals with common disease conditions where nutrition plays an important role in prevention or treatment or both. The course is presented in the Canadian context featuring sources of help on Canadian practice, standards and regulations. Prerequisite: KIN 105 or 205 (formerly KIN 100) and 110. Students with credit for KIN 220 may not take KIN 311 for further credit.

KIN 312-3 Nutrition for Fitness and Sport
This course examines the theory and application of nutrition for fitness and sport. Students will study issues around dietary practices commonly promoted for performance enhancement, including mechanisms, effectiveness, risks and regulations. Students will learn skills for critical evaluation of nutrition research and nutrition claims, and will employ these skills in several small group projects investigating specific nutrition issues and products. Prerequisite: KIN 105 (or 205), 110 and 303.

KIN 320-3 Cultural Aspects of Human Movement
The cultural aspects of human motor behavior; the effects of social institutions on the expressed values of selected cultures toward human motor behavior; and an examination of the pertinent aspects of our present culture which may reflect implications for the future of games, sports, dances, and other forms of physical expression. (lecture) Prerequisite: at least 60 semester hours credit.

KIN 325-3 Basic Human Anatomy
An introductory course for students interested in physical education, health science professions and liberal arts. Brief discussions on applied anatomy, aging, common dysfunctions and diseases enable students to appreciate the relationship between structure and function. (distance education) Prerequisite: KIN 142 and 205 (or KIN 105 with a grade of B or higher). Available only through correspondence, this course will not be counted as an upper level optional course for a major in kinesiology. Students with credit for KIN 325 may not take KIN 326 for further credit.

KIN 326-4 Functional Anatomy
Pursues a systematic study of human anatomy with emphasis on functional applications. It is designed to provide the student with detailed three dimensional knowledge of organs and body systems plus the ability to apply this knowledge to daily activities. (lecture/laboratory) Prerequisite: KIN 142, 205 (formerly KIN 100) and at least 60 hours undergraduate course credit. Students with credit for KIN 325 may not take KIN 326 for further credit.

KIN 336-3 Microscopic Anatomy (Histology)
Light and electron microscope study of mammalian tissues and organs with emphasis on human systems. (lecture/laboratory) Prerequisite: KIN 326 or permission of the instructor.

KIN 343-3 Active Health: Assessment and Promotion
An extension of KIN 143, Exercise Management, designed to provide students with an opportunity to appreciate principles of exercise leadership, assess individual fitness needs, design programs and monitor effects of prescribed exercise. The course includes a 34 hour practicum. (lecture/laboratory) Prerequisite: KIN 105 or 205 (formerly KIN 100), 142 and 143.

KIN 351-0 Practicum I
The first semester of work experience. It is available only to kinesiology co-operative education students. Prerequisite: students must apply to the kinesiology co-op co-ordinator at least one semester in advance. A student may not register for KIN 499 and 351 concurrently.

KIN 352-0 Practicum II
The second semester of work experience. It is available only to kinesiology co-operative education students. Prerequisite: students must apply to the kinesiology co-op co-ordinator at least one semester in advance. They will normally be required to have completed KIN 351. A student may not register for KIN 499 and 352 concurrently.

KIN 367-3 Psychology of Motor Skill Acquisition
An examination of phases of skill acquisition, transfer of training, training principles, retention of motor skills, and the influence of motivation, personality and social
factors on the acquisition of skill. (lecture/tutorial/ laboratory) Prerequisite: KIN 207.

KIN 375-3 Human Growth and Development
The fundamentals of physiological growth and development from conception to maturity. Topics included form a strong foundation for those interested in designing appropriate activity programs for children of all ages. (lecture/tutorial) Prerequisite: KIN 105 or 205 (formerly KIN 100), 142 and 143.

KIN 380-3 Occupational Biomechanics
This course will teach the principles of biomechanical analysis and their application in the workplace. Topics will include techniques for measurement and analysis of movement; analysis of forces and accelerations in three dimensions; work and power; simple biomechanical and biodynamic models; standards for lifting and carrying, their application and limitations. Prerequisite: KIN 201, 205 and 326 which may be taken concurrently.

KIN 381-3 Psychology of Work
The application of psychological principles and methods to the study of human performance at work. A systems approach will be taken to study the interactions among the individual worker, his/her take, groups of workers, and the management structure of the organization. Prerequisite: PSYC 210 or both of KIN 207 and STAT 301. Corequisite: STAT 301 may be taken concurrently.

KIN 382-3 Physical Hazards in the Workplace
The focus of this course will be the study of the physical environment and its effects on the health, safety and performance of the worker. Physical problems associated with noise, vibration, lighting, radiation, dust and ventilation will be examined together with methods of recognition, treatment, prevention. Prerequisite: KIN 142, PHYS 130 or 131, KIN 201, 205. Students with credit for KIN 480 may not take KIN 382 for further credit.

KIN 383-3 Human-Machine and Human-Computer Interaction
Human information processing and motor control factors are considered as factors relevant to effective, usable human-machine interfaces. A user-centred approach deals with task analysis, context of use, information processing demands, the interface, and the design, assessment and usability of tools, machines and computers. (lecture/tutorial) Prerequisite: at least 60 credit hours and permission of instructor, KIN 203 or relevant computing background required.

KIN 402-3 Mechanical Properties of Tissues
A study of the mechanical behavior of tissues of the body and relation of this behavior to their structure and function. The course is designed to fill the gap between basic anatomical (micro and macro) structure and physiological function, with a view to assessing the effects of unusual conditions (including exercise) upon behavior to tissues. (lecture/tutorial) Prerequisite: KIN 301.

KIN 407-3 Human Physiology Laboratory
Experiments dealing with the nervous, muscular, cardiovascular, respiratory, and renal systems are covered. (laboratory) Prerequisite: PHYS 130 (or 131), KIN 305 and 306, one of which must already have been completed and the other can be taken concurrently.

KIN 412-3 Molecular and Cellular Cardiology
This course entails a detailed analysis of the molecular and cellular basis of cardiac function. The material will be derived from myriad disciplines including: anatomy (histology and ultrastructure), biomechanics, physiology, electrophysiology, biochemistry and molecular biology. A particular emphasis will be placed on the mechanisms by which the heart responds to stresses such as ischemia and exercise. (lecture/tutorial) Prerequisite: KIN 305.

KIN 415-3 Neural Control of Movement
An in depth treatment of neurophysiology. Synaptic inputs and cell interactions in the spinal cord are used to illustrate the general principles of interaction in the nervous system. Other topics include central and peripheral motor control, the vestibular system and the visual system. (lecture/tutorial) Prerequisite: KIN 306 or BISC 305 or PSYC 381.

KIN 416-3 Control of Limb Mechanics
Control of the human musculoskeletal system examined from the perspective of mechanical impedance. Mechanics of individual muscles, single joints spanned by multiple muscles and multi-joint limb segments are discussed in the context of physical interaction with the environment. Prerequisite: KIN 201 and 306.

KIN 418-4 Electrophysiological Techniques Lab
This laboratory course allows students to explore basic biophysical and electrophysiological properties of excitable tissues in a realistic research environment and to develop practical laboratory skills for the neurosciences. Prerequisite: KIN 306. Recommended: KIN 415.

KIN 420-3 Selected Topics in Kinesiology I
Seminar topics in areas as not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from semester to semester, depending on faculty availability and student interest. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 421-3 Selected Topics in Kinesiology II
Seminar topics in areas as not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from semester to semester, depending on faculty availability and student interest. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 422-3 Selected Topics in Kinesiology III
Seminar topics in areas as not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from semester to semester, depending on faculty availability and student interest. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 423-3 Selected Topics in Kinesiology IV
Selected topics in areas as not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from semester to semester, depending on faculty availability and student interest. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 424-3 Selected Topics in Kinesiology V
Selected topics in areas as not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from semester to semester, depending on faculty availability and student interest. (lecture/tutorial) Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 426-3 Neuromuscular Anatomy
This research paper course will establish the principles of neuromuscular anatomy and function. Topics will include: neuromuscular excitability, nervous system control, neuromuscular pathology, and the cellular architecture of the motor unit. Prerequisite: KIN 305.

KIN 430-3 Human Energy Metabolism
Pathways of energy flow in animals and man, and the relationship of biological energy transduction to the needs of the whole animal. Quantitative aspects of bioenergetics and adaptation to changes in energy supply and demand. Measuring techniques applied to adaptations to muscle activity and variations in food intake. (lecture/tutorial) Prerequisite: KIN 306 or 310 or BICH 321. Students with credit in KIN 330 may not take KIN 430 for further credit.

KIN 431-3 Environmental Carcinogenesis
An introduction to core concepts in the field of environmental carcinogenesis. Emphasis will be on the complex interactions of lifestyle factors, carcinogen exposure, genetic susceptibility and dietary habits as determinants of cancer risk. Class work will include discussions of new techniques to monitor exposure to environmental carcinogens and of regulatory aspects of governmental agencies towards carcinogenic agents, as well as approaches being used by such agencies in risk assessment. (lecture/tutorial) Prerequisite: at least 90 semester hours of credit.

KIN 442-3 Biomedical Systems
Concepts and tools of systems analysis will be introduced. Since these involve a philosophy of problem-solving rather than a catalogue of techniques, they will be applied to a number of very different problems in biomedicine and kinesiology. (lecture/tutorial) Prerequisite: MATH 155 (or 152), PHYS 130 (or 131), KIN 305, 306.

KIN 444-3 Cardiac Disease: Prevention and Rehabilitation
The goal of this course is to provide the student with both basic and practical knowledge of cardiac rehabilitation. Through this course, the student will be better prepared to participate in community or hospital based cardiac rehabilitation programs. This knowledge base in conjunction with KIN 445 is intended to adequately prepare the student to successfully complete the requirements for certification through the American College of Sports Medicine as an exercise specialist. Prerequisite: KIN 110, 305, 306 and 310. Recommended: KIN 343.

KIN 445-3 Cardiac Rehabilitation Laboratory
This is a laboratory course designed to follow KIN 444. The laboratory component will provide students with experience and understanding in practical aspects of assessing cardiac performance and techniques of cardiac rehabilitation. In conjunction with KIN 444, students will be better prepared to participate in community or hospital based cardiac rehabilitation programs. Together with the practical experience gained from time spent in a relevant cardiac rehabilitation program, these two courses are intended to prepare the student to successfully complete the requirements for certification through the ACSM as an exercise specialist. Prerequisite: KIN 444.

KIN 451-0 Practicum III
The third semester of work experience. It is available only to kinesiology co-operative education students. Prerequisite: students must apply to the kinesiology co-op co-ordinator at least one semester in advance. A student may not register for KIN 499 and 451 concurrently.

KIN 452-0 Practicum IV
The fourth semester of work experience. It is available only to kinesiology co-operative education students. Prerequisite: students must apply to the kinesiology co-op co-ordinator at least one semester in advance. They will normally be required to have completed KIN 451. A student may not register for KIN 499 and 452 concurrently.

KIN 453-0 Practicum V
The fifth semester of work experience. It is available only to kinesiology co-operative education students. Prerequisite: students must apply to the kinesiology co-op co-ordinator at least one semester in advance.
and normally must have completed KIN 452. A student may not register for KIN 499 and 453 concurrently.

KIN 461-3 Physiological Aspects of Aging
Designed for those who require a serious but fairly broad discussion of specific physiological aspects of aging. The overall emphasis is on humans and other mammalian species and the varieties of aging changes they manifest. (lecture/tutorial) Prerequisite: KIN 105 or 205 (formerly KIN 100), 142 and 90 credit hours.

KIN 467-3 Human Motor Control
The advanced study of human motor control, primarily from a behavioral perspective. Course content will include sections on: Bernstein’s approach to the problem of co-ordination and action, theories of action, studies of relatively recent empirical work in support of the theories. (lecture/tutorial/laboratory) Prerequisite: KIN 205 and 207 or permission of instructor.

KIN 481-3 Activity-Generated Musculoskeletal Disorders
This is a kinesiological approach to understanding the causes and prevention of musculoskeletal disorders caused by activity (work and sport). Particular attention will be paid to injuries to the back, neck, hand and arm. (lecture/tutorial/laboratory) Prerequisite: KIN 201 and 326.

KIN 485-4 Human Factors in the Underwater Environment
The physiological effects of pressure on the human body and interfacing of humans and machine underwater are considered. Topics include the history of diving, decompression theory, decompression disorders, pulmonary function, underwater work, underwater breathing apparatus, narcosis, saturation diving, high pressure nervous syndrome, and atmospheric diving suits. (lecture/tutorial/laboratory) Prerequisite: KIN 305, 306, MATH 155 (or 152).

KIN 486-3 Human Factors in Industrial Design
The objective of the course is to learn the rudiments of design layout. In an industrial context, a well-designed human-machine system must have more than just good display and control components. The essence of industrial design is to arrange system compromises. Industrial examples will be presented to illustrate how human-factors input can improve the production process and help to control some of the extreme hazards that arise in industrial environments. (lecture/tutorial/laboratory) Prerequisite: KIN 203 or relevant computing experience, KIN 303, 326 and 380.

KIN 495-3 Directed Study I
Directed reading and literature research on topics selected in consultation with the supervising instructor. This course may not be repeated for additional credit. A student who has completed KIN 499 may not receive credit for KIN 496. A short proposal of the project, approved by the course supervisor must be submitted for approval to the director before the first registration period for the semester in which the student plans to register. Prerequisite: permission from the faculty supervisor for KIN 499.

KIN 497-3 Kinesiology Undergraduate Honors Thesis Proposal
Supervised directed study and research leading to the development of a formal undergraduate thesis proposal for work to be conducted in KIN 499. The activity in KIN 497 may be augmented by other course work and a pilot study. In cases where an industrial/community partner is involved in the development of a project, the work need not be conducted at Simon Fraser University and may be completed external to SFU. Supervision of KIN 497 will be conducted by a suitable faculty member, but may be co-supervised by an industrial/community partner. Supervisor(s) must be approved by the undergraduate program committee. The plan of activities for each KIN 497 should be submitted to the chair of the undergraduate program committee for approval one month prior to the semester in which the course will be taken. Prerequisite: only students in the honors program may register for KIN 497; 90 credit hours, STAT 301, and permission of the chair of the undergraduate program committee.

KIN 498-3 Directed Study II
Directed study and research selected in consultation with the supervising instructor. A short proposal of the project approved by the course supervisor must be submitted for approval to the director of kinesiology before the first registration period of the semester in which the student plans to register. Prerequisite: STAT 301 and permission from the chair of the undergraduate program committee. Usually, upper level standing with at least 75 semester hours in the kinesiology program will be required. Students with credit for KIN 497 may not take KIN 498 for further credit. Honors students may not take KIN 498 for credit.

KIN 499-12 Kinesiology Undergraduate Honors Thesis
A thesis based on research previously proposed in KIN 497. Formal approval of the research topic is given by attaining a minimum grade of B in KIN 497. Regulations regarding the locale of the work, supervision and other arrangements, follow those for KIN 497. The written thesis should be submitted to the chair of the undergraduate program committee by the last day of exams of the semester. The thesis will also be presented orally as a seminar in an open forum at the end of the semester. Prerequisite: KIN 497. Only students in the honors program may register for KIN 499. A student may register for one other course concurrently with KIN 499 with permission from the faculty supervisor for KIN 499.

Labor Studies
Faculty of Arts
Department of History
LBST 101-3 Introducing Labor Studies
Introduction to key concepts necessary for understanding the character and organization of work in contemporary society. The discussion of such issues as how our society decides who works, what the work will be, and under what conditions people work, will be situated in the context of current debates, trends and issues. (2-1-0)

LBST 301-3 Labor Movements: Contemporary Issues and Images
This course will give students a comprehensive understanding of the contemporary structure, issues, and perceptions of labor unions and other forms of working-class organization. It will focus on external and internal problems that the labor movement faces, such as labor law and state policy, employer strategies, bureaucracy, racism and sexism. The treatment of labor in the media and popular culture will provide an understanding of how labor is viewed in society, how labor views itself, and how working-class culture informs and is informed by the larger culture. (seminar) Recommended: LBST 101.

LAS 100-3 Images of Latin America
A multimedia introduction to Latin American Studies. Film screenings and media analysis sessions will complement a series of introductory lectures on various relevant contemporary issues such as ethnicity and race, gender, the ecology, and current social and political events. This is a course of general interest open to all students. (lecture/tutorial)
LAS 140-3 Cultural Heritage of Latin America
A multi-disciplinary introduction to contemporary Latin American culture through the examination of pre-Columbian, Iberian, and African civilizations. (lecture/tutorial) Prerequisite: LAS 140 and either ECON 102 or 105 or permission of the instructor. (lecture/tutorial) Recommended: LAS 140

LAS 200-3 Introduction to Latin American Issues
A multidisciplinary introduction to contemporary Latin America. The course is organized in three modules: people and the land, the human condition, and the political alternatives, each of which will be examined from the varying perspectives of history, geography, politics, the arts, etc. (lecture/tutorial) Recommended: LAS 140

LAS 300-3 Latin American Literature
A study in English of significant contributions to Latin American literature. (lecture/tutorial)

LAS 309-3 Special Topics: Regional Studies
An interdisciplinary study of a specific Latin American region, e.g., Central America, the Andes, the Southern Cone, Amazonia, etc. One region will be examined from a multidisciplinary perspective: history, literature, politics, economy, etc. (seminar) Prerequisite: LAS 200.

LAS 311-3 Special Topics: Latin American International Relations
A multidisciplinary study of bilateral issues between Latin America and a specific country or region, e.g., US and Latin America, the Pacific Rim, Historical, economic, and ideological perspectives as well as topics related to business, foreign aid, and immigration will be emphasized. (lecture/tutorial) Prerequisite: LAS 200.

LAS 312-3 Special Topics: Latin American Cultural Topics
A cross-disciplinary focus on specific elements of contemporary Latin American culture. Topics such as indigemism, Afro-Latin culture, religion, literature, and folklore will be studied. (lecture/tutorial) Prerequisite: LAS 140 or 200.

LAS 318-3 Political Economy of Latin American Development
This is a survey course which introduces students to the various theoretical approaches which have been used since the 1950's to understand the political economy of Latin American development. It deals with some of the classic theories of modernization, dependency, world systems, and modes of production analysis. The last unit of the course is devoted to the most contemporary issues of Latin American development, such as the agrarian question, women and development, problems of urbanization and the informal sector. (lecture/seminar) Prerequisite: LAS 200 and either ECON 102 or 105 or permission of the instructor.

LAS 320-3 Canada and Latin America
An analysis of Canada's multi-faceted relations with Latin America. Topics include: the history of Canada's foreign policy towards Latin America, trade and investment, official development assistance and the role of non-governmental organizations, human rights, immigration and refugee policy, and participation in multilateral institutions (e.g. the OAS). (lecture/seminar) Prerequisite: LAS 200 or permission of instructor.

LAS 323-3 Women in Latin American Literature and Society
This course will examine how women writers and artists from Latin America have represented themselves as gendered social, historical and philosophical subjects. (lecture/tutorial) Prerequisite: LAS 200.

LAS 380-0 Practicum I
First semester of work experience in the Latin American Studies co-operative education program. Prerequisite: 30 semester hours with a minimum CGPA of 2.75, including recommended courses LAS 100, 140, 200 and SPAN 102. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the second week of the semester preceding the employment semester.

LAS 390-0 Practicum II
Second semester of work experience in the Latin American Studies co-operative education program. Prerequisite: completion of LAS 380 and 45 semester hours with a minimum CGPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the second week of the semester preceding the employment semester.

LAS 402-5 Field Study
A multidisciplinary study of a selected country or region. This course will normally be part of the LAS Field School in Latin America, and will be conducted in co-operation with local lecturers from the host country. (seminar/field study) Prerequisite: LAS 200

LAS 403-3 Special Topics: Latin American Economy and Society
This seminar will be taught co-operatively by LAS associated faculty or by a visiting professor. A topic will be chosen which can be examined profitably from a multidisciplinary perspective. (seminar) Prerequisite: LAS 200

LAS 404-3 Special Topics: Field School I
This course will be part of the LAS field school in Latin America. The selected region will be examined on site from a multidisciplinary perspective. (seminar) Prerequisite: LAS 200 or permission of the department.

LAS 405-3 Special Topics: Field School II
This course will be part of the LAS field school in Latin America. A topic will be chosen which can be examined profitably from a multidisciplinary perspective (seminar) Prerequisite: LAS 200 or permission of the instructor.

LAS 410-4 Andean History and Culture
An interdisciplinary study of the history and culture of the Andean region from the Inka period to the present. The first half of the course examines the Andean response to colonialism and the nation-state; the second half focuses on issues and problems that Andean peoples confront today. (seminar) Prerequisite: LAS 140 and 200 or permission of the instructor.

LAS 480-0 Practicum III
Third semester of work experience in the Latin American Studies co-operative education program. Prerequisite: completion of LAS 390 and 60 semester hours with a minimum CGPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the second week of the semester preceding the employment semester.

LAS 490-0 Practicum IV
Fourth semester of work experience in the Latin American Studies co-operative education program. Prerequisite: completion of LAS 480 and 75 semester hours with a minimum CGPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the second week of the semester preceding the employment semester.

LAS 498-5 Independent Study Project
Independent reading and research on a cross-disciplinary project under the supervision of a faculty member. A term paper will be required. Prerequisite: 90 credit hours, including LAS 200, and permission of the department.

Liberal Arts
Faculty of Arts
LBRL 101-0 Practicum I
First semester of work experience in the Liberal Arts co-operative education program. Prerequisite: at least 30 semester hours with a minimum CGPA of 3.0, including ENGL 099 and PHIL 001. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

LBRL 201-0 Practicum II
Second semester of work experience in the Liberal Arts co-operative education program. Prerequisite: successful completion of Liberal Arts 101 and at least 45 semester hours with a minimum CGPA of 3.0. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

LBRL 301-0 Practicum III
Third semester of work experience in the Liberal Arts co-operative education program. Prerequisite: successful completion of Liberal Arts 301 and at least 75 semester hours with a minimum CGPA of 3.0. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

LBRL 401-0 Practicum IV
Fourth semester of work experience in the Liberal Arts co-operative education program. Prerequisite: successful completion of Liberal Arts 301 and at least 75 semester hours with a minimum CGPA of 3.0. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

LBRL 402-0 Practicum V
Optional fifth semester of work experience in the Liberal Arts co-operative education program. Prerequisite: successful completion of LBRL 401 and at least 90 semester hours with a minimum CGPA of 3.0. Students should apply to the Faculty of Arts co-op co-ordinators by the end of the third week of the semester preceding the employment semester.

Linguistics
Faculty of Arts
LING 100-3 Communication and Language
A non-theoretical approach to the study of language using examples from a variety of languages. (lecture)

LING 110-3 The Wonder of Words
Study of the structure of words, the change in form of words. Examples from English, French and other languages. A general interest course open to all students. (lecture)

LING 130-3 Practical Phonetics
Practical training in the description of sounds used in language. (seminar) Students in the First Nations Language and Culture Program will be given preference. Prerequisite: successful completion of Liberal Arts 101 and at least 45 semester hours with a minimum CGPA of 3.0. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

LING 200-3 Introduction to the Description of English Grammar
A practical overview of English grammar based on linguistic principles, for those designing basic knowledge of language structure, grammatical categories and grammatical analysis. This course is particularly suited for students interested in the teaching of English as a second language. (lecture)

LING 220-3 Introduction to Linguistics
An introduction to linguistic analysis. (lecture/tutorial) Students with credit for LING 240 may not take this course for further credit.
LING 221-3 Introduction to Phonology  
The principles of phonological analysis. (lecture)  
Prerequisite: LING 130, 220.

LING 222-3 Introduction to Syntax  
The principles of syntactic analysis. (lecture)  
Prerequisite: LING 220.

LING 231-3 Introduction to a First Nations Language I  
An introductory course in the structure of a native language of the Americas, including phonetics, vocabulary, word formation, and grammatical constructions. The course will be based on a designated language to be named each time it is taught, and will usually be chosen from the Northwest Coast area. (tutorial) Prerequisite: LING 431 in semester 90-3 may not take this course for further credit. Recommended: students in the First Nations Studies program should take LING 231 before LING 130.

LING 232-3 Introduction to a First Nations Language II  
A continuation of the introductory course in a native language, including phonetics, vocabulary, word formation, and grammatical constructions. The course will be based on a designated language to be named each time it is taught, and will usually be chosen from the Northwest Coast area. (tutorial) Prerequisite: LING 231 in the same language. Students who have taken LING 432 in semester 91-1 may not take this course for further credit.

LING 241-3 Languages of the World  
A survey of the languages of the world. An examination of the linguistic structure of selected languages. (lecture) Prerequisite: LING 220.

LING 260-3 Language, Culture, and Society  
An introduction to language in its social and cultural dimensions. (lecture/tutorial)

LING 310-6 Intensive Survey of Linguistic Analysis  
An in-depth examination of core areas of linguistic analysis, including extensive practice with representative linguistic data from a variety of languages. (lecture/tutorial) This course may not be taken for credit toward a major, extended minor, minor or honors program in Linguistics. Students with credit for LING 220 may not take LING 310 for further credit.

LING 321-3 Phonology  
An overview of theoretical principles in phonology. (lecture/tutorial) Prerequisite: LING 221 or 310.

LING 322-3 Syntax  
The study of sentence structure in language through a survey of constructions found in natural language data together with a consideration of syntactic theory. (lecture/tutorial) Prerequisite: LING 222 or 310.

LING 323-3 Morphology  
Word structure in natural languages and its relationship to phonological and syntactic levels of grammar. (lecture) Prerequisite: LING 221, 222, or 310.

LING 324-3 Semantics  
The basics of word meaning, including: sense and reference, componential analysis, color and kinship terminology, semantic universals, synonymy and antonymy. one and two term predicates, lexical decomposition, presupposition, and selection restrictions. (lecture/tutorial) Prerequisite: LING 222 or 310.

LING 330-3 Phonetics  
A survey of methods of speech sound description and transcription. (lecture/tutorial) Prerequisite: LING 221 or 310.

LING 331-3 Description and Analysis of a First Nations Language I  
An intermediate course in the structure of a native language of the Americas, including writing systems, texts and examination of the general linguistic properties of the language and the language family in which it is situated. The course will be based on a designated language to be named each time it is taught, and will usually be chosen from the Northwest Coast area. (tutorial) Prerequisite: LING 232 or equivalent credit in the same language.

LING 332-3 Description and Analysis of a First Nations Language II  
A continuation of the intermediate course in a native language of the Americas, including writing systems, texts, and examination of the general linguistic properties of the language and the language family in which it is situated. The course will be based on a designated language to be named each time it is taught, and will usually be chosen from the Northwest Coast area. (tutorial) Prerequisite: LING 331 or equivalent credit in the same language.

LING 350-3 First Language Acquisition  
Introduction to the study of language acquisition from the point of view of linguistic structure. (lecture/tutorial) Prerequisite: LING 130, 220. Students who have taken LING 250 may not take this course for further credit.

LING 360-3 Linguistics and Language Teaching  
Theoretical and practical aspects of second language learning. (lecture/tutorial) Prerequisite: LING 130 or equivalent credit in the same language.

LING 362-3 English as a Second Language: Theory  
Application of linguistic principles to the teaching of English as a second language. (lecture/tutorial) Prerequisite: LING 130, 220; or 310.

LING 363-3 English as a Second Language: Practice  
Implementation of linguistic principles in the teaching of English as a second language, including a practical experience with learners of English. (lecture/laboratory) Prerequisite: LING 360, 362. This course is graded on a pass/fail basis.

LING 400-3 Formal Linguistics  
Formal systems and their relation to linguistic methods and theory. Topics include the mathematical properties of natural languages, and rigorously defined frameworks for linguistic analysis and their formal properties. (lecture/tutorial) Prerequisite: LING 322; Recommended: PHIL 210.

LING 401-3 Advanced Phonetics  
Advanced training in speech sound description and analysis in the impressionistic and instrumental modes. (lecture/tutorial/laboratory) Prerequisite: LING 330.

LING 403-3 Advanced Phonology  
Detailed study of the formulation of phonological theories and their testing with natural language data. (lecture/tutorial) Prerequisite: LING 321.

LING 405-3 Advanced Syntax  
In-depth investigation of theoretical frameworks for syntactic description of natural languages. (lecture/tutorial) Prerequisite: LING 322.

LING 406-3 Advanced Semantics  
This course will examine aspects of sentence meaning, including: truth conditions and their derivation from lexical and syntactic information; meaning-changing transformations; quantifier interchange; specificity and its relation to quantifier scope; opaque contexts; the role of meaning postulates; pragmatic aspects of meaning; performative sentences. (lecture) Prerequisite: LING 322, 324. Recommended: PHIL 210.

LING 407-3 Historical Linguistics  
The development of languages and language families through time; genetic grouping, the comparative method, reconstruction, etymology, universals and language change. (lecture) Prerequisite: LING 321, 322 and 323.

LING 408-3 Field Linguistics  
The investigation and description of an unfamiliar language. (lecture/seminar) Prerequisite: LING 221 and 222; or 310.

LING 409-3 Sociolinguistics  
A systematic approach to the study of linguistic variation in different areal, social, and cultural settings. (lecture) Prerequisite: LING 220 or 310. Recommended: LING 260.

LING 423-3 Advanced Morphology  
Principles of morphological theory and a survey of current research on word structure. (lecture/tutorial) Prerequisite: LING 321, 322, 333.

LING 430-3 Native American Languages  
Structural and genetic characteristics of Native languages of America, with special emphasis on languages of the Northwest. Detailed examination of one language or language family. (seminar) Prerequisite: LING 221 and 222; or 310.

LING 431-3 Language Structures I  
Detailed examination of the structure of a selected language. (seminar) Prerequisite: LING 221 and 222; or 310.

LING 432-3 Language Structures II  
Detailed examination of the structure of a selected language. (seminar) Prerequisite: LING 221 and 222; or 310.

LING 441-3 Linguistic Universals and Typology  
A survey of the main language types found in the world with reference to their structural properties; the categorization of language types as a consequence of linguistic universals. (lecture) Prerequisite: LING 221 and 222; or 310.

LING 480-3 Topics in Linguistics I  
Investigation of a selected area of linguistic research. (seminar) Prerequisite: 12 credit hours of upper division linguistics courses.

LING 481-3 Topics in Linguistics II  
Investigation of a selected area of linguistic research. (seminar) Prerequisite: 12 credit hours of upper division linguistics courses. Note: may be taken without LING 480.

LING 490-3 Honors Essay  
Topic of a specific nature to be agreed upon by the student and a particular faculty member. (seminar) Prerequisite: a minimum of 35 hours of upper division linguistics courses counting toward the honors degree.

Management and Systems Science  
Faculty of Science  
See also courses listed under Economics (ECON), Business Administration (BUS), Computing Science (CMPT) and Mathematics (MATH) and Statistics (STAT).

MSSC 480-1 Undergraduate Seminar in Management and Systems Science  
A seminar for students undertaking a major or an honors program in management and systems science. (seminar) Prerequisite: completion of all required lower division courses and at least 15 upper division credits required in the program.

MSSC 481-1 Undergraduate Seminar in Management and Systems Science  
A seminar for students undertaking a major or an honors program in management and systems science. (seminar) Prerequisite: completion of all required lower division courses and at least 15 upper division credits required in the program.
Marine Science  
Faculty of Science  
See also courses listed under Biological Sciences (BISC).  
Note: These courses are generally offered at the Bamfield Marine Station, located on Vancouver Island, during the summer and fall. See the Biological Sciences undergraduate section for further information.

In addition to the MASC courses listed below, the Bamfield Marine Station biennially offers a suite of Marine oriented courses at the station, Vancouver Island. Students interested in this offering should contact the Department of Biological Sciences for details of the next proposed offering.

Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

MASC 412-6 Biology of Fishes  
Classification, physiology, ecology, behavior and zoogeography of fishes with particular emphasis on those in the marine environment of the British Columbia coast. Local collections from a variety of habitats will be used for experimental studies. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

MASC 413-3 Biology of Marine Molluscs  
An advanced course of selected topics emphasizing functional morphology, ecology and evolution of this diverse phylum. Field trips will be undertaken to survey the representative molluscs of the Bamfield region. Students will be expected to complete an independent field or laboratory study of selected molluscs. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

MASC 415-3 Structure and Function in Animals  
The course will focus on the structure of marine animals and their adaptations to the marine environment. Neurobiology, developmental biology, functional morphology and other topics will be covered. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

MASC 425-3 Ecological Adaptations of Seaweeds  
The course will explore morphological physiological, genetic and reproductive adaptations of seaweeds to their natural and man-altered environments. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

MASC 446-3 Comparative Ethology  
A comparative study of marine animals (vertebrate and invertebrate) emphasizing behavioral description,
underlying physiological mechanisms, the biological significance of behavior and behavioral evolution. The course will include independent laboratory and field studies. Prerequisite: Offerings of the MACS courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

MASC 470-3,6 Special Topics in Marine Biology
Offered, as opportunities arise, by visiting scientists who are working at the Bamfield Marine Station and are prepared to offer a course of either three or six weeks. Courses will be of a specialized nature. Prerequisite: will vary and will be announced in advance of the course offering.

MASC 471-3,6 Special Topics in Marine Biology
Offered, as opportunities arise, by visiting scientists who are working at the Bamfield Marine Station and are prepared to offer a course of either three or six weeks. Courses will be of a specialized nature. Prerequisite: will vary and will be announced in advance of the course offering.

MASC 472-3,6 Special Topics in Marine Biology
Offered, as opportunities arise, by visiting scientists who are working at the Bamfield Marine Station and are prepared to offer a course of either three or six weeks. Courses will be of a specialized nature. Prerequisite: will vary and will be announced in advance of the course offering.

MASC 473-3,6 Special Topics in Marine Biology
Offered, as opportunities arise, by visiting scientists who are working at the Bamfield Marine Station and are prepared to offer a course of either three or six weeks. Courses will be of a specialized nature. Prerequisite: will vary and will be announced in advance of the course offering.

MASC 474-3,6 Special Topics in Marine Biology
Offered, as opportunities arise, by visiting scientists who are working at the Bamfield Marine Station and are prepared to offer a course of either three or six weeks. Courses will be of a specialized nature. Prerequisite: will vary and will be announced in advance of the course offering.

MASC 475-3,6 Special Topics in Marine Biology
Offered, as opportunities arise, by visiting scientists who are working at the Bamfield Marine Station and are prepared to offer a course of either three or six weeks. Courses will be of a specialized nature. Prerequisite: will vary and will be announced in advance of the course offering.

MASC 476-3,6 Special Topics in Marine Biology
Offered, as opportunities arise, by visiting scientists who are working at the Bamfield Marine Station and are prepared to offer a course of either three or six weeks. Courses will be of a specialized nature. Prerequisite: will vary and will be announced in advance of the course offering.

MASC 477-3,6 Special Topics in Marine Biology
Offered, as opportunities arise, by visiting scientists who are working at the Bamfield Marine Station and are prepared to offer a course of either three or six weeks. Courses will be of a specialized nature. Prerequisite: will vary and will be announced in advance of the course offering.

MACM 470-3,6 Special Topics in Marine Biology
Offered, as opportunities arise, by visiting scientists who are working at the Bamfield Marine Station and are prepared to offer a course of either three or six weeks. Courses will be of a specialized nature. Prerequisite: will vary and will be announced in advance of the course offering.

MACM 479-3,6 Special Topics in Marine Biology
Offered, as opportunities arise, by visiting scientists who are working at the Bamfield Marine Station and are prepared to offer a course of either three or six weeks. Courses will be of a specialized nature. Prerequisite: will vary and will be announced in advance of the course offering.

MACM 480-3 Seminars and Papers in Marine Science
A series of weekly seminars covering current topics of interest in the Marine Sciences. Seminars will be presented by Bamfield Marine Station researchers, graduate students and visiting scientists as well as by the students themselves. Prerequisite: Offerings of the MACM courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published eachfall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

Mathematics and Computing Science

Mathematics

Faculty of Science

See also courses listed under Actuarial Mathematics (ACMA), Mathematics and Computing Science (MACM) and Statistics (STAT).

Open Workshops for MATH Courses

See courses marked with ** below

Mathematics/Languages and Automata with Applications

Languages, grammars, automata and their applications. Turing machines. Computability and undecidability. Complexity theory. (lecture/tutorial) Prerequisite: MACM 201.

MACM 316-3 Numerical Analysis I

A presentation of the problems commonly arising in numerical analysis and scientific computing and the basic methods for their solutions. (lecture/tutorial) Prerequisite: MATH 152 or 155 or 158, and 232 and knowledge of a high level computer language such as FORTRAN, C, PASCAL or MODULA 2. Students with credit for MATH 406 or MATH 316 may not receive further credit for MACM 316.

MACM 401-3 Introduction to Computer Algebra

A first course in computer algebra - also called symbolic computation. It covers data-structures and algorithms for mathematical objects, including polynomials, general mathematical formulae, long integer arithmetic, polynomial greatest common divisors, the Risch integration algorithm. Other topics include symbolic differentiation, simplification of formulae, and polynomial factorization. Students will learn Maple for use on assignments. Prerequisite: CMPT 307 or MATH 332.

Mathematics

Beginning Level Requirements in Mathematics

Students who do not have the appropriate prerequisites as listed below must successfully complete a mathematics assessment test in order to register in a mathematics course. Entering students who are without the appropriate prerequisites and seeking to register in a mathematics course from outside the Lower Mainland of Vancouver may, with permission of the department, be given a temporary clearance to register. However, by the end of the first week of classes, the student must show proof of successful completion of the mathematics assessment test or will be dropped from the course.
Mature students who are unsure of their level of preparation are strongly encouraged to take the mathematics assessment test. The test is delivered at the main campus and at Harbour Centre. Contact the general office at the Department of Mathematics and Statistics (604) 291-3331/3332 for information.

Students considering registering in a mathematics course who do not have BC mathematics 11 (or equivalent) with at least a grade of C may take the non-credit course, basic algebra, offered by the Department of Mathematics and Statistics.

The prerequisites for the first mathematics courses are as follows.

**MATH 100, 110, 113, 190**
BC mathematics 11 (or equivalent) with a grade of at least C or permission of the department or the non-credit course, basic algebra

**MATH 157**
BC mathematics 12 (or equivalent) with a grade of at least B; or MATH 110 with a grade of at least C-; or (with permission of the department) MATH 100 with a grade of at least C-

**MATH 151, 154**
BC mathematics 12 (or equivalent) with a grade of at least B or MATH 100 with a grade of at least C-

**MATH 144**
BC mathematics 12 (or equivalent) or MATH 100 with a grade of at least C-

Students who are unsure of their level of preparation are strongly encouraged to take the free math assessment test at the basic math workshop, TLX 9505 or SFU at Harbour Centre. Students should make certain that they discuss the test results with the lab instructor for the Basic Mathematics Workshop (or her designate).

**Minimum Grade Requirement in Prerequisites for Later MATH Courses**
Students enrolled in courses offered by the Department of Mathematics and Statistics must have obtained grades of C- or better in prerequisite courses.

Some experience with a high level programming language is recommended by the beginning of the second year.

Courses marked with an asterisk (*) are intended to be particularly accessible to students who are not specializing in mathematics.

No student may take, for further credit, any course offered by the Department of Mathematics and Statistics which is a prerequisite for a course the student has already completed with a grade of C- or higher, without permission of the department.

**MATH* 100-3 Precalculus**
Algebraic, exponential, logarithmic and trigonometric functions and their graphs. Conic sections, applications. (3-0-1) Prerequisite: BC mathematics 11 (or equivalent) with a grade of at least C or permission of the department or the non-credit course, basic algebra. Students entering Simon Fraser University directly from high school who take BC MATH 12 or equivalent, with a grade of at least B, may not take this course for credit at Simon Fraser University. Students may not count more than one of MATH 100 or 110 for credit. MATH 100 may not be counted towards the mathematics minor, major or honors degree requirements.

**MATH* 110-3 Introductory Mathematics for the Social and Management Sciences**
Linear and quadratic functions, sequences and sums, compound interest, exponential and logarithmic functions, counting techniques, probability. (3-0-1) Prerequisite: BC mathematics 11 (or equivalent) with a grade of at least C or permission of the department or the non-credit course, basic algebra. Students entering Simon Fraser University directly from high school who have BC MATH 12 or equivalent, with a grade of at least B, may not take this course for credit at Simon Fraser University. Students may not count more than one of MATH 100 or 110 for credit. MATH 100 may not be counted towards the mathematics minor, major or honors degree requirements.

**MATH* 113-3 Euclidean Geometry**
Plane Euclidean geometry, congruence and similarity. Theory of parallels. Polygona! areas. Pythagorean theorem. Geometrical constructions. (3-1-0) Prerequisite: BC mathematics 11 (or equivalent) with a grade of at least C or permission of the department or the non-credit course, basic algebra.

**MATH 151-3 Calculus I**
Functions and graphs, conic sections, limits and continuity, derivatives, techniques and applications of differentiation, trigonometric functions, logarithms and exponentials, extrema, the mean value theorem and polar co-ordinates. (3-0-1) Prerequisite: BC mathematics 12 (or equivalent) with a grade of at least B, or MATH 100 with a grade of at least C-.

Students with credit for either MATH 154 or 157 may not take MATH 151 for further credit.

**MATH 152-3 Calculus II**
Integrals, techniques and applications of integration, approximations, sequences and series, area and arc length in polar co-ordinates. (3-0-1) Prerequisite: MATH 151 or 154. Students may also use MATH 157 with a grade of A or B. Students with credit for MATH 155 or 158 may not take MATH 152 for further credit.

**MATH* 154-3 Calculus I for the Biological Sciences**
This course is designed for students specializing in the biological and medical sciences. Topics include: limits, growth rate and the derivative; logarithmic, exponential and trigonometric functions and their applications in population study; optimization and approximation methods. (3-0-1) Prerequisite: MATH 151 or 154. Students may also use MATH 157 with a grade of A or B. Students with credit for MATH 155 or 158 may not take MATH 154 for further credit.

**MATH* 155-3 Calculus II for the Biological Sciences**
The integral and its applications, partial derivatives, differential equations and their applications in ecology, mathematical models of biological processes. (3-0-1) Prerequisite: MATH 151 or 154; or MATH 157 with a grade of A or B. Students with credit for MATH 152, 155, or 158 may not take MATH 154 for further credit.

**MATH 157-3 Calculus for the Social Sciences I**
This course is designed for students specializing in business or the social sciences. Topics include: limits, growth rate and the derivative; logarithmic and exponential functions and their applications in business, economics, optimization and approximation methods; functions of several variables. (3-0-1) Prerequisite: BC mathematics 12 (or equivalent) with a grade of at least B; or MATH 110 with a grade of at least C-; or (with permission of the department) MATH 100 with a grade of at least C-. Students with credit for either MATH 151 or 154 may not take MATH 157 for further credit.

**MATH 158-3 Calculus for the Social Sciences II**
Theory of integration and its applications; introduction to differential equations with emphasis on some special first-order equations and their applications to economics and social sciences; algebraic operations with matrices, systems of linear equations, determinants, introduction to linear programming. (3-0-1) Prerequisite: MATH 151 or 154 or 157.

Students with credit for MATH 152 or 155 may not take MATH 158 for further credit.

**MATH 161-0 Honors Supplement for Calculus I**
The class meets one hour each week. Students will spend most of the time working on challenging problems relating to the material of MATH 151, Calculus I but will also have the opportunity to investigate many different areas of mathematics. (0-1-0) Prerequisite: a grade of A or better in mathematics 12 (or equivalent) or a grade of A or better in MATH 151 or permission of the department. This course will be graded on a pass/no entry basis.

**MATH 162-0 Honors Supplement for Calculus II**
The class meets one hour each week. Students will spend most of the time working on challenging problems relating to the material of MATH 152, Calculus II, but will also have the opportunity to investigate many different areas of mathematics. (0-1-0) Prerequisite: a grade of A or better in MATH 151 or its equivalent and a grade of pass in MATH 161 or permission of the instructor. This course will be graded on a pass/no entry basis.

**MATH 171-1 Computer Explorations in Calculus I**
This supplement to MATH 151/154/157 gives students the opportunity to explore and investigate the underlying principles of differential calculus using leading edge computer software currently used in mathematical and scientific research and industry. Previous experience with computers would be beneficial, but it is not required. (1-0-2) Prerequisite: BC mathematics 12 (or equivalent) with a grade of at least B or MATH 100 with a grade of at least C. Corequisite: MATH 151, 154 or 157. Other students may register with special permission.

**MATH 172-1 Computer Explorations in Calculus II**
This supplement to MATH 152/155/158 gives students the opportunity to explore and investigate the underlying principles of integral calculus using leading edge computer software currently used in mathematical and scientific research and industry. Previous experience with computers would be beneficial, but it is not required. (1-0-2) Prerequisite: BC mathematics 12 (or equivalent) with a grade of at least B or MATH 100 with a grade of at least C. Corequisite: MATH 151, 154 or 157. Other students may register with special permission.

**MATH* 190-4 Principles of Mathematics for Teachers**

Mathematical ideas involved in number systems and geometry in the elementary school curriculum. Whole number, fractional number, and rational number systems. Plane geometry, solid geometry, metric geometry, and motion geometry. (4-0-1) Prerequisite: BC mathematics 11 (or equivalent) with a grade of at least C or permission of the department or the non-credit course, basic algebra. This course may not be counted toward the Mathematics minor, major or honors degree requirements. Candidates for degrees in the Faculty of Science may not use this course for the satisfaction of degree requirements. Students who have taken, have received transfer credit for, or are currently taking MATH 151, 154 or 157 may not take MATH 190 for credit without permission from the Department of Mathematics and Statistics.

**MATH 198-3 Selected Topics in Mathematics**
Topics in areas of mathematics and statistics not covered in the regular undergraduate curriculum of the department. (3-1-0) Prerequisite: dependent on the topic covered.

**MATH 232-3 Elementary Linear Algebra**
Matrix arithmetic, linear equations, and determinants. Real vector spaces and linear transformations. Inner products and orthogonality. Eigenvalues and eigenvectors. (3-0-1) Prerequisite: MATH 151 or 154 or 157.
MATH 242-3 Introduction to Analysis
Mathematical induction. Limits of real sequences and real functions. Continuity and its consequences. The mean value theorem. The fundamental theorem of calculus. Series. (3-1-0) Prerequisite: MATH 152 or 155.

MATH 251-3 Calculus III
Vectors, solid analytic geometry, differential calculus of several variables, multiple integrals, cylindrical and spherical coordinates, line integrals. (3-1-0) Prerequisite: MATH 152 or 155; or MATH 158 with a grade of A or B. Recommended: MATH 232 should be completed before this course is attempted.

MATH 252-3 Vector Calculus
Vector functions of a single variable, space curves, scalar and vector fields, conservative fields, surface and volume integrals, and theorems of Gauss, Green and Stokes. (3-1-0) Prerequisite: MATH 232 and 251. Students with credit for MATH 312 may not take MATH 252 for further credit.

MATH 291-2 Selected Topics in Mathematics
The topics included in these courses will vary from semester to semester, depending on faculty availability and student interest. (2-1-0) Prerequisites will be specified according to the particular topic or topics offered. Each course may not count more than once toward degree requirements.

MATH 292-3 Selected Topics in Mathematics
The topics included in these courses will vary from semester to semester, depending on faculty availability and student interest. (3-1-0) Prerequisites will be specified according to the particular topic or topics offered. Each course may not count more than once toward degree requirements.

MATH 308-3 Linear Programming
Theory and applications of linear programming, geometric and computational considerations, networks, applications of duality. (3-1-0) Prerequisite: MATH 232. Recommended: MATH 243 or MACM 201.

MATH 309-3 Continuous Optimization
Theoretical and computational methods for investigating the minimum of a function of several real variables with and without inequality constraints. Applications to operations research, model fitting, and economic theory. (3-1-0) Prerequisite: MATH 232 and 251. Recommended: MATH 308.

MATH 310-3 Introduction to Ordinary Differential Equations
First-order differential equations, second- and higher-order linear equations, series solutions, introduction to Laplace transform, systems and numerical methods, applications in the physical, biological and social sciences. (3-1-0) Prerequisite: MATH 152 or 155; or MATH 158 with a grade of A or B. Recommended: MATH 232 should be completed before this course is attempted.

MATH 313-3 Differential Geometry
Curvature and torsion for space curves, Frenet formulae, tangents and normals to surfaces, curvatures of a surface, special points and curves on surfaces, calculus on surfaces. (3-1-0) Prerequisite: MATH 252.

MATH 314-3 Boundary Value Problems
Separation of variables for the conduction equation, the wave equations and Laplace's equation. Sturm-Liouville problems. Separation in polar co-ordinates. Laplace transforms. (3-1-0) Prerequisite: MATH 252 (or 253) and 310.

MATH 320-3 Advanced Calculus of One Variable
Sequences and series of functions; uniform convergence; consequences of uniform convergence; improper integrals; additional applications of convergence. (3-1-0) Prerequisite: MATH 242 and 251.

MATH 322-3 Complex Variables
Functions of a complex variable, differentiability, contour integrals, Cauchy’s theorem, Taylor and Laurent expansions, method of residues. (3-1-0) Prerequisite: MATH 251. Students with credit for MATH 422 may not take MATH 322 for further credit.

MATH 332-3 Introduction to Applied Algebraic Systems
An introduction to groups, rings and fields with applications to cryptography, codes and counting techniques based on permutation groups. (3-1-0) Prerequisite: MATH 232.

MATH 336-0 Job Practicum I
This is the first semester of work experience in a co-operative education program available to mathematics students. Interested students should contact departmental advisors as early in their careers as possible, for proper counselling. (0-0-0) Prerequisite: students must apply to and receive permission from the Department of Mathematics and Statistics at least one semester in advance. They will normally be required to have completed 45 semester hours of credit with a GPA of 2.5. This course will be graded on a pass/withdraw basis. A course fee is required.

MATH 337-0 Job Practicum II
This is the second semester of work experience in a co-operative education program available to mathematics students. (0-0-0) Prerequisite: MATH 336 and permission of the co-op co-ordinator; students must apply at least one semester in advance. This course will be graded on a pass/withdraw basis. A course fee is required.

MATH 339-3 Groups and Symmetry
Symmetries, groups, subgroups and generators, isomorphisms, dihedral groups, matrix groups, products, Cayley’s Theorem, Lagrange’s Theorem and Cauchy’s Theorem. (3-1-0) Prerequisite: MATH 232.

MATH 342-3 Elementary Number Theory
Divisibility of primes, congruences, arithmetic functions and related topics. (3-0-0) Prerequisite: any 200 level MATH or MACM course.

MATH 343-3 Applied Discrete Mathematics
Discrete modelling, generation of combinatorial objects, matching theory, scheduling, applications of graphs. (3-1-0) Prerequisite: MATH 243 or MACM 201. Recommended: a computing language.

MATH 347-3 Mechanics of Deformable Media
Analysis of deformation and stress and an introduction to constitutive equations for different materials. Solution of boundary value problems for elastic solids and viscous fluids. (3-1-0) Prerequisite: MATH 252 and PHYS 120.

MATH 380-3 History of Mathematics
An account of the history of mathematics from ancient times through the development of calculus and the origins of modern algebra in the nineteenth century. Emphasis will be on developments which shaped the origins of modern algebra. (3-0-0) Prerequisite: MATH 384) or permission of the department. (3-0-0) Prerequisite: MATH 314 (or PHYS 384) or permission of the department. Recommended: MATH 313.

MATH 418-3 Partial Differential Equations
First-order equations, the wave equations, characteristics, Riemann’s method, Laplace’s equation, Green’s and Neumann’s functions, Poisson formula. (3-0-0) Prerequisite: MATH 314 (or PHYS 384) or permission of the department. Recommended: MATH 313.

MATH 419-3 Linear Analysis
Convergence in Euclidean spaces, Fourier series and their convergence, Legendre polynomials, Hermite and Laguerre polynomials. (3-0-0) Prerequisite: MATH 232, 251 and 310. Recommended: MATH 314 and 320.

MATH 424-3 Applications of Complex Analysis
Conformal mapping, application to boundary value problems, Schwarz-Christoffel transformation, integral formulas, analytic continuation, argument principle. (3-0-0) Prerequisite: MATH 322.

MATH 425-3 Introduction to Metric Spaces
Metric spaces, convergence in metric spaces, continuity, compactness, connectedness and completeness, contraction mapping principle, and other useful theorems. (3-0-0) Prerequisite: MATH 320.

MATH 436-0 Job Practicum III
This is the third semester of work experience in a co-operative education program available to mathematics students. (0-0-0) Prerequisite: MATH 337 and permission of the co-op co-ordinator; students must apply at least one semester in advance. This course will be graded on a pass/withdraw basis. A course fee is required.

MATH 437-0 Job Practicum IV
This is the fourth semester of work experience in a co-operative education program available to mathematics students. (0-0-0) Prerequisite: MATH 436 and permission of the co-op co-ordinator; students must apply at least one semester in advance. This course will be graded on a pass/withdraw basis. A course fee is required.

MATH 438-3 Linear Algebra
Linear Algebra. Vector space and matrix theory. (3-1-0) Prerequisite: MATH 332 and one of MA TH 308, 314, 343; CMPT 305 or MACM 316.

MATH 439-3 Algebraic Systems
Algebraic systems including, for example, groups, rings. Polynomial theory. (3-0-0) Prerequisite: MATH 332.

MATH 443-3 Combinatorial Theory
Burnside’s Lemma, Polya counting. (3-0-0)

Mathematics 445-3 Graph Theory
Connectivity, Eulerian graphs, Hamiltonian graphs, planar graphs, matchings, vertex coloring, and applications of graphs. (3-0-0) Prerequisite: MATH 243 or MACM 201.

Mathematics 447-4 Coding Theory
An introduction to the theory and practice of error-correcting codes. Topics will include finite fields, polynomial rings, linear and non-linear codes, BCH codes, convolutional codes, majority logic decoding, weight distribution of codes, and bounds on the size of codes. (4-0-0) Prerequisite: MATH 445-3. Recommended: MATH 332.

Mathematics 451-3 Mathematical Logic
Introduction to the theory of formal systems and to the theory of recursion. (3-1-0) Prerequisite: fifth level standing preferably with some Mathematics courses at the 400 division.

Mathematics 452-3 Set Theory
Introduction to Zermelo Fraenkel set theory. (3-0-0) Prerequisite: MATH 242.

Mathematics 462-3 Fluid Dynamics
Incompressible fluid flow phenomena: kinematics and equations of motion, viscous flow and boundary layer theory, potential flow, water waves, Aerodynamics. (3-0-0) Prerequisite: MATH 314 or PHYS 384, MATH 322.

Mathematics 466-3 Tensor Analysis
Tensors, Riemannian space, applications to classical dynamics, hydrodynamics and elasticity. (3-1-0) Prerequisite: MATH 252. Recommended: MATH 313.

Mathematics 467-3 Vibrations
Vibrations of discrete systems with many degrees of freedom; matrix methods; Non-linear vibrations; the phase plane; singular points and limit cycles. Perturbation methods; singular perturbation expansions. (3-0-0) Prerequisite: MATH 222 and 310. Recommended: MATH 263 (or PHYS 211) and MATH 314.

Mathematics 470-3 Variational Calculus
Procedures of Euler, Lagrange and Hamilton. Extremum problems, stationary values of integrals. Canonical equations of motion, phase space, Lagrangian and Poisson brackets. (3-1-0) Prerequisite: MATH 310 and either MATH 262 or PHYS 211. MATH 313 or PHYS 384 should precede or be taken concurrently.

Mathematics 471-3 Special Relativity
Space-time continuum, separation between events. Lorentz transformation. Mechanics of discrete system and of continuum. Electromagnetic field in vacuo. (3-1-0) Prerequisite: MATH 313 or PHYS 384.

Mathematics 486-0 Job Practicum V
This is an optional fifth semester of work experience in the co-operative education program available to mathematics and statistics students. (0-0-0) Prerequisite: MATH 437 and permission of the co-op co-ordinator. Students must apply at least one semester in advance.

Mathematics 491-2 Honors Essay
Selected topics. Prerequisite: written permission of the department undergraduate studies committee.

Mathematics 492-4 Directed Studies
Independent reading or research in topics selected in consultation with the supervising instructor. Prerequisite: written permission of the department undergraduate studies committee.

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Independent reading or research in topics selected in consultation with the supervising instructor. Prerequisite: written permission of the department undergraduate studies committee.

MATH 495-4 Selected Topics in Mathematics
The topics included in these courses will vary from semester to semester depending on faculty availability and student interest. (3-1-0) Prerequisite: MATH 493-4. Recommended: MATH 332.

MATH 496-4 Selected Topics in Mathematics
The topics included in these courses will vary from semester to semester depending on faculty availability and student interest. (3-1-0) Prerequisite: MATH 493-4. Recommended: MATH 332.

MATH 497-3 Directed Studies
Independent reading or research in topics selected in consultation with the supervising instructor. Prerequisite: written permission of the department undergraduate studies committee.

MATH 498-4 Selected Topics in Mathematics
The topics included in these courses will vary from semester to semester depending on faculty availability and student interest. (3-1-0) Prerequisite: MATH 493-4. Recommended: MATH 332.

MATH 499-3 Selected Topics in Mathematics
The topics included in these courses will vary from semester to semester depending on faculty availability and student interest. (3-1-0) Prerequisite: MATH 493-4. Recommended: MATH 332.

Molecular Biology and Biochemistry

Faculty of Science

MBB 221-3 Cellular Biology and Biochemistry
A study of the molecular processes which underlie cell structure and function, integrating ultrastructural, physiological and biochemical approaches. Modern techniques used in the analysis of organelle and cell function are integral parts of the course. (3-0-0) Prerequisite: BISC 101. Corequisite: CHEM 281 (or 150). Recommended: CHEM 281 precede MBB 221. Students with credit for BICH 221 may not take MBB 222 for further credit.

MBB 222-3 Molecular Biology and Biochemistry
An introduction to DNA replication and recombination, RNA transcription and protein synthesis in the context of their locations within the cell and their timing in the cell cycle. The relationship between structure and function of proteins and nucleic acids will be addressed. (3-1-0) Prerequisite: MBB 221 (or BICH 221). Corequisite: CHEM 282 (or 250). Recommended: CHEM 282 precede MBB 222. Students with credit for BICH 222 may not take MBB 222 for further credit.

MBB 311-2 Analytical Biochemistry Laboratory
The biochemical analysis of amino acids, peptides, carbohydrates, lipids, nucleotides, and nucleic acids. (0-0-4) Prerequisite: MBB 311, 312 and 321 (or BICH 311, 312 and 321). Corequisite: MBB 321 (or BICH 321) or MBB 322 (or BICH 322). Students with credit for BICH 413 may not take MBB 413 for further credit.

MBB 421-3 Nucleic Acids
Recent literature is examined for insights into the structure and properties of DNA and RNA, drawing on a variety of biochemical, chemical and molecular biological perspectives. (3-1-0) Prerequisite: BISC 331. Students with credit for BICH 421 may not take MBB 421 for further credit.

MBB 422-3 Biomembranes
A review of recent research on the structure, dynamics, function and biosynthesis of membranes, membrane lipids and proteins. (3-1-0) Prerequisite: MBB 311, 312 and 321 (or BICH 311, 312 and 321). Corequisite: MBB 403 (or BICH 403). Students with credit for BICH 422 may not take MBB 422 for further credit.

MBB 423-3 Protein Structure and Function
Recent research in transition state theory; specificity in enzyme catalyzed reactions, the use of recombinant DNA techniques to describe and modify enzyme catalysis, the function of enzymes in organic solvents, and the development of new catalytic activities through monoclonal antibody techniques. (3-1-0) Prerequisite: BISC 331 and either MBB 321 (or BICH 321) or MBB 322 (or BICH 322). Students with credit for BICH 423 may not take MBB 423 for further credit.

MBB 426-3 Immunology
This course aims at covering the field of immunology, with emphasis on the human immune system. The first half of the course covers topics explaining how immune recognition occurs, whereas the second half of the course covers topics involving disease states.
Students who have not yet taken an undergraduate research course and wish to complete an individual studies project in one semester. The course will include the preparation of a comprehensive written research report on the results of the project, and may also, at the discretion of the supervisor, include an oral presentation of the results. Prerequisite: permission of the molecular biology and biochemistry advisor (for criteria of approval, see below). Students with credit for BICH 493 may not take MBB 493 for further credit.

**Nuclear Science Faculty of Science**

**Requirements for the nuclear science minor program are listed in the Department of Chemistry.**

See also courses listed under Chemistry (CHEM) and Physics (PHYS).

**NUSC 341-3 Introduction to Radiochemistry**

Brief description of the nucleus and its decays and reactions; interaction of radiation with matter; nuclear instrumentation; radioisotopes in chemistry; activation analysis and related analytical techniques; other applications of nuclear techniques; nuclear reactors and nuclear fusion. (3-1-0) Prerequisite: completion of 60 credit hours in a science program, including first year calculus, chemistry and physics.

**NUSC 342-3 Introduction to Nuclear Science**

Review of nuclear properties and systematics. Properties of the nuclear force; shell model and structure of complex nuclei, nuclear decay via particle emission and spontaneous fission; experimental description of nuclear reactions; nuclear and heavy ion reactions. (3-1-0) Prerequisite: NUSC 341 or permission of the department. Recommended: MATH 251

**NUSC 344-3 Nucleosynthesis and Distribution of the Elements**

Formation and distribution of the chemical elements in the early universe, in present stellar environments and in the solar system; elemental abundances and isotopic ratios; and radiometric chronology techniques. (3-1-0) Prerequisite: completion of 60 credit hours in a science program, including first year calculus, chemistry and physics.

**NUSC 346-2 Radiochemistry Laboratory**

Introduction to the techniques of radiochemistry; proportional and Geiger counters; sample preparations and half-life measurement; synthesis and separation of labelled compounds; beta and gamma-ray spectroscopy. (0-0-4) Prerequisite: NUSC 341.

**NUSC 444-3 Special Topics in Nuclear Science**

Advanced topics in nuclear science. (3-1-0) Prerequisite: NUSC 342 or 442, or permission of the department.

**NUSC 485-3 Particle Physics**

Physics of elementary particles. Symmetries, strong interactions, electromagnetic interactions, weak interaction. (3-1-0) Prerequisite: PHYS 385 or CHEM 361 or permission of the department.

**Philosophy Faculty of Arts**

**PHIL 001-3 Critical Thinking**

An introduction to the evaluation of arguments as they are encountered in everyday life. The central aim will be to sharpen skills of reasoning and argumentation by understanding how arguments work and learning to distinguish those which actually prove what they set out to show from those which do not. Open to all students. (lecture/tutorial)

**PHIL 100-3 Knowledge and Reality**

An introduction to some of the central problems of philosophy. Topics to be discussed include the different theories of reality; the nature and sources of knowledge; truth, evidence, and reason; the justification of belief and knowledge about the universe. These topics and problems will be considered as they arise in the context of issues such as: relativism versus absolutism; the existence of God; personal identity; the nature of the mind and its relation to the body; free-will and determinism; the possibility of moral knowledge. (lecture/tutorial)

**PHIL 110-3 Introduction to Logic and Reasoning**

The aim of this course is to familiarize students with fundamental techniques of correct reasoning. Special attention is given to the methods of logic in particular, and to their role in the discovery of truth not only within science and philosophy but within all forms of rational enquiry. (lecture/tutorial)

**PHIL 120-3 Introduction to Moral Philosophy**

An introduction to the central problems of ethics; for example, the nature of right and wrong, the objectivity or subjectivity of moral judgments, the relativity or absolutism of values, the nature of human freedom and responsibility. The course will also consider general moral views such as utilitarianism, theories or rights and specific obligations, and the ethics of virtue. These theories will be applied to particular moral problems such as abortion, punishment, distributive justice, freedom of speech, and racial and sexual equality. Sometimes the course will also focus on important historical figures such as Plato, Aristotle, Kant and Mill. (lecture/tutorial)

**PHIL 150-3 History of Philosophy I**

A survey of philosophic thought from late antiquity to the Renaissance. Special attention will be given to the works of Descartes, Leibniz, Spinoza, Locke, Berkeley, Hume, Kant, Hegel and Mill. The views of these great thinkers have helped to shape the ways in which we see the world. This course is therefore recommended to everyone with an interest in our intellectual heritage. (lecture)

**PHIL 151-3 History of Philosophy II**

A survey of philosophic thought from the Renaissance to the 20th Century. Special attention will be given to the works of Descartes, Leibniz, Spinoza, Locke, Berkeley, Hume, Kant, Hegel and Mill. The views of these great thinkers have helped to shape the ways in which we see the world. This course is therefore recommended to everyone with an interest in our intellectual heritage. (lecture)

**PHIL 203-3 Metaphysics**

An examination of central problems of metaphysics such as space and time, universals and particulars, substance, identity and individuation and personal identity. (lecture/tutorial) Prerequisite: one of PHIL 100, 150, 151.

**PHIL 210-4 Natural Deductive Logic**

This course studies a natural deductive system of propositional and quantificational logic, the first-order theory of identity and the first-order theory of relations. Topics include the metatheory of propositional logic and the application of formal logic to the assessment of natural language arguments. (lecture/tutorial)

**PHIL 214-3 Axiomatic Logic**

This course studies the metatheory of axiomatic propositional and quantificational logic. Topics include proof theory, the metatheory of propositional logic, the proof theory of first-order logic, first-order models, soundness and completeness. (lecture/tutorial) Prerequisite: one of PHIL 210, MACM 181, MATH 144, CMPT 205.
PHIL 200-3 Introduction to Social and Political Philosophy
An introduction to central problems of political and social philosophy: for example, the basis of political obligation, the proper limits of state power, the appropriate scope of individual liberty, and the nature of social justice. Sometimes the course will focus on the views of historically important political philosophers such as Plato, Aristotle, Hobbes, Locke, Rousseau, Burke, Bentham, Mill, and Marx. (lecture/tutorial)

PHIL 231-3 Selected Topics
A specific topic, philosopher or philosophical work to be dealt with as occasion and demand warrant. (lecture/tutorial)

PHIL 232-3 Selected Topics
A specific topic, philosopher or philosophical work to be dealt with as occasion and demand warrant. (lecture/tutorial)

PHIL 240-3 Philosophy of Religion
A critical analysis of classic and contemporary arguments concerning the rationality of belief in God, and related issues. (lecture/tutorial)

PHIL 241-3 Philosophy in Literature
Philosophical themes in the writings of such authors as Voltaire, Dostoevski, Sartre, Camus, and Golding. (lecture/tutorial)

PHIL 242-3 Philosophy of Art
An examination of issues concerning the nature of works of art. The course will include a consideration of rival theories of art such as: art as expression, art as representation, and art as significant form. Theories of aesthetic criticism will be studied in relation to taste, personal experience, and truth. (lecture/tutorial)

PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
An introduction to philosophical issues concerning the nature of science. Topics to be discussed include the distinction between science and pseudo-science, the nature of scientific method, the nature of explanation in the natural and social sciences, the phenomenon of scientific change, the relationship between scientific theory and observation, and the objectivity of social science. (lecture/tutorial)

PHIL 280-3 Introduction to Existentialism
A study of existentialist philosophers such as Kierkegaard, Nietzsche, Heidegger, Sartre, and Camus and a survey of precursors such as Kant and Hegel. (lecture/tutorial)

PHIL 300-3 Introduction to Philosophy
An introductory course specifically intended for students in other departments who have at least 60 semester hours credit. This course is more advanced than 100 and 200 division courses and is of interest to students not only in the humanities, but also in the natural and social sciences. (lecture/tutorial) Prerequisite: at least 60 semester hours credit. Normally, students with credit for PHIL 100 may not take this course for further credit. This course does not count towards the upper division requirements for a student pursuing a minor, major, or honors program in philosophy.

PHIL 301-3 Epistemology
An examination of central theories of knowledge such as realism, idealism, pragmatism, phenomenalism, rationalism, empiricism, and causal theories of knowledge. Other topics to be discussed may include, for example, the Gettier problem, scepticism, the nature of belief, reason, and sensation, the problem of induction, and foundationalism. (seminar) Prerequisite: one of PHIL 100, 150, 151; PHIL 203.

PHIL 310-3 Modal Logic and its Applications
(seminar) Recommended: PHIL 210, 214, or an otherwise suitable background.

PHIL 314-3 Topics in Logic I
An examination of one or more topics such as: philosophical logic; deontic logic; the logic of knowledge and belief; the logic of preference; tense logic; foundations of set theory; recursive functions; the history of logic. (seminar) Recommended: PHIL 210, 214, or an otherwise suitable background.

PHIL 320-3 Social and Political Philosophy
An examination of an issue or selection of issues in social and political philosophy. Contemporary or historical readings or a mixture of these will be used. Possible topics include: justice, the law and legal systems, sovereignty, power and authority, democracy, liberty and equality. Sometimes the course will focus on the views of historically important political philosophers, such as Plato, Aristotle, Hobbes, Locke, Rousseau, Burke, Bentham, Mill, and Marx. (seminar) Prerequisite: PHIL 120 or 220.

PHIL 321-3 Moral Issues and Theories
An advanced investigation of central issues and theories in moral philosophy. In any given term, the course may focus on a general theory or concept or concern, for example meta-ethics, utilitarianism, or theories of rights. Sometimes it will focus on a particular problem or problems, such as medical ethics, moral personhood, or free will and moral responsibility. (seminar) Prerequisite: PHIL 120.

PHIL 331-3 Selected Topics
A specific topic, philosopher or philosophical work to be dealt with as occasion and demand warrant. (lecture/tutorial) Prerequisite: as stated by department at time of offering.

PHIL 332-3 Selected Topics
(Lecture) Prerequisite: as stated by department at time of offering.

PHIL 333-3 Selected Topics
(Lecture) Prerequisite: as stated by department at time of offering.

PHIL 341-3 Philosophy of Science
A study of the nature of scientific enquiry, classificatory systems, laws and theories, the role of observation in science, the demarcation between science and non-science, causality, the status of theoretical constructs, and teleological explanation. (seminar) Prerequisite: PHIL 100 and 203, or COGS 200; PHIL 210 or 214.

PHIL 343-3 Philosophy of Mind
A study of theories of the mind, consciousness, and human action. (seminar) Prerequisite: PHIL 100 and 203, or COGS 200.

PHIL 344-3 Philosophy of Language I
An introduction to the major philosophical theories of language. Topics to be considered include the relationship between language and mind, language and the world, language and society. (seminar) Prerequisite: PHIL 100 and 203, or COGS 200.

PHIL 350-3 Ancient Philosophy
(seminar) Prerequisite: PHIL 100 or 150.

PHIL 353-3 Locke and Berkeley
(seminar) Prerequisite: PHIL 100 or 151.

PHIL 354-3 Descartes and Rationalism
(seminar) Prerequisite: PHIL 100 or 151.

PHIL 355-3 Hume and Empiricism
(seminar) Prerequisite: PHIL 100 or 151.

PHIL 360-4 Seminar I
(seminar) Prerequisite: as stated by department at time of offering.

PHIL 421-4 Ethical Theories
A highly focused, advanced examination of a selection of topics in normative or meta-ethics. (seminar) Prerequisite: one of PHIL 120, 320, or 321.

PHIL 435-4 Selected Topics
A specific topic, philosopher or philosophical work to be dealt with as occasion and demand warrant. (lecture/tutorial) Prerequisite: two 300 level Philosophy courses.

PHIL 444-4 Philosophy of Language II
Advanced topics in recent work in philosophy of language, such as meaning, reference, speech acts, and language and thought. (seminar) Prerequisite: PHIL 210 or 214.

PHIL 451-4 Kant
(seminar) Prerequisite: at least one of PHIL 353, 354, 355.

PHIL 452-4 Nineteenth Century European Philosophy
An examination of one or more major philosophers from the European tradition, such as Hegel, Nietzsche, Schopenhauer, Comte, Fichte, Schelling, and Kierkegaard. (seminar) Prerequisite: at least two of PHIL 353, 354, 355, 451.

PHIL 453-4 Background to Analytical Philosophy
The development of philosophical thought in the late 19th and early 20th centuries. Selections from the writings of F.H. Bradley, G. Frege, B. Russell, and the early Wittgenstein. (seminar) Prerequisite: two 300 level PHIL courses.

PHIL 455-4 Contemporary Issues in Epistemology and Metaphysics
(seminar) Prerequisite: two 300 level PHIL courses.

PHIL 456-4 Twentieth Century European Philosophy
A study of a representative figure or figures from major movements of contemporary continental philosophy. (seminar) Prerequisite: at least two of PHIL 353, 354, 355, 451, 452.

PHIL 467-4 Seminar II
(seminar) Prerequisite: two 300 level PHIL courses.

PHIL 477-5 Honors Tutorial I
(seminar) Prerequisite: PHIL 477 is a requisite for all honors students, and must be taken in one of the last two semesters of the student’s philosophy program. It must be taken concurrently with or consecutively to PHIL 478. At least eight weeks prior to the semester in which they wish to enrol in PHIL 477, honors students should obtain departmental approval of a proposed syllabus and arrange for faculty supervision of the course.

PHIL 478-5 Honors Tutorial II
(seminar) Prerequisite: PHIL 478 is a requisite for all honors students, and must be taken in one of the last two semesters of the student’s philosophy program. It must be taken concurrently with or consecutively to PHIL 477. At least eight weeks prior to the semester in which they wish to enrol in PHIL 477, honors students should obtain departmental approval of a proposed syllabus and arrange for faculty supervision of the course.

Physics
Faculty of Science
See also courses listed under Nuclear Science (NUSC).

For courses marked with an asterisk (*), tutorials will be held in the open workshop format, i.e. unstructured periods each week when teaching assistants are available to answer questions and help with problem assignments.

Minimum Grade Requirement
Students wishing to register for Physics courses must have obtained a grade of C- or better in prerequisite courses.
PHYS* 100-3 Introduction to Physics
A course for students with relatively weak backgrounds in physics. Kinematics and dynamics; waves; optics; electricity and magnetism. (3-0-1) Prerequisite: BC high school algebra 12 (or equivalent) or MATH 100 (may be taken concurrently). Students who have obtained a grade of C+ or better in BC high school Physics 12 (or its equivalent) or who have taken any further physics course normally may not take PHYS 100 for credit.

PHYS* 101-3 General Physics I
A general survey course for life science students. Kinematics and dynamics, including rotational motion; fluids, properties of matter and thermal physics. (3-0-1) Prerequisite: BC high school physics 12 or PHYS 100. Corequisite: MATH 151, 154 or 157 must precede or be taken concurrently. Students with credit for PHYS 120 may not take PHYS 101 for further credit.

PHYS* 102-3 General Physics II
A general survey course for life science students. Waves and optics; electricity ad magnetism; modern physics emphasizing radioactivity. (3-0-1) Prerequisite: PHYS 101. Students with credit for PHYS 121 may not take PHYS 102 for further credit. Recommended corequisite: MATH152, 155 or 158 should precede or be taken concurrently. Students are encouraged to take PHYS 130 at the same time as PHYS 102.

PHYS* 120-3 Modern Physics and Mechanics
A general survey course for students in the physical sciences. A survey of physical phenomena from quarks to galaxies, statics and dynamics, special relativity, rotational motion, elementary quantum ideas. (3-0-1) Prerequisite: BC high school physics 12 or PHYS 100. Students with credit for PHYS 101 may not take PHYS 120 for further credit. Corequisite: MATH 151 or 154 must precede or be taken concurrently.

PHYS* 121-3 Optics, Electricity and Magnetism
A general survey course for students in the physical sciences. Light, geometrical optics, electricity, simple circuits, magnetism, applied physics. (3-0-1) Prerequisite: PHYS 120 or PHYS 101 with a grade of A or B. Students with credit for PHYS 102 may not take PHYS 121 for further credit. Corequisite: MATH 151 or 154 should precede or be taken concurrently.

PHYS 130-2 General Physics Laboratory
Elementary experiments in optics, electricity, mechanics and heat that are designed to augment the general survey course. (0-0-4) Prerequisite: PHYS 102 should be taken concurrently or may precede; by permission of the department. Students may not count more than one of PHYS 130 or 131 for credit.

PHYS 131-2 Physics Laboratory I
Elementary experiments in optics, electricity, mechanics and heat that are designed to augment the general survey course. (0-0-4) Students may not count more than one of PHYS 130 or 131 for credit. Corequisite: PHYS 121 should be taken concurrently or may precede; by permission of the department.

PHYS 181-3 Introduction to Physical Science in Archaeology
A course in basic physical ideas and how they are applied in archaeology. Topics included are: the structure of matter, radioactive decay, electromagnetic radiation and magnetism, and how they are used in radiocarbon dating, thermoluminescence dating, magnetic dating, x-ray fluorescence analysis and magnetometer surveying. (3-1-0) Prerequisite: BC high school algebra 12 (or equivalent) and physics 11.

PHYS 190-3 Introduction to Astronomy
Historical astronomy, telescopes, the sun and the solar system, stellar evolution, galaxies, cosmology. (3-1-0)
permission of the department. Non-Physics majors may enter with MATH 252, 310 and either PHYS 211 or MATH 263.

**PHYS 415-3 Quantum Mechanics**

Foundations of quantum mechanics, Schroedinger equation, perturbation theory, angular momentum, applications. (3-1-0) Prerequisite: PHYS 385 and either PHYS 384 or MATH 314 and 419.

**PHYS 425-3 Electromagnetic Theory**

Electrostatics and boundary value problems, magnetic fields, Maxwell equations and their relativistic formulation, radiation and propagation of electromagnetic waves. (3-1-0) Prerequisite: PHYS 265, 384 (or PHYS 221 and MATH 314).

**PHYS 430-5 Digital Electronics and Interfacing**

Digital logic design with particular apparatus. Construction and use of interface devices for various laboratory experiments. Computer data reduction. (2-0-4) Prerequisite: PHYS 326 and 331; or permission of the instructor.

**PHYS 431-4 Advanced Physics Laboratory I**

Advanced experiments in physics. May include special projects. (0-0-6) Prerequisite: PHYS 331 and 385. Recommended: PHYS 332

**PHYS 432-5 Undergraduate Honors Thesis**

Undergraduate research and preparation of an honors thesis. The research project may be in experimental or theoretical physics. Prospective students must obtain agreement of a faculty member willing to supervise the project, and submit the project to the physics department for approval at least two months prior to registering for the course. The research must be done during the semester in which the student is registered for the course, and may not be part of a co-op practicum. The course will be graded on the basis of the honors thesis, which must be submitted before the end of the semester. (0-0-10) Prerequisite: all students interested in taking this course must consult with their faculty supervisor regarding prerequisites; normally requires PHYS 431.

**PHYS 435-0 Practicum III**

This is the third semester of work experience in a co-operative education program available to students who are studying physics or related areas, such as biophysics, chemical physics or mathematical physics. Prerequisite: PHYS 336 and 60 hours of credit with a minimum cumulative GPA of 2.75.

**PHYS 436-0 Practicum IV**

This is the fourth semester of work experience in a co-operative education program available to students who are studying physics or related areas, such as biophysics, chemical physics or mathematical physics. Prerequisite: PHYS 435 followed by 12 hours of credit. A minimum cumulative GPA of 2.75.

**PHYS 437-0 Practicum V**

This is an optional fifth semester of work experience in a co-operative education program available to students who are studying physics or related areas such as biophysics, chemical physics or mathematical physics. Prerequisite: PHYS 436 and a minimum cumulative GPA of 2.75. Students should apply to the department at least one semester in advance. A course fee is required. This course is evaluated on a pass/withdrawal basis.

**PHYS 445-3 Statistical Physics**

Postulates of statistical mechanics, partition functions, applications to gases, paramagnetism and equilibrium. Quantum statistics and applications. (3-1-0) Prerequisite: PHYS 244 or CHEM 360. Recommended: PHYS 385.

**PHYS 455-3 Applied Optics**

Interaction between light and matter, population inversion, stimulated emission, optical resonators, temporal and spatial coherence, gain and power output of laser oscillators. Selected topics in applied optics such as crystal optics, light modulation, fibre optics, non-linear optics and opto-electronic devices and components. Applications of lasers. (3-1-0) Prerequisite: PHYS 355 and 385.

**PHYS 465-3 Solid State Physics**

Crystal structure, lattice vibrations and thermal properties of solids, free electron model, band theory, applications. (3-1-0) Prerequisite: PHYS 385.

**PHYS 484-3 Nonlinear Physics**

Nonlinear mechanics, nonlinear lattice dynamics, competition phenomena, applications in optics and chemistry, forced oscillations, chaos. (3-1-0) Prerequisite: PHYS 384 or permission of the department.

**PHYS 490-3 General Relativity and Gravitation**

Gravity and space-time, Einstein's equations and their solution, tests of relativity, black holes, stellar equilibrium and collapse, cosmological models. (3-1-0) Prerequisite: PHYS 285 or MATH 471; PHYS 384.

**PHYS 492-2 Special Topics in Physics**

Studies in areas not included within the undergraduate course offerings of the Department of Physics. (2-0-0) Prerequisite: permission of the department.

**PHYS 493-3 Special Topics in Physics**

Studies in areas not included within the undergraduate course offerings of the Department of Physics. (3-0-0) Prerequisite: permission of the department.

**Political Science**

**Faculty of Arts**

**POL 100-3 Introduction to Politics and Government**

A comprehensive introduction to the study of politics and government for both political science majors and students specializing in other disciplines. The course will explore the major concepts, methods, approaches and issues in political science, as well as the primary components of government structure and the political process. (lecture/tutorial)

**POL 151-3 The Administration of Justice**

The development of laws and their application to the citizen and social groups. Special consideration will be given to civil liberties. (lecture/tutorial)

**POL 201-3 Research Methods in Political Science**

An introduction to quantitative research techniques in political science. (lecture/tutorial) Prerequisite: POL 100 or 151. Students with credit for POL 213 or SA 255 may not take POL 201 for further credit.

**POL 210-3 Introduction to Political Philosophy**

An examination of concepts presented by the major political thinkers of the western world. The course will begin with Plato and end by contrasting these perspectives in modern political philosophy. (lecture/tutorial) Prerequisite: POL 100 or 45 credit hours.

**POL 211-3 Politics and Ethics**

An examination of the principal methods of political and ethical theories and hermeneutics. (lecture/tutorial) Prerequisite: POL 213 or 211. Students who have completed POL 315 may not take SA 355 for further credit.

**POL 314-4 Theory and Explanation in Political Science**

A discussion of the major political ideologies which provide support for and justification of the actions of individuals and groups in the contemporary world. (lecture/seminar) Prerequisite: POL 100 or 151. Students with credit for POL 213 or SA 255 may not take POL 314 for further credit.

**POL 315-4 Quantitative Methods in Political Science**

A discussion of the principal methods of empirical research in political science. This course is equivalent to SA 355. (lecture/tutorial) Prerequisite: STAT 203 (formerly 103), or POL 201 or SA 255. Students who have completed POL 315 may not take SA 355 for further credit.

**POL 316-4 Selected Topics in Political Theory (lecture)**

Prerequisite: POL 210.

**POL 321-4 The Canadian Federal System**

Development of the federal system including topics such as the division of powers, parties, federal-provincial relations and theories of federalism. (lecture/seminar/lab) Prerequisite: POL 221 and 222.
POL 322-4 Canadian Political Parties
Development of the Canadian party system. Party ideologies, organization, campaigns and elections. (lecture/seminar) Prerequisite: POL 221 and 222.

POL 323-4 Provincial Government and Politics
An examination of the historical development of the provinces and the role they have played in Confederation. The course surveys the evolution of provincial economies, societies and governments in order to understand the contemporary issues and problems faced by Canada’s provincial states. (seminar) Prerequisite: POL 221 and 222.

POL 324-4 The Canadian Constitution
An analysis of the Canadian constitution from a theoretical and comparative perspective. Amendment, entrenchment, civil rights. (lecture/seminar/lab) Prerequisite: POL 221 and 222.

POL 327-4 Globalization and the Canadian State
In an era of globalization, what scope remains for national politics? Does globalization lead to a deficit of democracy? This course examines the challenge that globalization poses for the Canadian political system. Emphasis is placed on globalization’s impact on the organization, activities and role of Canadian State. (lecture/seminar) Prerequisite: 60 credit hours or permission of the department.

POL 329-4 Selected Topics in Canadian Government and Politics
(lecture) Prerequisite: POL 221 or 222.

POL 330-4 Government and Politics: Western Europe
An introduction to the political systems of Western Europe. The analysis of patterns of political development, political culture, party systems, and political processes will be highlighted. (lecture/seminar/lab) Prerequisite: POL 231.

POL 332-4 Government and Politics: United States
An examination of the American political system, including the presidency, the congress, the courts, the bureaucracy and the party system. (lecture/seminar) Prerequisite: POL 231.

POL 333-4 Soviet and Post-Soviet Political Systems
A comprehensive introduction to the evolution of the Soviet political system and the post-Soviet successor states. Topics examined will include the factors responsible for the disintegration of the USSR, the structure and dynamics of the Russian political system and the problems of post-communism through the Eurasian region. (lecture/seminar) Prerequisite: POL 231.

POL 334-4 East European Political Systems
A comprehensive introduction to the political organization and political dynamics of the east European states including an examination of the various contemporary issues and problems which have influenced the political development of those countries. (lecture/seminar) Prerequisite: POL 231.

POL 335-4 Government and Politics: People’s Republic of China I
An examination of the political development of China in modern times with special emphasis on political culture and its relationship to political institutions, political processes and political behavior. (lecture/seminar/lab) Prerequisite: POL 231.

POL 336-4 Government and Politics: People’s Republic of China II
An analysis of China’s current constitutional structure, modernization program, post cultural revolution period, and development in both domestic and international affairs. Emphasis will be placed on explanations of political change and perspectives for future development. (lecture/seminar/lab) Prerequisite: POL 335.

POL 337-4 Government and Politics: Selected Latin American Nations I
An examination of the political systems of selected Latin American nations, including an analysis of political culture, political economy, political institutions, interest groups and both formal and informal political processes. (lecture/seminar) Prerequisite: POL 231.

POL 339-4 Selected Topics in Comparative Government and Politics
(lecture) Prerequisite: POL 231.

POL 341-4 International Integration and Regional Association
Theories of integration, and the empirical analysis of selected regional associations, historical and contemporary. Imperialism, federation, association. (lecture/seminar/lab) Prerequisite: POL 241.

POL 342-4 Relations Between Developed and Developing Nations
Problems arising from the disparities in power and wealth between the highly industrialized countries of Europe and North America, and the under-industrialized countries of Asia, Africa and Latin America. (lecture/seminar) Prerequisite: POL 241.

POL 343-4 Global Political Economy
An introduction to the study of the international political economy, with an emphasis on the interaction between the state and markets, and the basic political-institutional relationships of trade, money and finance, international investment, foreign debt and foreign aid. (lecture/seminar/lab) Prerequisite: POL 241.

POL 344-4 Public International Law
Sovereignty, nationality, jurisdiction, arbitration. Examination of selected cases exemplifying present trends in the international legal order. (lecture) Prerequisite: POL 241.

POL 345-4 The Nation-State and the Multinational Corporation
A study of relations between multinational enterprise and national interests in developed and developing countries. (lecture/seminar) Prerequisite: POL 241.

POL 346-4 International Organizations
An examination of the structures and processes and the main substantive decisions of the United Nations and related international organizations, based upon in-depth study of the UN Charter, the Security Council, General Assembly, Secretary-General and Secretariat and their constitutional and political interactions since 1945, with special attention to the theory and practice of international organization advanced by the principal Western countries, the Soviet Union and Soviet bloc, the People’s Republic of China and leading Third World countries. (lecture/seminar) Prerequisite: POL 241. Students who have credit for POL 141 may not take this course for further credit.

POL 347-4 Introduction to Canadian Foreign Policy
An overview of Canadian foreign policy post World War II. Various perspectives are discussed including realism, economic nationalism, liberal-internationalism and political economy/dependency analysis. A variety of analytical perspectives are used to examine issue-areas such as foreign trade including the role of NAFTA, defence policy and alliance relations, foreign investment, foreign aid, immigration policy, energy policy and the role of domestic political factors in foreign policy decision-making. (lecture/seminar/lab) Prerequisite: POL 221 or 222, and 241. This course may serve as a field B or D course for departmental requirements. Students with credit for POL 421 may not take this course for further credit.

POL 348-4 International Conflict Resolution
The course concentrates on negotiation, preventive diplomacy, crisis management and conflict termination. Methods of peaceful and coercive diplomatic resolution of international conflicts will be explored, with emphasis on investigation of the various contributions that have been made by United Nations peacekeeping, peacemaking and peace enforcement operations. Course simulation work, when used, will focus on problems of containing the proliferation of weapons of mass destruction. (lecture/seminar/lab) Prerequisite: POL 241. Students with credit for POL 442 may not take this course for further credit.

POL 349-4 Selected Topics in International Relations
(lecture) Prerequisite: POL 241.

POL 351-4 The Public Policy Process
Combines a practical analysis of the structures and processes surrounding contemporary policy issues and a theoretical analysis of alternative approaches to the study of public issues and a theoretical analysis of alternative approaches to the study of public policy-making. (lecture) Prerequisite: POL 251 or 221.

POL 352-4 Urban and Local Governance in Canada
A comparative study of local government in Vancouver, Winnipeg and Toronto. The nonpartisan tradition and interest groups. Relations with other levels of government. (seminar) Prerequisite: POL 252.

POL 353-4 Public Sector Management
A detailed analysis of administrative planning in the public sector, particularly as it relates to the Canadian government. The significance of financial management and personnel management to the overall planning will be emphasized. (seminar) Prerequisite: POL 251 or 221. Students with credit for POL 356 may not take this course for further credit.

POL 354-4 Comparative Metropolitan Governance
A comparative analysis of regional metropolitan governance in Canada and selected other jurisdictions (such as the USA, UK, etc.). The course involves an examination of major policy dilemmas in urban development, and of the local, regional and senior intergovernmental relations within which much of the public policy making in metropolitan settings takes place. (seminar) Prerequisite: POL 252.

POL 355-4 Governing Instruments
Examines and compares the various means at the disposal of government for implementing policy options, including regulation, the creation or privatization of public enterprises, the delivery or contracting out of services, taxation and tax expenditures, and any other administrative or legislative processes that governments in Canada and/or in similar countries have used to manage the economy or effect social change. (seminar) Prerequisite: POL 251. Students with credit for POL 452 may not take this course for further credit.

POL 356-4 The Political Economy of Labor
Examines the ways in which economic and political forces are constantly changing the nature of work. The focus will be on both paid and unpaid labor; the problems of inequality; and the ways in which workers have organized to protect their interests. The course material will deal mainly, although not exclusively, with the political economy of labor in contemporary Canada. 0.4-0.0 Prerequisite: 60 credit hours or permission of the department.

POL 357-4 Law and Politics
An examination of cases and issues designed to acquaint students with main themes and conventions of public law. (seminar) Prerequisite: POL 151 or 221.
POL 359-4 Selected Topics in Governance
(lecture) Prerequisite: POL 151 or 251 or 252 or 221.

POL 381-4 Politics and Government of Japan I
The political system of Japan, including an analysis of political behavior and both formal and informal political processes. Emphasis will be placed on the pre-World War II political development of Japan. (lecture/seminar) Prerequisite: POL 231.

POL 382-4 Politics and Government of Japan II
This course deals with the political system of Japan, including an analysis of political behavior and both formal and informal political processes. Emphasis will be placed on the post-war development of Japan as a democratic polity. (lecture/seminar) Prerequisite: POL 381.

POL 411-4 Normative Political Theory
An examination of the major political norms which have oriented public conduct and provided the standards for evaluating the quality of public life: liberty, justice, equality, participation, privacy, public interest, accountability, obedience, dissent and resistance. (seminar) Prerequisite: POL 312 or 313 (or 212) or PHIL 320.

POL 414-4 The Liberal Tradition
An examination of the development of liberalism from the time of Locke to contemporary reliance on revisionist and neoclassical or libertarian currents. (seminar) Prerequisite: POL 210 and 72 credit hours.

POL 416-4 Feminist Social and Political Thought
This course will examine the works of major feminist thinkers and the problems of developing feminist theory. (seminar) Prerequisite: POL 210.

POL 417-4 Human Rights Theories
This course introduces the student to the problems involved in the assertion of universal moral standards across political and cultural divides. These issues will be explored at a theoretical level, and in the context of specific human rights controversies. (seminar) Prerequisite: POL 210 and 231. Recommended: PHIL 220 or 320.

POL 418-4 Selected Topics in Political Theory I
(seminar) Prerequisite: POL 210.

POL 419-4 Selected Topics in Political Theory II
(seminar) Prerequisite: POL 210.

POL 422-4 Canadian International Security Relations
The course traces the evolution of Canadian thinking on national international security issues through an examination of pre-World War II isolationism, elite attitudes during the Cold War, the formative period of NATO, as well as Canadian involvement in the Korean and Indo-China conflicts. More recent policies concerning ALCM testings, NORAD, and nuclear non-proliferation will also be explored in detail. (seminar/lab) Prerequisite: POL 221 or 222, POL 241 and 347 (formerly 421). This course may serve as a field B or D course for departmental requirements.

POL 423-4 BC Government and Politics
The legislature, political parties, pressure groups, relations with other governments, and other aspects of the policy process. (seminar) Prerequisite: POL 221 and 222.

POL 424-4 Quebec Government and Politics
An examination of the political culture and institutions in the province of Quebec with particular emphasis on the period since 1960. (seminar) Prerequisite: POL 221 and 222.

POL 426-4 Canadian Political Behavior
The study of political attitudes and behavior in Canada. Topics will include public opinion, elections and voting behavior. (seminar/lab) Prerequisite: POL 221 or 222. Students with credit for POL 326 may not take this course for further credit.

POL 427-4 The Legislative Process in Canada
An analysis of the role of the federal and provincial legislatures in the policy process, their strengths and weaknesses, and prerequisites for reform. (seminar/lab) Prerequisite: POL 221 and 222. Students with credit for POL 325 may not take this course for further credit.

POL 428-4 Selected Topics in Canadian Government and Politics I
(seminar) Prerequisite: POL 221 and 222.

POL 429-4 Selected Topics in Canadian Government and Politics II
(seminar) Prerequisite: POL 221 and 222.

POL 430-4 Government and Politics: Selected Asian Nations
An examination of the political organizations in Asia since the end of colonial rule. The problems of national integration, social and economic equality, and political participation. The role of elites, party organizations, the bureaucracy, army, and political parties in nation-building will also be considered. (seminar) Prerequisite: POL 312.

POL 431-4 Comparative Western European Systems
An advanced examination of the political life of Western European democracies, with special attention to issues of comparative and theoretical importance, such as the causes and consequences of various types of party systems and the determinants of democratic stability. (seminar/lab) Prerequisite: POL 312.

POL 432-4 Comparative Communist and Post-Communist Political Systems
A comparative examination of the emergence and development of communist political systems and also the impact of that experience on the various post-communist successor states undergoing the process of regime transition in Eurasia and eastern Europe. The course will focus on theoretical issues pertaining to the topics considered, and case studies of specific countries. (seminar) Prerequisite: POL 231.

POL 433-4 Comparative Developing Systems
A survey of political problems in selected Third World countries. Topics covered will include: the preconditions for democracy, the role of military governments, possibilities of revolution, and the meaning of economic dependency. (seminar/lab) Prerequisite: POL 231 and one of POL 335, 336, 337, 338, 339, 414, 430.

POL 435-4 Comparative Federal Systems
Comparative analysis of federations such as the Canadian, American, West German, Yugoslavian, Soviet, Indian and Swiss. (seminar/lab) Prerequisite: POL 231.

POL 436-4 Elections, Parties and Governments in Comparative Perspective
An examination of the processes by which governments are created, maintained, and destroyed in democratic systems. The effects of different regime types, electoral arrangements, and party systems will be highlighted. (lecture/seminar) Prerequisite: POL 231.

POL 438-4 Selected Topics in Comparative Government and Politics I
(seminar) Prerequisite: POL 231.
PSYC 201-4 Research Methods in Psychology
An introduction to the procedures used in psychological research, and to the logic underlying them. Topics include the strengths and weaknesses of different approaches to research, the formulation of testable questions, the control of extraneous influences, the measurement of effects, and the drawing of valid conclusions from empirical evidence. Provides a background for senior psychology courses since it offers a basis for the critical evaluation and conduct of research. (lecture/laboratory) Prerequisite: PSYC 100 and 102, or (PSYC 101). See the Letters of Permission section within the undergraduate Department of Psychology.

PSYC 210-4 Data Analysis in Psychology
Covers basic descriptive and inferential techniques most appropriately applied to the various forms of data from psychological research. Should be completed by majors and honors before the end of semester 4. (lecture/laboratory) Prerequisite: PSYC 201 and BC high school math 12 or MATH 100 or MATH 110 or equivalent. Students without BC high school math 12 should enroll in MATH 110, rather than MATH 100. See the Letters of Permission section within the undergraduate Department of Psychology.

PSYC 221-3 Introduction to Cognitive Psychology
Introduction to the method and theory relevant to thinking and related processes. Includes an examination of memory, attention, concept formation, problem solving, consciousness and the relation of language to thought. (lecture/laboratory) Prerequisite: PSYC 100 and 102 (or PSYC 101). Students who have taken PSYC 320 may not register for PSYC 221.

PSYC 241-3 Introduction to Abnormal Psychology
Introduces students to the area of abnormal psychology. Topics include the definition and classification of pathological behavior, factors involved in the development of pathology, and evaluation of therapy outcome. (lecture/tutorial) Prerequisite: PSYC 100 and 102 (or PSYC 101). Students who have taken PSYC 340 may not register in PSYC 241.

PSYC 250-3 Child Psychology
Considers the psychological and physical aspects of human development from conception through middle childhood. Topics include social, emotional, language, cognitive, perceptual and physical development. (lecture/tutorial) Prerequisite: PSYC 100 and 102, or (PSYC 101). Students who have taken PSYC 350 or 351 may not register in PSYC 250.

PSYC 260-3 Introduction to Social Psychology
Examines methodology and content in social psychology. Topics include: attitudes and values; social perception and cognition; group behavior; social influence; prejudice, discrimination, and sexism; aggression; altruism, interpersonal attraction and interpersonal relationships. (lecture/tutorial) Prerequisite: PSYC 100 and 102 (or PSYC 101). Students who have taken PSYC 360 may not register for PSYC 260.

PSYC 270-3 Introduction to Personality
Introduces students to classic and contemporary theories, conceptual debates, and empirical research in the area of personality. (lecture/tutorial) Prerequisite: PSYC 100 and 102 (or PSYC 101).

PSYC 280-3 Biological Bases of Behavior
Surveys a variety of biological approaches to understanding behavior, including research from allied disciplines relevant to the biopsychological analysis of behavior. Includes: genetic basis of normal and abnormal behavior, psychobiology of development, intelligence, aggression, biological approaches to mental illness, learning disabilities, and the behavioral effects of drugs, hormones, biorhythms, brain damage, and environmental enrichment. (lecture/laboratory) Prerequisite: PSYC 100 and 102 (or PSYC 101). Recommended: BISC 101.

PSYC 301-4 Intermediate Research Methods and Data Analysis
A continuation of PSYC 201 and 210. Provides extensions of the basic theory and methods of research design and data analysis. Includes discussions of the analysis of substantive problems, the choice of appropriate research designs, and special problems that arise in the analysis of psychological data. (lecture/laboratory) Prerequisite: PSYC 201 and 210. See the Letters of Permission section within the undergraduate Department of Psychology.

PSYC 302-3 Learning
Conditions, principles, and theories of learning. Consideration of the acquisition and extinction of behavior. (lecture/tutorial) Prerequisite: PSYC 201 and 221 (or 320).

PSYC 303-4 Perception
Conditions, principles, and theories of perception. Considers how individuals become aware of the structure and properties of their environment. Topics include perception of form, pattern, spatial relations, motion, causality, and time, and individual differences in perception. (lecture/laboratory) Prerequisite: PSYC 201 and 221 (or 320).

PSYC 306-3 Psychological Assessment Procedures
A survey of selected techniques for assessment of individual and group differences in aptitudes, abilities, achievement, attitudes, interests, and personality. Emphasis is placed on evaluating the effectiveness of various techniques, including performance tests, self-report questionnaires, inventories and projective approaches. This course provides a suitable introduction for students considering graduate training in clinical psychology. (lecture/tutorial) Prerequisite: PSYC 201 and one of PSYC 241 (or 340) or 270 (or 370).

PSYC 307-4 Historical Foundations of Psychology
Examines the development of psychological thought through theories of ontology, epistemology and ethics that laid the foundations for modern psychology. Provides a background for psychology courses by analysing how various viewpoints on the mind-body relationship, empiricism, rationalism and the nature of science contributed to the development of modern psychology. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 308-4 History and Systems of Modern Psychology
Examines the development of modern psychology from the founding of the first laboratories in the late 19th century to the present. The development and revisions of the major theoretical systems of psychology are examined from a comparative and critical perspective. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 311-4 Psychological Measurement
Deals with basic problems in the development of psychological measures. Treatment of the concepts of reliability and validity and the application of these concepts in experimental and observational research. Implications of measurement principles for the design of experiments and studies. Introduction to classical and contemporary methods in different content areas. (lecture/laboratory) Prerequisite: PSYC 201 and 210.

PSYC 321-3 Intelligence and Creativity
Surveys historical conceptions of the nature of intelligence, and reviews current theoretical and applied research concerning intelligence and creativity. Topics will include: the measurement of intelligence and creativity; the role of heredity and
environment in their development; the relations among intelligence, creativity, and achievement; the social and political implications of theories of intelligence. (lecture/tutorial) Prerequisite: PSYC 201 and 221 (or 320).

PSYC 325-4 Memory
Examination of the phenomena of memory and the retention and reproduction of information. Considers the conditions and principles of retention and recall in short- and long-term memory. (lecture/laboratory) Prerequisite: PSYC 201, 221 (or 320).

PSYC 326-3 Psychology of Consciousness
Systematic consideration of consciousness as a psychological problem. Topics covered will include: the place of consciousness in the history of psychology; research on states of consciousness, e.g. dreaming, hypnosis, meditation, fantasy; research on the relationship between brain and consciousness; applications of consciousness research. (lecture/tutorial) Prerequisite: PSYC 201. Recommended: PSYC 221.

PSYC 330-4 Attention
Examines the processes of selective attention: how attention is located spatially; the role of attention in the perception of objects; automaticity; and the physiological mechanisms that mediate attentional processes. (lecture/laboratory) Prerequisite: PSYC 201, 221 (or 320).

PSYC 335-3 Sensation
Considers the capabilities of the sensory systems, and the sensory bases of experience with reference to the characteristics of stimuli, the receptor mechanisms, the processes of transmission, and the concomitant sensory processes. Consideration is also given to the problems of response indicators and the measurement of sensory magnitudes. (lecture/tutorial) Prerequisite: PSYC 201 and 280.

PSYC 342-0 Practicum I
First semester of work experience in the psychology co-operative education program. Prerequisite: PSYC 201 and 210. Students should apply to the co-op coordinator one semester in advance.

PSYC 343-0 Practicum II
Second semester of work experience in the psychology co-operative education program. Prerequisite: successful completion of PSYC 342-0 and 45 credit hours with a minimum CGPA of 3.0.

PSYC 345-3 Feeling and Emotion
Considers the conditions, principles and theories of the experiential and behavioral aspects of feeling and emotion as these relate to motivation, learning, perception, personality, psychosomatics, and social behavior. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 355-3 The Psychology of Adolescence and Youth
Considers human development from the end of childhood to the beginning of the adult stage, from a bio-social-point of view. Included among the topics are psychological effects of sexual maturation, choice of vocation and marriage partner, effects of participation in the gang and youth organization, cultural variations in the patterns of growth. (lecture/tutorial) Prerequisite: PSYC 201 and 250 (or 350 or 351).

PSYC 356-3 Developmental Psychopathology
Examines theoretical approaches, research findings, and treatment outlooks concerning problems and disorders in childhood development. (lecture/tutorial) Prerequisite: PSYC 201, 241, and 250 (or 350 or 351).

PSYC 357-3 Psychology of Adulthood and Aging
Considers human development from young adulthood to old age. Included are theories of adult development and aging; environmental and biological factors in aging; and the effects of aging on sensation, perception, learning, cognition, personality, psychopathology, and social relations. (lecture/tutorial) Prerequisite: PSYC 201 and 250 (or 350 or 351) or acceptance into the diploma program in gerontology.

PSYC 364-3 Psychology of Gender
Examines theories and research on the psychology of gender. Gender similarities and differences in psychological development, social roles, and personality will be discussed. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 366-3 Language Development
Treats language development from a psychological point of view. Topics include: origins of language in phylogeny, comparison between animal and human communication systems, and the acquisition of language in the first year of life. (lecture/tutorial) Prerequisite: PSYC 201 and 250 (or 350 or 351) or COGS 200.

PSYC 367-3 Psychology of Language
Examines language comprehension and production from a psychological point of view. Topics include: the experimental analysis of the basic processes in the comprehension and production of speech, speech perception, reading, visual analysis, pragmatics, and the relationship between language and thought. (lecture/tutorial) Prerequisite: PSYC 201 and 221 (or 320).

PSYC 369-3 Law and Psychology
Introduces students to the area of law and psychology. The role of psychology in the legal system will be discussed. Topics include: social psychology and law, developmental psychology and law, juvenile justice, experimental psychology and law, mental disability and law, and the influence of psychology in the legal system. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 370-3 Theories of Personality
Reviews major theories of personality such as those of Freud, Jung, Rogers, Allport, Skinner, Bandura, and Kelly. The emphasis will be on comparisons of concepts; representative research will be considered in relation to each major theory. (lecture/tutorial) Prerequisite: PSYC 201 and 270.

PSYC 373-3 Behavior Therapies
Considers the philosophy, theory, and practice of the behavior therapies. Theories of learning which have generated techniques for behavior change are critically examined and a broad range of techniques is reviewed with therapeutic efficacy the primary focus. The influence of cognitive psychology on behavior theory is also presented. (lecture/tutorial) Prerequisite: PSYC 201, and 241 (or 340), and 270 (or 370).

PSYC 375-3 Fundamentals of Clinical Psychology
Considers the scientific and clinical aspects of the discipline of clinical psychology. Both traditional roots and recent developments in the field are discussed. Topics include: models of clinical psychology, methods of assessment and modes of intervention and psychotherapy. (lecture/tutorial) Prerequisite: PSYC 201 and two of 241 (or 340), 270 (or 370), 306.

PSYC 381-3 Biopsychology of Motivation and Behavior
A consideration of the physiological systems which control and regulate basic drives, including hunger, sex, thirst, sleep, and arousal. (lecture/tutorial) Prerequisite: PSYC 201 and 280.

PSYC 382-4 Cognitive Neuroscience
A consideration of the central nervous systems which control and regulate higher order complex behavior. Emphasis on human data. The complex behavior considered includes learning, memory, and information processing, emotion, aggression and language. (lecture/tutorial) Prerequisite: PSYC 201 and 280.

PSYC 384-3 Developmental Psychobiology
A survey of research on normal and abnormal brain development and its behavioral consequences, covering the fetal period through old age. Genetic, prenatal, nutritional, and experiential effects on brain and behavior will be discussed. Topics include: bio-developmental aspects of sensory-motor, social, linguistic, intellectual, and sexual behavior. Effects of head trauma, disease, abnormal environments, and aging will also be covered. (lecture/tutorial) Prerequisite: PSYC 201 and 280. Recommended: PSYC 250.

PSYC 385-3 Evolution and Social Behavior
Topics such as altruism, parental care, mate choice, sex differences in behavior, aggression, dominance and territoriality are considered from an evolutionary perspective. The role of heredity and environment in the development of these behaviors is also discussed. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 387-3 Biological Bases of Abnormal Behavior
Examines consequences and treatments of brain damage and disease, and the biological bases of psychopathology, including mood disorders, anxiety, schizophrenia, eating disorders and substance abuse. Prerequisite: PSYC 201 and 280.

PSYC 402-5 Historical and Theoretical Issues in Psychology
Examines the basic ideas concerning the relationship between mind and body and the empirical and rational foundations of scientific thought as applied to modern psychology. Students will be expected to analyze either the historical development of contemporary approaches or theoretical issues that are relevant to their area of interest in psychology. (seminar) Prerequisite: PSYC 201, and one of 207, 307, 308 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 410-5 Research Design I
Reviews the basic logic of controlled experimentation, and focuses on analysis of variance designs commonly used in psychological research. Particular emphasis is given to the relative merits of the several designs when there are multiple research questions to be answered. (seminar) Prerequisite: PSYC 201, 210, 301 and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5.

PSYC 411-5 Research Design II
Focuses on multivariate regression and correlation models. Deals with ways of answering questions when direct experimental manipulation is not feasible, and demonstrates the utility of the principles involved for solving problems other than those for which they were first proposed. (seminar) Prerequisite: PSYC 201, 210, 301, and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5. Recommended: PSYC 410.

PSYC 425-5 Language and Thinking
A consideration of language and reasoning as human capabilities. Emphasis will be on the way in which natural language is used to reason and to persuade, and to the study of language and its relationship to the mind. (lecture/seminar) Prerequisite: PSYC 201, 210, 221 (or 320), and one of 207, 307, 308 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 430-5 Selected Topics in Perception and Cognition
A survey of current research on the perceptions and cognitive processes of human beings. The course will focus on several broad aspects of perception and cognition, e.g. the role of social interactions in the process of recognizing and perceiving the environment. (seminar) Prerequisite: PSYC 201, 210, 221 (or 320), and one of 303, 325 and 330, and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5.

PSYC 442-0 Practicum III
Third semester of work experience in the psychology co-operative education program. Prerequisite: successful completion of PSYC 342 and 343 and 60 semester hours with a minimum CGPA of 3.0.
PSYC 443-0 Practicum IV
Fourth semester of work experience in the psychology co-operative education program. Prerequisite: Successful completion of PSYC 442 and 75 semester hours with a minimum CGPA of 3.0.

PSYC 444-5 Psychopathology
(seminar) Prerequisite: PSYC 201, 210, 241 (or 340) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 450-5 Selected Topics in Developmental Psychology
(seminar) Prerequisite: PSYC 201, 210, 250 (or 350 or 351) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 451-5 Seminar in Infant and Toddler Development
(seminar) Prerequisite: PSYC 201, 210, 250 (or 350 or 351) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 452-5 Selected Topics in Social and Moral Development
(seminar) Prerequisite: PSYC 201, 210, 250 (or 350 or 351) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 455-5 Selected Topics in Adulthood and Aging
(seminar) Prerequisite: PSYC 201, 210, 250 (or 350 or 351), 357 and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5.

PSYC 459-5 Selected Topics in Developmental Research
Provides experience in designing and conducting a developmental research study. Students will be expected to apply developmental methodology and theory to a particular research project. Specific content and methodological focus will vary. (seminar) Prerequisite: PSYC 201, 210, 250 (or 350 or 351), two of PSYC 355, 356, 357, 450, 451, 452, 456 and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5.

PSYC 461-5 Selected Topics in Social Cognition
(seminar) Prerequisite: PSYC 201, 210, 260 (or 360) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 462-5 Selected Topics in Interpersonal Relations
(seminar) Prerequisite: PSYC 201, 210, 260 (or 360) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 465-5 Selected Topics in Social Psychology
Examines methods of research in social psychology with particular emphasis on experimental design and procedures. Provides students with the opportunity to design and conduct social psychological research. (seminar) Prerequisite: PSYC 201, 210, 260 (or 360), and 60 hours of credit with a GPA of 3.0 or 90 hours of credit with a GPA of 2.5.

PSYC 469-5 Selected Topics in Psychopharmacology
(seminar) Prerequisite: PSYC 201, 210, 241 (or 340), 260 (or 360), 369 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 470-5 Selected Topics in Personality
(seminar) Prerequisite: PSYC 201, 210, 270, 370 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 480-5 Physiological Psychology
(seminar) Prerequisite: PSYC 201, 210, 260, and one of PSYC 381 and 382, and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 481-5 Laboratory in Biopsychology
The techniques of electrophysiological recording are demonstrated and learned. These include electroencephalography, electromyography, electrocardiography, electrodermography, and other techniques for the measurement of physiological changes which are related to behavior. The recorded information is related to the behavioral and physiological conditions that influence their occurrence and form. (seminar) Prerequisite: PSYC 201, 210, 280 and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5.

PSYC 483-5 Seminar in Drugs and Behavior
A survey of the drug abuse literature - the study of how drugs affect the brain, consciousness and behavior. Topics will include cellular effects of drugs and consequences for psychological functions and social behavior. Topics of addiction and treatments for drug abuse will be covered as well as legal and societal issues in the area of drug regulation. History and research regarding both legal and illegal substances will be included, as will drug treatments for mental illness. (seminar) Prerequisite: PSYC 201, 210, 260 and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5.

PSYC 485-5 Seminar in Evolutionary Psychology
(seminar) Prerequisite: PSYC 201, 210, 385, and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 488-5 Seminar in Biological Rhythms
Examines the role of biological clocks in the regulation of mammalian behavior and physiology, the mechanisms by which these clocks are synchronized to the environment, the physiological basis of clocks, and the relevance of rhythms to human psychopathology. (seminar) Prerequisite: PSYC 201, 210, 280 and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5.

PSYC 490-5 Honors Project
An in-depth investigation of a topic in psychology, culminating in a critical literature review and the formulation of a research proposal. Prerequisite: PSYC 301 with a minimum grade of C.

PSYC 491-3 Selected Topics in Psychology
(seminar) Prerequisite: permission of the department.

PSYC 492-5 Selected Topics in Psychology
(seminar) Prerequisite: permission of the department.

PSYC 493-495-3 Directed Studies
Independent reading or research in topics selected in consultation with the supervising instructor. Prerequisite: Permission of the department. See the Directed Studies Courses section within the undergraduate Department of Psychology section.

PSYC 496-498-5 Directed Studies
Independent reading or research in topics selected in consultation with the supervising instructor. Prerequisite: Permission of the department. See the Directed Studies Courses section within the undergraduate Department of Psychology section.

PSYC 499-5 Honors Project
The research proposed in PSYC 490 is executed and the results are written up in thesis format. Prerequisite: PSYC 301.

Quaternary Studies

Faculty of Science

QUAT 400-1 Seminar in Quaternary Studies
An examination of current issues and problems in quaternary research. Graded on S/U basis. Prerequisite: only available to students enrolled in Quaternary Studies program, and permission of program advisor.

QUAT 401-1 Field School
Identification, mapping and interpretation of quaternary deposits and landforms, with particular emphasis on British Columbia. Graded on S/U basis. Prerequisite: only available to students enrolled in Quaternary Studies program, and permission of program advisor.

QUAT 403-4 Directed Readings in Quaternary Studies
Designed for students in the quaternary studies minor program who wish to pursue in detail a topic not covered in existing courses. Prerequisite: permission to enter directed readings courses requires written consent of both a faculty member associated with the Institute for Quaternary Research (IQR) who is willing to supervise the research, and the director of IQR.

Resource and Environmental Management

Faculty of Applied Sciences

REM 100-3 Global Change
This course provides students with an overview of global environmental change and its causes from a social science perspective, historically and at the present time. Population growth, an increasing ecological footprint and changes in ideology, social organization, economy and technology will be critically reviewed. New ways of thinking in natural and social science will be considered in relation to specific issues such as land, soil and food; energy, raw materials and solid waste; air pollution and transportation; water, oceans and fisheries; climate change; forestry and biodiversity; urbanization, and alternative futures. (lecture/tutorial)

REM 311-3 Applied Ecology and Sustainable Environments
Students will learn to apply the ecological concepts introduced in prerequisite courses to applied ecological problems at the population, community, and ecosystem levels of organization. Emphasis will be placed on processes which drive ecological dynamics, on recognizing those processes and dynamics in applied contexts, and on interpreting ecological data. (lecture/tutorial-computer lab) Prerequisite: REM 100, EVSC 200 or GEC 205, STAT 101 or equivalent.

REM 356-3 Institutional Arrangements for Sustainable Environmental Management
This course provides an overview of some basic legislation, agencies, and policies currently in use to regulate the natural environment at the international, nation, provincial, regional, and local levels. Its purpose is to present a basic set of evaluative questions which can be used to address the effectiveness and efficiency of the environmental regulatory and management systems currently in use. (lecture/tutorial) Prerequisite: REM 100, EVSC 200.

REM 412-3 Environmental Modeling
Students receive hands-on experience in the construction and analysis of computer simulation models of environmental and ecological systems and problems. (lecture/tutorial) Prerequisite: BISC 204, REM 100, EVSC 200, MATH 151 or 154 or 157, MATH 152 or 155, MATH 310, STAT 101 or 103 or 301.

REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances
Informed decision making and effective management regarding hazardous substances requires that ecological, human health and environmental risks of use and discharge can be assessed before management decisions are made. (lecture) Prerequisite: BISC 312, CHEM 102, 115, REM 100,
EVSC 200, MATH 151 or 154 or 157, STAT 101 or 103 or 301.

REM 471-3 Forest Ecosystem Management
In this course students will examine the problems of managing forest ecosystems for a variety of societal goals and objectives. The course will start with an examination of the ecological characteristics of forest ecosystems and their dynamics. The second section will focus on the objectives and tools of forest management in an ecological context. The final section of the course will focus on the institutions, economics and policies of forest management, with a focus on British Columbia's historical and current management issues. This course will involve lectures, group discussions, field trips and exercises, and computer labs. (lecture/tutorial, computer lab) Prerequisite: EVSC 200, 311 and 356.

Science
Faculty of Science

SCI 010-1,2,3 Contemporary Topics in Natural Sciences
Members of all departments of the Faculty of Science discuss topics to give students an insight into modern science.

SCI 300-3 Science and its Impact on Society
The impact of science in our society. This course introduces upper level university students to all facets of science and their resulting technologies. Governmental policies often involve far-reaching scientific/technological decisions and this course attempts to provide a scientific perspective to help achieve rational and effective policies. (lecture/tutorial) Prerequisite: 60 credit hours. Not open to students in the Faculty of Science or the Schools of Computing Science, Engineering Science and Kinesiology.

Sociology and Anthropology
Faculty of Arts

Note: To assist the student in planning an interdisciplinary program, the discipline designates are listed as follows: (S) sociology; (A) anthropology. An (SA) course, therefore, counts as either sociology or anthropology.

SA 100-4 Perspectives on Canadian Society (SA)
An examination of Canadian society from the perspective of the social sciences - an introduction both to the nature of Canadian society and to the use of sociological and anthropological concepts applied to the analysis of modern societies in general. This course is meant to appeal to those who specifically wish to expand their knowledge of Canadian Society, and also to those who may be considering further work in sociology and anthropology. Topics to be considered include class structure, the nature of Canada’s population, regional variation, gender relations, multiculturalism, native issues. (lecture/tutorial)

SA 101-4 Introduction to Anthropology (A)
An introduction to the study of human social and cultural life from an anthropological perspective. The course will explore the scope and nature of the discipline of anthropology through study of selected cases drawn from both technologically simple communities and complex modern industrial societies. (lecture/tutorial) Students with credit for SA 170 may not take SA 101 for further credit.

SA 141-0 Sociology and Anthropology Practicum (SA)
This is the first semester of work experience in the co-operative education program in sociology and anthropology. It is meant to be exploratory in nature.

Prerequisite: 29 semester credit hours with a minimum cumulative GPA of 2.75 including SA 101, 150, 201 or 250, 255 and one of SA 202, 203, 263. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

SA 150-4 Introduction to Sociology (S)
The study of basic concerns of sociology, such as social order, social change, social conflict and social inequality. (lecture/tutorial)

SA 201-4 Anthropology of Contemporary Life (A)
An introduction to the anthropological perspective as applied to contemporary social and cultural issues and settings. Topics may include: urban anthropology; work and leisure; belief systems; medical anthropology; and problems of policy relevant research. (lecture/tutorial) Prerequisite: SA 191 may not take SA 201 for further credit. Recommended: SA 101.

SA 202-4 Post-Industrial Society (S)
An analysis of the social implications of the transformation from classical industrial production to computer-aided design, manufacturing, processing and retailing. The course will examine changing labor processes and the new division of labor, the challenge to trade unions, the decline of the welfare state, the post modern condition and the globalization of economic life. (lecture/tutorial) Prerequisite: SA 150.

SA 203-4 Comparative Ethnic Relations (SA)
A comparative study of racial and ethnic relations. The course will deal with a variety of beliefs about others and different patterns of discrimination in a number of societies. The inevitability of such beliefs and practices and the means of altering them may also be examined. (lecture/tutorial) Prerequisite: SA 150.

SA 216-4 Sociology of Leisure (S)
An examination of the changing nature and significance of leisure in contemporary society. Various forms of leisure are discussed in relation to other social institutions and processes, such as religion, politics, family and work. Issues raised by the commercialization and commoditization of mass leisure are explored. (lecture/tutorial) Prerequisite: SA 150. Students with credit for SA 315 may not take SA 216 for further credit.

SA 217-4 Conflict, Violence and War (SA)
Provides a sociological and comparative framework for the study of phenomena such as inter-group conflict, organized and collective violence and international wars. Terrorism as a contemporary form of inter-group conflict will be examined. Other topics to be explored are: the military industrial complex, nuclear arsenal, disarmament, and the peace movement. (lecture/tutorial) Prerequisite: SA 150. Students with credit for SA 292 and 293 (on a war-related topic) may not take SA 217 for further credit.

SA 218-4 Illness, Culture and Society (SA)
The study of socio-cultural factors related to health and illness. Focus will be on patterns of health seeking activity, systems of health care, causal and symbolic factors involved in physical and mental illness, and the medicalization of life in contemporary society. The disciplinary focus of the course will vary from semester to semester. (lecture/tutorial) Prerequisite: SA 101 or 201 or 150. Students with credit SA 460 when offered as Medical Anthropology may not take SA 218 for further credit.

SA 231-4 The Sociology of Domestic Life (S)
An examination of families and households in social, cultural, political and economic context. This course focuses on the diversity of family forms in contemporary societies (particularly Canada) in relation to various social institutions and processes, including demographic trends, ideology, the economy, the state and social policies. (lecture) Prerequisite: SA 150.

SA 241-0 Sociology and Anthropology Practicum II (SA)
This is the second semester of work experience in the co-operative education program in sociology and anthropology. Building on the experiences of the first employment semester, this semester will provide a work experience that integrates theory and practice of the social sciences. Prerequisite: successful completion of SA 141 and normally the completion of at least 45 semester credit hours with a minimum cumulative GPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

SA 245-4 Cultures and Images (A)
This course introduces students to the principles and practices of visual anthropology through exploring the creation, circulation, and consumption of images among and between members of diverse cultures in the contemporary world. Topics to be covered include the use of photographs, film and video as a tool in ethnographic research; the use and implications of new information technologies; the ‘reading’ of photographs, film and video from an anthropological perspective; the emergence and development of non-Western visual media. (lecture/tutorial) Prerequisite: SA 101.

SA 250-4 Introduction to Sociological Theory (S)
An account of sociological theory, outlining the main ideas and concepts of the principal schools of thought. (lecture/tutorial) Prerequisite: SA 150.

SA 255-4 Introduction to Social Research (SA)
An introduction to the conduct of sociological and anthropological research. Topics covered include: the relationship between theory and research, concept formation, operationalization, exploratory studies, hypothesis generation and testing, data collection techniques within both sociology and anthropology, the assessment of causality, the critical evaluation of research on both theoretical and methodological grounds, the definition of research problems, and ethical issues in social research. (lecture/tutorial) Prerequisite: SA 101 or 150. Students with credit for POL 213 may not take SA 255 for further credit.

SA 260-4 Individual and Society (S)
An examination of how self and identity (e.g. race, class, gender, sexual orientation) are socially derived within contemporary western culture, and of the ways that individuals shape their social environment. (lecture/tutorial) Prerequisite: SA 150.

SA 263-4 Peasants, Proletarians and the Global Economy (A)
An introduction to the anthropology of peoples in agrarian and newly industrializing societies. Topics may include: relations between peasants and others in agrarian societies, transformation of peasants into urban proletarians; sources of social differentiation and increasing poverty and unrest. (lecture/tutorial) Students with credit for SA 280 may not take SA 263 for further credit. Recommended: SA 101.

SA 275-4 Asian Societies (SA)
An introduction to the societies of a selected region of Asia. The course will regularly be offered with a focus on Southeast Asia, but from time to time during other semesters will also be offered with a focus on East Asia or South Asia. (seminar) Prerequisite: SA 101 or 150.

SA 286-4 Aboriginal Peoples and British Columbia: Introduction (A)
Investigates contemporary social organization, cultural expression, and political representation among Aboriginal peoples in the province of British
Columbia within an ethnohistorical framework. Topics may include: land rights, law, gender relations, intercultural relations; policy studies in education, health, justice, social and economic development; indigenous knowledge; Aboriginal art, media and performance. Emphasis may differ from semester to semester. (lecture/tutorial) Students with credit for SA 140 may not take SA 286 for further credit. Recommended: SA 101.

SA 292-4 Special Topics in Sociology (S)
An introduction to the discipline and perspective of sociology through analysis of an issue, process or problem with topical interest or general relevance. (lecture/tutorial)

SA 293-4 Special Topics in Anthropology (A)
An introduction to the discipline and perspective of anthropology through analysis of an issue, process or problem with topical interest or general relevance. (lecture/tutorial) Recommended: SA 101.

SA 294-4 Special Topics in Sociology and Anthropology (SA)
Topical exploration of interdisciplinary issues in sociology and anthropology. (lecture/tutorial)

SA 300-4 Canadian Social Structure (SA)
An analysis of the social institutions and structure of Canadian society. The focus of the course will vary from semester to semester, but typically it will examine different theoretical approaches to the study of Canada and, from these, develop a framework for the analysis of Canadian social institutions and class structure. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Recommended: SA 100.

SA 301-4 Contemporary Ethnography (A)
A consideration of key themes in contemporary anthropology. This course addresses theoretical and methodological questions by examining the work of contemporary anthropologists conducting research in diverse locations around the world. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Students with credit for SA 370 may not take SA 301 for further credit.

SA 303-4 Ethnic Conflicts (SA)
An analysis of the origins, expression and attempted solutions of conflicts in ethnically divided societies. Depending upon the area of focus, such contentious issues as education, political representation, religious divisions, labor policies, and formal and informal mechanisms of segregation will be considered. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Recommended: SA 203.

SA 304-4 Social Control (S)
This course examines how the organization of control (formal and informal) affects both individuals and society. It will investigate how control takes form, how it functions, the ideologies supporting it, and the resistance it produces. We will ask the following questions: who are the agents of social control; who or what do they control; and how do they control? (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 316-4 Tourism and Social Policy (SA)
An examination of tourism from the perspectives of sociology and anthropology, focusing primarily upon the social and cultural impacts of tourism and the social policy implications of tourism development in different societies. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 318-4 The Anthropology of Medicine (A)
An examination from a cross-cultural perspective of the social and ideological organization of health and healing. The role of medicine as a mediator between society and the body will be considered through an examination of the socio-cultural underpinnings of both medicine in the West and alternative medical systems. Topics may include: cultural variation in definitions of illness; medical pluralism in complex societies; medical authority and social control; the relation between health and gender, age, class, and ethnic identity. (seminar) Prerequisite: SA 101 and 218.

SA 319-4 Culture, Ethnicity and Aging (SA)
An examination of the effects of culture and ethnicity on the aging process and the treatment of the aged. Although the orientation of the course is cross-cultural and comparative, particular emphasis will be placed on the social aspects of aging among various ethnic groups in contemporary Canada. (lecture/seminar) Prerequisite: SA 101 or 150 and either one second year sociology (S) or sociology/anthropology (SA) course, or acceptance into the gerontology diploma program.

SA 320-4 Population and Society (SA)
A study of the reciprocal influence of population and social structure and demographic attempts to use population variables in social explanation; a discussion of cultural and institutional influences on human populations with respect to fertility, mortality and migration. (lecture/seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 321-4 Social Movements (S)
A study of the sources, development and effects of social movements in transitional and modernized societies. Specific types of movements will be analysed. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 322-4 Sociology of Religion (S)
An examination of the development and social impact of religious institutions in modern industrial societies. Consideration will be given to the classical theoretical approaches to the sociology of religion, and further topics which may be considered include: denominational religion in Britain and North America; the secularization thesis; the relationship between science and religion, and the organization, structure and social appeal of sectarian groups in contemporary society. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 323-4 Symbol, Myth and Meaning (A)
An examination of myth, symbolism, ritual and cosmological systems. Anthropological theories of magic, possession, witchcraft, healing and religious movements analyzed in anthropological context. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 325-4 Political Sociology (S)
An examination of the relations of power and authority. This course will analyze the interrelations of family, church, class, interest groups, etc., particularly as they influence and are influenced by the state. The relations of law and ideology to the structures of government will form the context for this analysis. The course may also focus on broad theoretical questions of contemporary political interest. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 326-4 Ecology and Social Thought (S)
An examination of recent social thought that is concerned with environmental and ecological themes. It will address a selection from the following themes: technology evaluation; technology and science as ideology; ecology and social inequality; the concepts of ecosystem, environment and wilderness; the self-world relationship; politics of environmental use; environment and the economy. (seminar) Prerequisite: SA 250 or equivalent second year course in a cognate discipline.

SA 327-4 Sociology of Knowledge (S)
An examination of sociological theories concerning the interaction of social structures, and meaning and belief systems. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Recommended: SA 250.

SA 330-4 Specialist Topics in Sociology (S)
A study of the reciprocal influence of population and social structure and demographic attempts to use population variables in social explanation; a discussion of cultural and institutional influences on human populations with respect to fertility, mortality and migration. (lecture/seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Recommended: SA 250.

SA 331-4 Politics of the Family (S)
A sociological examination of the contested nature of contemporary domestic and intimate relations. The course will focus on debates arising from equality movement politics (e.g., gender, sexuality, race). (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 332-4 The Anthropology of Childhood (A)
A cross-cultural examination of the social and cultural relations that shape childhood in different settings. Topics to be considered could include: the social definition of childhood and child rearing; the institutional arrangements established for children and youth and the impact that these have on children, families, and society; the social construction of child and youth cultures. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 333-4 Schooling and Society (S)
A sociological analysis of the nature of the education system and its relationship to major social institutions in Western industrial societies, in particular Canada. Aspects studied may include: the classroom, teachers, student culture, bureaucratization, inequality, employment, and social policy. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Students with credit for SA 292 (when offered as gender relations) or WS 308 may not take SA 335 for further credit. Recommended: WS 203.

SA 334-4 Gender Relations and Social Issues (S)
A sociological study of the position of women and men in major social institutions in Western industrial societies, in particular Canada. Social institutions that may be examined include: the family, education, the economy, the polity, law, and the mass media. Particular attention will be paid to social policy issues. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Students with credit for SA 292 (when offered as gender relations) or WS 308 may not take SA 335 for further credit. Recommended: WS 203.

SA 340-4 Social Issues and Social Policy Analysis (SA)
An examination of how sociological and anthropological theories and methods can be applied to the examination of social problems and issues which become the object of social policy. A central concern of the course is the question of how social issues are defined as problematic. Particular attention will be given to gender, ethnicity, class and generation. Substantive examples of social policy issues will be selected from a number of fields. (seminar) Prerequisite: SA 150 and either SA 101 or one other lower division (A) course.

SA 341-0 Sociology and Anthropology Practicum III (SA)
This is the third semester of work experience in the co-operative Education program in sociology and anthropology. The work experience will be focused in a specialized area of the student’s choice. Prerequisite: successful completion of SA 241 and normally the completion of at least 61 semester hours with a minimum cumulative GPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

SA 345-4 Issues in Canadian Ethnic Relations (SA)
A survey of current issues in ethnic and intercultural relations in Canada, considered in the context of demographic trends and policy development.
(seminar) Prerequisite: any two of the following: SA 101, 150, 201.

SA 350-4 Classical Sociological Thought (S)
An examination of aspects of the work of one or more of the nineteenth or early twentieth century sociological theorists. (seminar) Prerequisite: SA 250.

SA 351-4 Classical Marxist Thought (SA)
A detailed study of classical Marxist social thought. (seminar) Prerequisite: SA 250.

SA 355-4 Quantitative Methods (SA)
An examination of measurement issues within sociological and anthropological research, focusing on the logical and conceptual construction and interpretation of tables, and an examination of the uses and abuses of statistics. Through an introduction to 'hands on' use of the computer, this course emphasizes the applications, rather than the mathematics, of statistics. (seminar) Prerequisite: STAT 203 or equivalent and SA 255 or POL 213. Students with credit for SA 355 may not take POL 315 for further credit.

SA 356-4 Ethnography and Qualitative Methods (SA)
An examination of qualitative field methods, including participant observation, interviewing, archival research, cross-cultural research, life histories, network analysis, mapping, and ethical problems of fieldwork. (seminar) Prerequisite: SA 255 and 101 or 201.

SA 357-4 Survey Methods (SA)
Students will formulate a research problem suited to a quasi-experimental (survey) design, and perform all the research steps needed for its completion. (seminar) Prerequisite: SA 255. Recommend: SA 355.

SA 358-4 The Philosophy of the Social Sciences (SA)
An analysis of the nature of explanation in the social sciences: 'mind' and action, positivist and interpretive modes of explanation, sociological and historical explanation, objectivity, forms of relativism, the concept of rationality. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Recommended: SA 250 and 255.

SA 360-4 Special Topics in Sociology and Anthropology (SA)
A seminar exploring a topic not regularly offered by the department. The disciplinary designation will change to reflect specific topics; refer to each semester's course outline. (seminar) Prerequisite: SA 101 and 150, plus one second year sociology (S), anthropology (A) or sociology/anthropology (SA) course. Recommended: SA 202.

SA 362-4 Society and the Changing Global Division of Labor (S)
An examination of the social and political implications of the global economy. Topics to be considered include the influence of neo-liberal economics, the decline of the national welfare state, trans-national political agencies and public policy, the internationalization of culture, the global labor market, the 'world city' hypothesis, ethnic resurgence and alternatives to these developments. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Recommended: SA 202.

SA 363-4 Processes of Development and Underdevelopment (SA)
An examination of sociological and anthropological theories of development and underdevelopment as applied to the Third World. The nature and consequences of world system linkages; colonialism and decolonization; patterns of social change in selected societies and regions. (seminar) Prerequisite: SA 250 or 101 and one of SA 201, 263, 286 or 293. Recommended: SA 263.

SA 364-4 Urban Communities and Cultures (SA)
Anthropological approaches to urbanization, the nature of the city as a social system, and urban cultures and lifestyles. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Students with credit for SA 464 may not take SA 364 for further credit.

SA 365-4 Selected Regional Areas (SA)
An examination of selected aspects of the social structure, culture and the processes of social change in varying regional areas. The focus will vary from semester to semester. (seminar) Prerequisite: SA 101 and an appropriate second year course or consent of the instructor.

SA 371-4 The Environment and Society (SA)
An examination of environmental issues in their social context. Environmental issues are on the leading edge of contemporary public concern and public policy debates. This course will examine such issues as the relationship between social organization and mode of subsistence, the politics of hunger, and the way in which human societies in their particular social, historical, and cultural contexts view and interact with the natural world. Content may differ from semester to semester. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 374-4 South Africa: Socio-Political Development (SA)
An exploration of the socio-political transformation of South Africa and the legacy of apartheid. Inter-ethnic relations and nation-building are compared with nationalist conflicts in other divided societies; constitutional experiments with power sharing and corporatism are assessed. (seminar) Prerequisite: SA 101 or 150 and one second year sociology (S) or anthropology (A) course, or permission of instructor. Students with credit for SA 477 may not take SA 374 for further credit.

SA 386-4 Native Peoples and Public Policy (SA)
An examination of relations between Natives and non-Natives, indigenous peoples and governments in Canada. The consequences of these relations for the lives of Native peoples. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 and 293.

SA 387-4 Canadian Native Peoples (SA)
The study of traditional and contemporary Canadian Native peoples. The focus of the course will vary from semester to semester. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 388-4 Comparative Studies of Minority Indigenous Peoples (SA)
The social and cultural patterns of aboriginal populations within various modern nation-states. Their relations with majority societies and with other indigenous groups across the world. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 392-4 Latin America (SA)
An introduction to the peoples and institutions of Latin America in historical and contemporary perspective, emphasizing macro-level patterns of similarity and diversity. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Students with credit for SA 391 may not take this course for further credit.

SA 396-4 Selected Regional Areas (SA)
An examination of selected aspects of social structure, culture and processes of social change in a specific regional area. The focus will vary from semester to semester. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 400-4 Canadian Ethnic Minorities (SA)
An analysis of specific Canadian ethnic minorities. The groups will be studied in the context of the wider literature of race relations and ethnicity. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Students with credit for SA 401 prior to the Fall of 1987 may not take this course for further credit. Recommended: SA 203 and 300.

SA 402-4 The Practice of Anthropology (A)
An examination of the ways in which anthropology and ethnography may be used to affect action in the world. Topics may include: advocacy anthropology; the development and practice of applied anthropology; the emergence of anthropology and ethnography and the arts. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Recommended: at least two upper division courses in anthropology.

SA 416-4 Sociology of Art Forms (S)
This course may focus variably on one or all of the following: the social origins and functions of art, sociological theories of aesthetics, and contemporary issues in art, such as the fate of art in modern society, popular culture, mass media, ideology in art. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 420-4 Sociology of Aging (SA)
The structural and behavioral implications of aging. Topics included will be: demographic aspects of aging; the relationship of aging to political, economic, familial and other social institutions; the psychological significance of aging. (lecture/seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course, or acceptance into the diploma program in gerontology.

SA 435-4 Gender, Colonialism, Post-colonialism
An ethnographically grounded study of the social and cultural construction of gender, and the ways in which it is experienced and embodied in the colonial and post-colonial world. The socio-historical conjunctures affecting women and men across the world will be explored at multiple sites: health, economy, media, law, development, policy, among others. Central to these concerns is the understanding of gender as a process and identity formulated at intersecting fields of knowledge and power. Prerequisite: SA 101, 250, and one of SA 201, 263, 286 or 293. Students who have taken SA 463 prior to 1999 may not take SA 435 for further credit. Recommended: SA 383.

SA 441-0 Sociology and Anthropology Practicum IV (SA)
This is the last semester of work experience in the cooperative education program in sociology and anthropology. The work experience will require a high level of expertise in both theoretical conceptions and practical endeavors. Prerequisite: successful completion of SA 341 and normally the completion of at least seven semester credit hours with a minimum cumulative GPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

SA 447-4 Selected Issues in Social Policy Analysis (SA)
An advanced seminar devoted to an in-depth examination of an issue or topic in the field of social policy analysis which is not regularly offered by the department. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course (or permission of the instructor). Recommended: SA 340.

SA 450-4 Advanced Sociological Theory (S)
A senior seminar on current perspectives in sociological theory. Emphasis will differ from
semester to semester. (seminar) Prerequisite: SA 350, 90 credit hours, a GPA of at least 3.25 and consent of the instructor.

SA 451-4 Issues in Anthropological Theory (A)
A senior seminar on current perspectives in anthropological theory. Emphasis will differ from semester to semester. (seminar) Prerequisite: SA 301, 90 credit hours, a GPA of at least 3.25 and consent of the instructor.

SA 455-4 Special Topics in Applied Social Research (SA)
An advanced seminar devoted to special topics in applied social research. (seminar) Prerequisite: SA 255 and SA 355 or 356.

SA 460-4 Special Topics in Sociology and Anthropology I (SA)
An advanced seminar devoted to an in-depth examination of a topic not regularly offered by the department. The disciplinary designation will change to reflect specific topics; refer to each semester’s course outline. (seminar) Recommended: at least two upper division courses in sociology and/ or anthropology.

SA 463-4 Special Topics in Development Studies (SA)
An examination of processes of social change in selected Third World societies. Topics will change from semester to semester, but may include: liberation movements and colonialism, the comparative study of post-revolutionary societies; the persistence, transformation and disappearance of contemporary peasantry; directed change programs. (seminar) Prerequisite: SA 250 or 101 and one of SA 201, 263, 286 or 293. Recommended: SA 363.

SA 467-4 Anthropology of the Self (A)
Cross-cultural explorations in the social construction of selfhood. The comparative study of indigenous theories about the mind, body, gender and self. These beliefs will be considered in relation to social structure and western psychology theory. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 472-4 Anthropology and the Past (A)
Anthropologists frequently turn to historical documents (traveller’s reports, missionary archives, etc.) in order to reconstruct the nature of past societies; likewise, every society has a sense of its own past and represents it in its own way. This course examines the relation between history and anthropology. Content may include: the use of historical material in anthropological research; construction of traditional knowledge as a cultural process; history and the politics of culture; the relation between individual and collective memory. (seminar) Prerequisite: SA 301 or 350, or consent of the instructor.

SA 486-4 Aboriginal Peoples and British Columbia: Advanced Seminar (A)
An opportunity for senior undergraduates to participate in a seminar concentrating on particular subjects of interest in the fields of social and cultural research among Aboriginal peoples in British Columbia. The course will focus on special topics that will differ from semester to semester. This may include: historical ethnography; policy issues and debates; economic and social development; political and legal relations; gender and generational relations; health and healing; ethnographic film; arts, literature and popular culture; cultural performance; oral tradition; exhibition and representation; cultural property. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Recommended: SA 286.

SA 496-4 Directed Readings in Anthropology (A)
Directed readings in a selected field of study under the direction of a single faculty member. A paper will be required. Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Students with credit for SA 497 may not take SA 496 for further credit.

SA 497-4 Directed Readings in Sociology (S)
Directed readings in a selected field of study under the direction of a single faculty member. A paper will be required. Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Students with credit for SA 496 may not take SA 497 for further credit.

SA 498-8 Field Study in Sociology and/or Anthropology
Advanced field project in a research setting. Admission dependent on availability of appropriate field placements and departmental supervisory capacity. Prerequisite: completion of all major course requirements with the exception of SA 301 for anthropology majors and SA 350 for sociology majors, which may be taken concurrently.

SA 499-8 Honors Essay (SA)
An honors essay to be written under the direction of a member of faculty, a copy of which is to be permanently lodged with the department. On completion, the essay is to be defended orally in a departmental seminar.

Spanish Language

Faculty of Arts

Department of Linguistics

Language Training Institute

Students with a competence in the language beyond the level of the course in which they are registered will be required to withdraw. Students who are not sure of their language level are responsible for seeing that their level of proficiency is assessed prior to registration in the course. Arrangements for proficiency assessment in each language will be announced before the commencement of each semester. Inquire at the Language Training Institute general office for the procedure to be followed.

SPAN 102-3 Introductory Spanish I
Acquisition of spoken fluency and elementary reading facility. This course is for all students who have not previously taken Spanish and for those whose proficiency in Spanish is not judged adequate for more advanced courses. (tutorial/laboratory) Prerequisite: SPAN 102 or equivalent. Recommended: SPAN 220.

SPAN 349-3 Basic Texts in Spanish Literature I
A study of selected works from the sixteenth to the nineteenth centuries. (lecture/tutorial) Prerequisite: SPAN 240. SPAN 349 is required for Spanish majors and honors. Students with credit in SPAN 241 may not take this course for further credit.

SPAN 350-3 Basic Texts in Spanish Literature II
A study of selected works from the sixteenth to the eighteenth centuries. (lecture/tutorial) Prerequisite: SPAN 240. SPAN 350 is required for Spanish majors and honors. Students with credit in SPAN 241 may not take this course for further credit.

SPAN 445-5 Selected Topics in Modern Spanish Literature
Studies in either the modern Spanish novel, modern Spanish theatre, or modern Spanish poetry. Students will receive advance notice about which topic will be taught in a given term. The modern Spanish novel will cover the period from the end of nineteenth century to the present. Modern Spanish theatre will include an introduction to dramatic theory and a critical study of representative works. Modern Spanish poetry will include an introduction to poetic theory and a critical study of modern Spanish poets from the turn of the century to the present. (seminar) Prerequisite: SPAN 445.

SPAN 448-5 Selected Topics in the Golden Age
Studies in either the Spanish theatre of the Golden Age, or the works of Miguel de Cervantes Saavedra. Students will receive advance notice about which
Statistics
Faculty of Science
See also courses listed under Actuarial Mathematics (ACMA), Mathematics and Computing Science (MACM) and Mathematics (MATH).

Open Workshop for STAT Courses
(see courses marked with ** below)
Some introductory and service courses are organized through the department’s open workshops. In addition to regularly scheduled lectures, students registered in these courses are encouraged to come to the workshops for assistance with problems and questions any time during posted working hours. At the workshop students will have the opportunity to meet with the co-ordinator, the teaching assistants and other students, and work together to understand statistics in a friendly and helpful environment. Supplementary course materials, Macintosh computers and calculators are available for student use.

Statistics Workshop
STAT 101, 203, 270, 301, 302
K9516 Shrum Science Centre (inside K9510)
Mr. R. Insley

Beginning Level Requirements in Statistics
Students considering registering in a statistics course who do not have BC high school mathematics 11 (or equivalent) must see the co-ordinator of the basic math workshop (as described under Mathematics in the Undergraduate Courses section). These students may take the non-credit basic math course, basic algebra, offered through the Department of Mathematics and Statistics.

Students who are unsure of their level of preparation are strongly encouraged to take the free math assessment test at the Basic Math Workshop, K9505 or Simon Fraser University at Harbour Centre. Students should make certain that they discuss the test results with the lab instructor in the Basic Math Workshop, or her designate.

Minimum Grade Requirement in Prerequisites for Later STAT Courses
Students enrolled in courses offered by the Department of Mathematics and Statistics must have obtained a grade of C- or better in prerequisite courses.

Some experience with a high level programming language is recommended by the beginning of the second year.

No student may take, for further credit, any course offered by the Department of Mathematics and Statistics which is a prerequisite for a course the student has already completed with a grade of C- or higher, without permission of the department.

Courses marked with an asterisk (*) are intended to be particularly accessible to students who are not specializing in Statistics.

STAT* 101-3 Introduction to Statistics**
An introductory course in the collection, description, analysis and summary of data, including the concepts of frequency distribution, parameter estimation and hypothesis testing. (3-0-1) Prerequisite: BC high school mathematics 11 (or equivalent) or Basic Algebra. Students with credit for ARCH 376, BUEC 232 (formerly 332) or STAT 270 (formerly MATH 272 and 371) may not subsequently receive credit for STAT 101-3. Students with credit for STAT 102, 203 (formerly STAT 103), 301, MATH 101 or 102 may not take STAT 101 for further credit.

STAT 203-3 Introduction to Statistics for the Social Sciences
An introductory course in descriptive and inferential statistics aimed at students in the social sciences. Scales of measurement: Descriptive statistics. Measures of association. Hypothesis tests and confidence intervals. (3-0-1) Prerequisite: BC Math 11 (or equivalent) or Basic Algebra. A research methods course such as SA 255, CRIM 120, POL 213 or equivalent is recommended. Students in Sociology and Anthropology are expected to take SA 255 before this course. Students with credit for ARCH 376, BUEC 232 (formerly 332), or STAT 270 may not subsequently receive credit for this course. Students with credit for any of STAT 101, 102, or 103 may not take this course for further credit.

STAT 270-3 Introduction to Probability and Statistics**
Basic laws of probability, sample distributions. Introduction to statistical applications. (3-0-1) Prerequisite: MATH 152 or 155 or 156 must precede or be taken concurrently. Students with credit for MATH 371 or 272 may not take STAT 270 for further credit.

STAT 280-3 Applied Probability Models
Review of elementary probability models. Conditional probability and conditional expectation. Fitting and testing adequacy of models. Applications to production management and quality control. Introduction to simple Markov chains, Poisson processes, inventories and queues. Reliability models including lifetime analysis and circuit configuration. (3-1-0) Prerequisite: STAT 270 or MATH 272.

STAT 290-3 Selected Topics in Probability and Statistics
Topics in areas of probability and statistics not covered in the regular undergraduate curriculum of the department. Prerequisite: dependent on the topic covered.

STAT* 301-3 Statistics for the Life Sciences**
An introductory course in research methodology and associated statistical analysis techniques for students with training in the life sciences. (3-1-0) Prerequisite: either the student must have 45 credit hours or a minimum of 30 credit hours including MATH 152 or 155. Students with credit for STAT 101, 102, 203 (formerly 103) or 270 (formerly MATH 272) may not take STAT 301 for further credit. Mathematics minor, major and honors students may not use this course to satisfy the required number of semester hours of upper division elective credit. However, they may include this course to satisfy the required number of upper division mathematics courses.

STAT* 302-3 Analysis of Experimental and Observational Data**
The standard techniques of multiple regression analysis, analysis of variance, and analysis of covariance, and their role in experimental research. (3-0-1) Prerequisite: STAT 101 (or MATH 101) or STAT 102 (or MATH 102) or STAT 203 (formerly 103) or STAT 270 (or MATH 272) or STAT 301 or ARCH 376 or BUEC 232 (formerly 332). Students with credit for MATH 302 may not take STAT 302 for further credit. Mathematics major and honors students may not use this course to satisfy the required number of upper division mathematics courses. However, they may include this course to satisfy the total number of required hours of upper division credit.

STAT 330-3 Introduction to Statistical Inference
Statistical inference procedures for analysing experimental and survey results. Statistical model building. Foundations of experimental design. (3-1-0) Prerequisite: MATH 232 and STAT 270 (MATH 272). Students with credit for MATH 372 may not take STAT 330 for further credit.

STAT 340-3 Statistical Quality Control
Design and implementation of control charts and alternatives, process capability analysis, acceptance sampling procedures, and related quality management principles and standards. (3-0-0) Prerequisite: STAT 330 (or MATH 372) or other course in statistics subject to instructor approval. Students with credit for the former course, STAT 440, may not take STAT 340 for further credit.

STAT 350-3 Linear Models in Applied Statistics

STAT 380-3 Introduction to Stochastic Processes

STAT 390-3 Selected Topics in Probability and Statistics
Topics in areas of probability and statistics not covered in the regular undergraduate curriculum of the department. (3-1-0) Prerequisite: dependent on the topic covered.

STAT 402-3 Generalized Linear and Nonlinear Modelling
A skills oriented unified approach to a broad array of non-linear regression modelling methods including classical regression, logistic regression, probit analysis, dilution assay, frequency count analysis, ordinal-type responses, and survival data. (3-1-0) Prerequisite: STAT 302 or STAT 350.

STAT* 403-3 Intermediate Sampling and Experimental Design
A practical introduction to useful sampling techniques and intermediate level experimental designs. (3-0-2) Prerequisite: STAT 302 or 330. Students with credit for STAT 410 or 430 may not take STAT 403 for further credit. Mathematics minor, major and honors students may not use this course to satisfy the required number of semester hours of upper division elective credit.
credits. However, they may include the course to satisfy the total number of required hours of upper division credit.

**STAT 410-3 Statistical Analysis of Sample Surveys**
An introduction to the major sample survey designs and their mathematical justification. Associated statistical analyses. (3-0-0) Prerequisite: STAT 330 (or MATH 372) or permission of the instructor. Students with credit for MATH 304 may not take STAT 410 for further credit.

**STAT 420-3 Non-Parametric Statistics**
Non-parametric statistics concerns methods which do not involve special assumptions of parent distributions: tests based on the binomial distribution, contingency tables and chi-squared test; tests for two or more samples based on ranks and rank correlation statistics. (3-0-0) Prerequisite: STAT 330 (or MATH 372) or permission of the department. Students with credit for MATH 473 may not take STAT 420 for further credit.

**STAT 430-3 Statistical Design and Analysis of Experiments**
An extension of the designs discussed in STAT 330 to include more than one blocking variable, incomplete block designs, fractional factorial designs, and response surface methods. (3-1-0) Prerequisite: STAT 350 (or MATH 372). Students with credit for MATH 404 may not take STAT 430 for further credit.

**STAT 450-3 Statistical Theory**
Distribution theory, methods for constructing tests, estimators, and confidence intervals with special attention to likelihood methods. Properties of the procedures including large sample theory. (3-1-0) Prerequisite: STAT 350. Students with credit for MATH 472 may not take STAT 450 for further credit.

**STAT 460-3 Bayesian Statistics**
The Bayesian approach to statistics is an alternative and increasingly popular way of quantifying uncertainty in the presence of data. This course considers comparative statistical inference, prior distributions, Bayesian computation, and applications. (3-1-0) Prerequisite: STAT 350. Students with credit for MATH 475 may not take STAT 460 for further credit.

**STAT 490-3 Selected Topics in Probability and Statistics**
Topics in areas of probability and statistics not covered in the regular undergraduate curriculum of the department. (3-1-0) Prerequisite: dependent on the topic covered.

**STAT 495-3 Directed Studies in Probability and Statistics**
Independent reading or research on consultation with the supervising instructor. Prerequisite: written permission of the department graduate studies committee.

**Women’s Studies**

**Faculty of Arts**

**WS 101-3 Introduction to Women’s Issues in Canada**
An interdisciplinary study of current issues related to women’s experiences in Canada. The focus will be on women’s interaction with social structures and public policy and how these differ for different women’s circumstances. (lecture/tutorial) Students who have taken WS 100 may not take WS 101 for further credit.

**WS 102-3 Introduction to Western Feminisms**
An historical and comparative survey of feminisms in the 20th century in Western Europe and North America. (lecture/tutorial) Students who have taken WS 100 may not take WS 102 for further credit.

**WS 200-3 Women in Cross-Cultural Perspective**
The focus will be on the situation of women in cross-cultural perspective using literary, historical, anthropological and other appropriate sources. (lecture/tutorial) Prerequisite: WS 101 or 102 (may be taken concurrently).

**WS 201-3 Women in Canada 1600-1920**
Examines the changing nature of female experience from the days of New France to the First World War through the lives of both famous and anonymous women. The diaries, memoirs, letters and literary works of Canadian women will be a major interest. (lecture/tutorial) Prerequisite: WS 101 or 102 (may be taken concurrently).

**WS 202-3 Women in Canada 1920 to the Present**
Examines the range of experience open to Canadian women in the 20th century. The strengths and limitations of women’s roles will be analysed from a historical perspective, using demographic evidence, autobiographies, literature, government documents and monographs. (lecture/tutorial) Prerequisite: WS 101 or 102 (may be taken concurrently).

**WS 203-3 Female Roles in Contemporary Society**
An interdisciplinary study of definitions of self/other as derived from sexual roles and the psychological mechanisms by which such definitions are acquired and maintained. (lecture/tutorial) Prerequisite: WS 101 or 102 (may be taken concurrently).

**WS 204-3 Women, Science and Technology**
This course examines some of the social, political and economic consequences for women of the development of a global system of science and technology. A survey of feminist critiques of this system will focus on such topics as the place of science in education, the evaluation of the appropriateness of technologies, the nature of evidence, and strategies for empowerment in relation to research and development. (lecture/tutorial) Prerequisite: WS 101 or 102 (may be taken concurrently).

**WS 205-3 Women and Popular Culture**
A study of images of women as revealed through the analysis of a variety of media. (lecture/tutorial) Prerequisite: WS 101 or 102 (may be taken concurrently).

**WS 206-3 Issues in Women’s Health and Health Care**
A critical examination of women’s relation to the health care system in Canada as practitioners, users, researchers and objects of medical treatment and research. Among the topics discussed will be the medical model, the privatization of health care, the medicalization of daily life including reproduction, and feminist alternatives to the medical system. (lecture/tutorial) Prerequisite: one of WS 101 or 102 (may be taken concurrently). Students who have taken WS 100 may not take WS 206 for further credit.

**WS 207-3 Introduction to Feminist Theory**
A study of concepts, controversies and processes of feminist social theory. Prerequisite: WS 101 or 102 (may be taken concurrently).

**WS 208-3 Researching Women’s Issues: How Do We Do What We Do?**
Introduces students to the researching of women’s issues while exploring a wide range of feminist and non-feminist methodologies. In addition, the course will explain how feminist research methods differ from traditional research methods in the social and natural sciences. Prerequisite: WS 101 or 102 or may taken concurrently.

**WS 301-4 Special Topics in Women’s Studies**
A specific topic within the field of women’s studies, not otherwise covered in depth in regularly scheduled courses, will be dealt with as occasion and demand warrant. (lecture/tutorial) Prerequisite: six credits in women’s studies including WS 101 and/or 102.

**WS 302-4 Special Topics in Women’s Studies**
A specific topic within the field of women’s studies, not otherwise covered in depth in regularly scheduled courses, will be dealt with as occasion and demand warrant. (lecture/tutorial) Prerequisite: six credits in women’s studies including WS 101 and/or 102.

**WS 303-4 Special Topics in Women’s Studies**
A specific topic within the field of women’s studies, not otherwise covered in depth in regularly scheduled courses, will be dealt with as occasion and demand warrant. (lecture/tutorial) Prerequisite: six credits in women’s studies including WS 101 and/or 102.

**WS 304-4 Women and Religion**
This course examines critical issues of women’s relationships to theology and religious practice in major religious traditions. (lecture/tutorial) Prerequisite: six credits in women’s studies including WS 101 and/or 102.

**WS 305-4 Women and Utopias**
This course focuses upon various visions of a better world for women. Using historical and fictional sources, it examines proposals to reorganize societies, giving special attention to utopian ideas about creating equality among all members of the community. (lecture/tutorial) Prerequisite: six credits in women’s studies including WS 101 and/or 102.

**WS 306-4 Women’s Autobiographies, Memoirs and Journals**
An examination of women’s autobiographical writings, focusing on self images, self presentations and world views. (lecture/tutorial) Prerequisite: six credits in women’s studies including WS 101 and/or 102.

**WS 307-4 Women in British Columbia**
Selected topics in the history of women’s experience in British Columbia, with particular attention to women’s work, political action, family life and education. (lecture/tutorial) Prerequisite: six credits in women’s studies including WS 101 and/or 102.

**WS 308-4 Women and Work**
This course explores the nature and conditions of women’s paid and unpaid work. It will include an examination of theories which explain labour market discrimination; the effect of public policies on work; and the international relationships which affect women’s work. Prerequisite: six credits in women’s studies including WS 101 or 102. Students who have taken SA 335 and/or WS 310 under the title Women and Work may not take this course for further credit.

**WS 309-4 Gender and Development**
Explores the relationship and the contrast between women and men in the development process and provides an analysis of gender policies and planning practices - local, national and international. Prerequisite: six credit hours in women’s studies including WS 101 and/or 102. Students who have taken WS 301 Special Topic: Women and Development or WS 301 Special Topic: Gender and Development may not take this course for further credit.

**WS 310-4 Special Topics in Women’s Studies**
A specific topic within the field of women’s studies, not otherwise covered in depth in regularly scheduled courses, will be dealt with as occasion and demand warrant. (lecture/tutorial) Prerequisite: six credit hours.

**WS 313-4 Women and the Environment**
Examines women’s participation in environmentalism. Among the topics discussed will be the nature/nurture debate, the roots of environmentalism, ecofeminism
and reproductive rights. (lecture/tutorial) Prerequisite: six credits of women’s studies including WS 101 and/or WS 102. Students who have taken this course as a women's studies special topics course may not register for WS 313.

**WS 314-4 Race, Class, and Gender Relations**
An examination of feminist, Marxist and anti-racist theories pertaining to the historical development, social construction, and interactive nature of race, class and gender relations. (2-2-0) Prerequisite: six credits in Women’s Studies, including WS 101 and/or 102. Students who have taken either WS 301 or 310 as Special Topics: Race, Class and Gender may not take this course for credit.

**WS 320-4 Special Topics in Women’s Studies**
A specific topic within the field of women’s studies, not otherwise covered in depth in regularly scheduled courses, will be dealt with as occasion and demand warrant. (seminar) Prerequisite: 60 credit hours.

**WS 400-4 Methodological Issues in Women’s Studies**
A study and critique of the assumptions of existing disciplines as they refer to the study of women. This course is designed as corrective and supplemental to the various disciplines as they are currently taught. (lecture/seminar) Prerequisite: 60 credit hours including two women’s studies courses, one of which must be WS 101 or 102.

**WS 401-5 Research Project**
Individual or small group studies of community problems. The students will submit a prospectus for the project at least two months before the study is undertaken. The project will be directed by one of the faculty members of the program. (individual research) Prerequisite: nine credits in women’s studies including WS 101 and/or 102; permission of instructor; approval of course proposal by department.

**WS 402-2 Directed Readings**
Provides opportunities for individual tuition at an advanced level. (individual tuition) Prerequisite: nine credits in women’s studies including WS 101 and/or 102; approval of course proposal by department.

**WS 403-3 Directed Readings**
Provides opportunities for individual tuition at an advanced level. (individual tuition) Prerequisite: nine credits in women’s studies including WS 101 and/or 102; permission of instructor; approval of course proposal by department.

**WS 405-4 Theoretical Issues in Women’s Studies**
A study and critique of feminist theories as they apply to the study of women. Each offering of the course will focus on a particular subset of feminist theories and applications. (0-4-0) Prerequisite: 60 credit hours including two Women’s Studies courses, one of which must be WS 101 or 102. Students who have taken WS 311 or 411 may not take this course for further credit when it is subtitled Feminist Psychoanalytic Theories.

**WS 412-5 Women and Film**
An examination of film theory and practice from a feminist perspective. (seminar) Prerequisite: 60 credit hours including two women’s studies courses, one of which must be WS 101 or 102.
Calendar Changes and Corrections
The Board of Governors and the senate of Simon Fraser University reserve the right to make changes in this Calendar without prior notice. This Calendar is printed to provide students and others with information about Simon Fraser University. The University considers this Calendar to be accurate at the time of printing. In the event of errors, the actual courses, curricula, policies, procedures, regulations and requirements in effect will prevail over the provisions printed in the Calendar. In addition, the policies, procedures, programs, regulations and requirements are constantly being reviewed and revised. Any such revision may be made by Simon Fraser University without notice and shall take effect at the time of the revision unless a later date is specified when the revision is adopted. Simon Fraser University will endeavor to give the University community as much notice of the revision as it considers the circumstances permit, and will endeavor to incorporate the revision in the next printing of the Calendar. Revisions include additions, cancellations and deletions as well as changes.
Graduate General Regulations

Academic Honesty
All members of the University community share the responsibility for the academic standards and reputation of the University. Academic honesty is a cornerstone of the development and acquisition of knowledge. Academic honesty is a condition of continued membership in the university community.

Academic dishonesty, like other forms of dishonesty, is misrepresentation with intent to deceive or without regard to the source or the accuracy of statements or findings. Academic dishonesty, in whatever form, is ultimately destructive of the values of the University; it is, furthermore, unfair and discouraging to the majority of students who pursue their studies honestly. Scholarly integrity is required of all members of the University.

The following examples are representative but not exhaustive of activities constituting academic dishonesty: plagiarism (presenting the work of another person as your own); submitting the same work more than once without prior approval; cheating; impersonation; submitting false records or information; stealing or destroying the work of another student; removing, mutilating, misplacing or destroying books or other library material; unauthorized or inappropriate use of computers, calculators and other forms of technology in course work, assignments or examinations.

The University code of academic honesty is contained in policy T10.02 or in the Course Timetable and Exam Schedule published every semester, or on the World Wide Web via www.reg.sfu.ca.

Penalties for Acts of Student Misconduct
Penalties imposed by the University for misconduct may include one or more of the following: a verbal or written reprimand, exclusion from specified areas of the University, restitution or other ameliorative measures, suspension or expulsion from the University.

1.1 Degrees Offered
Listed under each faculty.

1.2 Administration of Graduate Studies
Dean of Graduate Studies
The dean is responsible for the general supervision of graduate work at the University and chairs the senate graduate studies committee.

Assistant Director, Graduate Studies
The assistant director, graduate studies is responsible for registration of students, assessment of fees, maintenance of records, and other administrative duties.

1.3 Admission

1.3.1 General
A student may seek admission to a graduate diploma, master’s or doctoral program. A student who is not qualified to enter a specific program may seek admission to the University as a qualifying student under the provisions of paragraph 1.3.6.

Before applying for admission, the student should write to the chair of the graduate program committee in the appropriate department to enquire about special admission requirements for the program.

Persons meeting the minimum University requirements for admission given below are not assured admission into any graduate program. Most graduate programs have admission requirements in addition to the minimum. Furthermore, programs must restrict admission to student enrolments and interests that are compatible with available resources and faculty expertise.

1.3.2 Admission to a Graduate Diploma Program
The minimum University requirements for admission to a graduate diploma program are as follows:

a) a bachelor's degree from a recognized university, or the equivalent;

b) submitted evidence, usually in the form of reference from qualified referees, of the student's ability to undertake advanced work in the area of interest.

In exceptional circumstances, a student may be admitted with lower formal qualification than in (a) above but with professional experience of significance to the proposed area of study.

In addition, the student must satisfy any further requirements set by the graduate program committee. Students whose native language is not English, may be required to satisfy the University and the graduate program committee as to their command of English.

(See also 1.3.12.)

1.3.3 Admission to a Master’s Program
The minimum University requirements for admission to a master’s program are as follows:

a) a bachelor’s degree with a cumulative grade point average (CGPA) of at least 3.0 from a recognized university, or the equivalent;

b) submitted evidence, usually in the form of references from qualified referees, of the student’s ability to undertake advanced work in the area of interest.

In exceptional circumstances, a student may be admitted with lower formal qualification than in (a) above but with professional experience of significance to the proposed area of research.

Penalties for Acts of Academic Dishonesty
Penalties imposed by the University for academic dishonesty may include one or more of the following: a warning, a verbal or written reprimand, reassessment of work, failure on a particular assignment, failure in a course, denial of admission or readmission, forfeiture of awards or financial assistance, suspension or expulsion from the University.

Student Conduct
Simon Fraser University is committed to creating a scholarly community characterized by civility, diversity, free inquiry, mutual respect and individual safety. The code of student conduct is intended to define students' basic responsibilities as members of the academic community, to define inappropriate student conduct and to provide procedures and penalties to be invoked and applied if they engage in such unacceptable behaviour. Each student is responsible for his/her conduct which affects the University community. The code shall not be construed to unreasonably prohibit peaceable assemblies, demonstrations or free speech.

The following activities are representative but not exhaustive of behaviours constituting misconduct: disruptive or dangerous behaviour; behaviour which results in damage, destruction and theft of University property or the property of any member of the University; forgery or alteration of University documents or records; misuse of University resources including information (computing) resources; unauthorized entry or presence in University premises; misuse of student disciplinary procedures.

The University code of student conduct is contained in policy T10.01 available in the Library or any departmental office, or in the Course Timetable and Exam Schedule published every semester, or on the World Wide Web via www.reg.sfu.ca.

Graduate Studies Information
A wide range of additional information on graduate studies at Simon Fraser University may be found in the Graduate Studies Handbook. This is available in Simon Fraser University's libraries, on the University's World Wide Web site (www.sfu.ca) and in most department offices. In addition, most departments offer publications describing their graduate programs. These are available directly from the departments and are usually posted on the department's web sites.
In addition, the student must satisfy any further requirements set by the graduate program committee. Students whose native language is not English, may be required to satisfy the University and the graduate program committee as to their command of English. (See also 1.3.12.)

1.3.4 Admission to a Doctoral Program
The minimum University requirements for admission to a doctoral program are as follows.

a) either
i) a master's degree from a recognized university, or the equivalent, or
ii) a bachelor's degree, with a cumulative grade point average of at least 3.5, from a recognized university, or the equivalent, or

iii) at least two semesters in a master's program at this University with a cumulative grade point average of 3.5 in 75% of the graduate course work required for the degree. All graduate courses for the master's degree, whether taken at this University or another university, shall be considered in the calculation.

b) submitted evidence that the applicant is capable of undertaking substantial original research. Normally, such capability will be judged from letters of reference from qualified referees, and the completion of a master's thesis or other scholarly work.

In addition, the student must satisfy any further requirements set by the graduate program committee. Students whose native language is not English, may be required to satisfy the University and the graduate program committee as to their command of English. (See also 1.3.12.)

1.3.4.a Cohort Special Arrangements
These highly structured cohort-based programs are designed to meet the educational needs of specific student groups in fulfilling the requirements for a master's degree, where these needs cannot be met within existing programs. Each program will integrate studies from across two or more disciplines and will involve a curriculum and requirements recommended by each program's academic steering committee and approved by the senate graduate studies committee. Students may undertake this degree program only through specific admission to the cohort program. The admission criteria, degree requirements, and any other special conditions for a specific cohort program must be approved in advance by the senate graduate studies committee; these may not be below the minimum admission and degree requirements of regular graduate programs. In some instances, tuition fees may differ from the regular graduate fee schedule published in the Calendar, and will be announced separately.

1.3.5 Admission Under Special Arrangements
Exceptionally able applicants, who wish to work for a master's or doctoral degree outside or between existing programs at Simon Fraser University, may apply to work under special arrangements. A student applying for special arrangements must have a well-developed plan of studies in an area which can be shown to have internal coherence and academic merit, and in which the University has appropriate expertise and interests among its faculty members.

Graduate students applying or working under special arrangements are required to conform to senate regulations for graduate students. However, there are additional regulations which concern only those applying or working under special arrangements. Enquiries about these regulations should be directed to the dean of graduate studies by January 1st of each year for admission to the fall semester.

Students working under special arrangements may be required to take a selection of courses from existing programs. Other courses open to special arrangements students are:

SAR 885-3 Special Topics – to be selected by the student and the supervisory committee.
SAR 896-6 Special Topics – to be selected by the student and the supervisory committee.
SAR 897-5 Special Topics – to be selected by the student and the supervisory committee.

Special arrangements master's and doctoral thesis work are assigned the following numbers:
SAR 888 Master's Thesis
SAR 899 PhD Thesis

1.3.6 Admission as a Qualifying Student
Normally, qualifying students will be working either to improve cumulative grade point averages in order to meet the minimum University requirement, or to make up deficiencies in their backgrounds to satisfy the graduate program committee in their area of interest. An applicant may be recommended for admission as a qualifying student when it is expected that the admission requirements for a master's or a doctoral program can be met through the satisfactory completion of no more than 30 credit hours of specified courses. A qualifying student who has completed the make-up work may then apply under 1.3.3 or 1.3.4 for admission to a master's or doctoral program.

The minimum University requirements for admission as a qualifying student are as follows.

a) a bachelor's degree, or the equivalent
b) submitted evidence of academic ability, usually in the form of references from qualified referees

1.3.7 Admission as a Special Student
Normally, a special student at the graduate level is a person who has at least a bachelor's degree, or the equivalent, who wishes to take specified courses but is not seeking a degree from this University. A special student will not be permitted to enrol only in undergraduate courses.

Transcripts of previous university work (or proof of obtaining a degree) will be required at the time of application, but letters of reference will not necessarily be required. Application may be through the graduate program committee in the department in which the student wishes to work. Permission is required from the instructor in each course. No credit will be given towards any degree offered by the University for courses taken as a special student except, under unusual circumstances, on petition to the senate graduate studies committee.

1.3.8 Conditional Admission
A student who wishes to apply in any of the above categories can be given conditional admission before all the conditions for admission have been met. In that case, the student is admitted conditionally upon fulfilling certain specified requirements.

1.3.9 Admission as an Exchange Student
Bona fide graduate students at other universities who wish to take courses at Simon Fraser University, not leading to a degree at this University, will be admitted on the recommendation of the chair of the department (or equivalent officer) and the dean of graduate studies at the other university, and with the permission of the appropriate graduate program committee and the dean of graduate studies at Simon Fraser University.

1.3.10 Application for Admission
Application forms may be obtained from the Office of the Registrar or from any graduate program committee. The completed forms should be returned to the department in which the student wishes to enrol at least three months before the semester in which the student wishes to register. However, students are advised to check with the appropriate department as to the prevailing application deadlines for the graduate program in which they are interested.

Admission of master's or doctoral students is by resolution of the senate graduate studies committee or, for students entering under special arrangements, on the recommendation of the senate graduate studies committee.

Decisions on admissions made by the senate graduate studies committee shall be final. Final approval of admission for special students or exchange graduate students is by the dean of graduate studies provided that all the conditions of such admission have been met.

1.3.11 Application to Take a Second Master's or Doctoral Degree
Students who have a master's or a doctoral degree can apply to take a second master's or doctoral degree under the following constraints.

a) no course work taken for the first degree shall count towards the second.

b) none of the research done for the first degree shall be used for the second.

c) none of the time spent in residence for the first degree shall count towards the residence for the second degree.

1.3.12 English Language Competence
English is the language of instruction and communication in the University. Accordingly, an applicant whose primary language is not English or whose previous education has been conducted in another language must demonstrate command of English sufficient to pursue graduate studies in the chosen field. Applicants normally will be required to achieve a satisfactory score on a standardized English test acceptable to the University. This test must include a writing component. The Test of English as a Foreign Language (TOEFL) combined with the Test of Written English (TWE) are acceptable for this purpose. The IELTS (International English Language Testing System) is also acceptable. The minimum University requirements for test scores is TOEFL 570 (computer based score is 230), TWE 5 and IELTS overall band score of 7.0; some graduate programs have higher requirements, as described elsewhere in this Calendar.

Further details about the above tests may be obtained from the following.

TOEFL and TWE – Education Testing Service, CN 6151, Princeton, NJ, 08541-6151 USA

Other acceptable English tests – Director of Admissions, Office of the Registrar, Simon Fraser University.
Friday preceding the start of classes; see the Academic Calendar of Events. New students are allowed an additional two weeks to finalize their registration, without financial penalty. The course or research-related work for which the student registers must have the approval of the chair of the graduate program committee and of his/her senior supervisor, once the senior supervisor is appointed. In addition, registration for courses taken outside the student’s department must have the approval of the course instructor. Students going on leave are required to register (see 1.8.4).

1.4.6 Course Audit
Graduate students may audit graduate courses, with permission of the instructor, senior supervisor and graduate program chair of the student’s department. Such audits are recorded as AU on the student’s transcript, if the student fulfills the requirements agreed to by the student and instructor at the time of registration. Minimal, these requirements comprise regular attendance at class meetings, completion of readings and participation in class activities. Audited courses will not count toward degree requirements.

For the purposes of calculating the CGPA, N counts for 0 points.

1.5.2 GN Notation
The notation GN (grade not reported) may be used if circumstances beyond the control of the University make it impossible for grades to be assigned for a course. The notation has no numerical equivalent and does not affect either the semester grade point average or cumulative grade point average.

1.5.3 Satisfactory/Unsatisfactory Grading (S/U)
A department, recommending through the standard channels to Senate, with Senate approval, may require that a designated course be graded satisfactory/unsatisfactory (S/U) for all students in the course. An individual student may request to take a course on an S/U basis by applying to the supervisory committee. If that committee concurs, the request will be submitted to the graduate program committee for final approval. If the course is outside the student’s department, the approval of the other graduate program committee must also be obtained.

1.5.4 CGPA Required For Continuation and Graduation
A graduate student is required to maintain a CGPA of at least 3.0. Failure to do so is evidence of unsatisfactory progress and the matter will be considered by the graduate program committee as required under the Procedure for the Review of Unsatisfactory Progress in regulation 1.8.2.

1.5.5 Graduate Students Retaking a Course
A graduate student may retake a course under the following conditions.

1.5.1 Normal Grading System
Normally, for grading at the graduate level in the University, the following grades are used.

<table>
<thead>
<tr>
<th>Course</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.67</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
</tr>
</tbody>
</table>

A student must maintain a cumulative grade point average (CGPA) of 3.0. The CGPA is the cumulative average of the grade points earned in the Simon Fraser University graduate courses taken towards a master’s or doctoral degree.

When a student is working on a thesis, extended essay or project as part of the requirements for the degree, the notation of IP (in progress) shall be entered on the transcript. IP is not a grade and is not used in calculating the student’s CGPA.

In exceptional circumstances, the grade for a course may be deferred. This shall be entered as DE in the student’s record. If the grade is not received by the assistant director, graduate studies, by the last day for submitting grades in the next semester, the DE grade will automatically be converted to an F. When the grade for a course is not deferred and no grade is received by the assistant director, graduate studies, the notation N will be placed in the student’s record.
1.6 Supervision

1.6.1 General
When a graduate student has been admitted, the graduate program committee will exercise general supervision and counselling for the student through the chair of the graduate program committee or a faculty member designated by the chair, until a senior supervisor has been appointed.

1.6.2 Supervision of a Qualifying Student
A qualifying student comes under the general supervision of the graduate program committee, exercised through the chair of that committee or a faculty member designated by the chair.

1.6.3 Senior Supervisor
In consultation with the student, the graduate program committee will appoint a senior supervisor as soon as possible after admission to the graduate program. Normally, this appointment shall be made no later than the beginning of the third semester of full time equivalent enrolment after the student’s admission, although in certain circumstances, and with the permission of the dean of graduate studies, the appointment can be made later. The senior supervisor is the person principally responsible for supervising the student throughout the degree program. A senior supervisor must hold the rank of assistant professor or above.

A senior supervisor who is planning to be off campus for any length of time shall arrange for proper supervision of the student during this absence. The graduate program committee and the dean of graduate studies shall be informed in writing of the arrangement.

1.6.4 Supervisory Committee
In degree programs in which there is a requirement for a thesis, a project or extended essays, a supervisory committee, constituted as described below, must be established. For students in other programs, the senior supervisor alone may comprise the supervisory committee.

Where a supervisory committee requires members in addition to the senior supervisor, the senior supervisor, in consultation with the student, shall recommend the composition of the supervisory committee. In such cases, the supervisory committee consists of the senior supervisor and at least one other faculty member. For degrees designated by senate as professional degrees, the other member(s) of the committee may be other suitably qualified person(s). This recommendation shall be made during the same semester in which the senior supervisor is appointed. Recommendations of supervisory committees that include persons who are not faculty members should be accompanied by their brief curriculum vitae. The composition of the supervisory committee, for which the senior supervisor is chair, shall be approved by the graduate program committee and sent to the dean of graduate studies for final approval. It shall be sent to the faculty graduate studies committee for information.

For degrees designated by senate as professional degrees, the other member(s) of the committee may be other suitably qualified person(s). This recommendation shall be made during the same semester in which the senior supervisor is appointed. The composition of the supervisory committee, for which the senior supervisor is chair, shall be approved by the graduate program committee and sent to the dean of graduate studies for final approval. It shall be sent to the faculty graduate studies committee for information.

The supervisory committee is responsible for helping the student develop a program of study leading to a degree and reporting on the progress of the student’s work. The committee shall be available for consultation.

1.6.5 Change in the Supervisory Committee
Continuity of supervision is important in all graduate work. As a consequence, a change in supervisory committee, especially a change in senior supervisor, may be made only on the basis of strong reasons.

A request for a change in the supervisory committee may come from the student, any member of the supervisory committee or any member of the graduate program committee. It shall be sent to the graduate program committee accompanied by the reasons, in writing, for the proposed change. If the graduate program committee concurs in the request, it shall be sent to the dean of graduate studies for final approval.

1.6.6 Human Subjects Ethics Review
All research involving human subjects must be directed for review and approval, to the university ethics review committee. Copies of the policy (R20.01), procedures and forms for this review may be obtained from the department or the dean of graduate studies.

1.7 Residence and Course Requirements

1.7.1 Requirements for the Graduate Diploma
There is no residence requirement. Candidates must complete the University minimum requirement of 22 credit hours of graduate course work. A graduate program committee may require graduate or undergraduate work in addition to the minimum requirements, either on an individual basis or, with senate ratification, for all students in the program.

1.7.2 Residence Requirement for the Master’s Degree
The aim of the residence requirement is that the student spend a period of time in contact with faculty members and with other students. To this end, the student shall be registered in a master’s program at the University for a minimum of three full time equivalent semesters. Satisfactory progress is defined as passing at least one full time semester; on leave semesters will not count toward this minimum. No part of the minimum may be waived for work performed before admission to the University as a master’s students.

1.7.3 Course Requirements for the Master’s Degree
Master’s candidates must complete the University minimum requirement of 30 credit hours work in one of the following ways.

a) successfully complete a minimum of 12 credit hours of graduate course work and submit an original thesis
b) successfully complete a minimum of 20 credit hours of graduate course work and submit at least two extended essays, or a project
c) successfully complete a minimum of 30 credit hours of graduate course work and pass a final examination

Depending on the requirements of the program, all three alternatives may not be available. A graduate program committee may require work in addition to the minimum requirements, either on an individual basis or, with senate ratification for all students in its program.

The following constraints apply to the minimum course work requirement. One half of the minimum course work of the departmental degree requirements must be taken at this University.

On the recommendation of the graduate program committee and approval of the senate graduate studies committee, up to one half of the departmental minimum may be transfer credit from another institution.

None of the University minimum may be taken on an S/U basis.

None of the University minimum may be courses taken in order to qualify for admission.

None of the University minimum may be undergraduate courses.

A graduate student may apply to take one or more courses at another university for credit towards a degree at Simon Fraser University. Such applications shall be made at least one month before the course/ courses start and shall be approved by the student’s supervisory committee and graduate program committee and be sent to the senate graduate studies committee for final approval. No more than one half of the minimum course work requirement for the master’s degree may be taken at another university. While taking a course/courses at another university under these provisions, the student shall maintain normal registration at this University, not registration on leave.

1.7.4 Residence Requirement for the Doctoral Degree
The aim of the residence requirement is that the student spend a period of time in contact with faculty members and other students. To this end, the student shall be registered in a doctoral program at the University for a minimum period as follows.

a) doctoral students entering the program with a bachelor’s degree shall be in residence for five full time equivalent semesters.

b) doctoral students entering the program with a master’s degree shall be in residence for eight full time equivalent semesters.

c) students who have transferred to the doctoral program from the master’s degree program at Simon Fraser University without completing the master’s degree, shall be in residence for a total of eight full time equivalent semesters, at least five of which must be in a doctoral program.

Semesters of part time registration will be counted as one half of a full time semester; on leave semesters will not count toward this minimum. No part of the minimum may be waived for work performed before admission to the University as a master’s or doctoral student.

1.7.5 Course Requirements for the Doctoral Degree
There are no University course requirements for the doctoral degree. However, a student’s supervisory committee, graduate program committee or the faculty graduate studies committee, may require a student to take specified courses or credit hours as part of the degree program.

1.7.6 Doctoral Thesis
All doctoral programs require a doctoral thesis based on substantial original research.
1.8 Progress, Withdrawal and Leave

Master's and Doctoral Students

1.8.1 Progress Evaluation

At least once each year, the supervisory committee will report on the student's progress. This report will be sent, in writing, to the graduate program committee with a copy to the student. The evaluation of student progress in coursework will rely in part on their maintenance of a CGPA of 3.0, as required by graduate regulation 1.5.4.

1.8.2 Procedure for Review of Unsatisfactory Progress

If a student's progress appears to be unsatisfactory, the supervisory committee or the chair of the graduate program committee shall make a written report to the graduate program committee. That committee shall consider whether or not the student's progress has been satisfactory. Should the student's progress be found to be unsatisfactory, the committee, on consultation with the supervisory committee, if one has been appointed, may:

a) require the student to withdraw, or
b) inform the student of the unsatisfactory progress and require the student to improve in specific ways in a specific amount of time.

The student concerned has the right to appear before the graduate program committee when the case is considered, and may submit any materials relevant to the case. A student who is required to withdraw shall be informed, in writing, with copies to the dean of graduate studies and the assistant director, graduate studies. If required to improve within a specific amount of time, the student shall be informed, in writing, as to what precisely is required, with copies to the dean of graduate studies and the assistant director, graduate studies.

Any decision of the graduate program committee under the provisions of this section may be appealed to the senate graduate studies committee through the dean of graduate studies. The student has the right to appear before the senate graduate studies committee when the case is heard. The decision of that committee shall be final.

1.8.3 Withdrawal from Courses and from the University

Permission of the senior supervisor and the chair of the graduate program committee is required to withdraw from a course. If the senior supervisor is not yet appointed, permission of the chair of the graduate program committee is required. If such permission is granted, a student may withdraw from a course without academic penalty up to the end of the ninth week of classes in any semester.

Under extenuating circumstances, a student may withdraw from a course without academic penalty during the tenth to the 12th week of classes. Such circumstances must be beyond the control of the student (e.g., medical or financial crisis); under such circumstances, therefore, 898 (Master's Thesis Research), 899 (PhD Research) or a similar course may be added, as appropriate. The permission of the senior supervisor and the chair of the graduate program committee is required.

A student may withdraw from the University at any time by notifying the chair of the graduate program committee and the assistant director, graduate studies.

A student who has withdrawn from the University and who wishes to re-enter shall apply for permission under the same conditions as any other applicant.

1.8.4 Application to go on Leave

One constituent of graduate work is that a considerable length of time is devoted to concentrated work in one particular area of research. It is therefore desirable that a graduate degree involve several consecutive semesters of uninterrupted research. However, a student may apply to go on leave if both of the following conditions are satisfied:

a) a situation arises which makes it necessary or desirable to interrupt the work, and
b) no substantial use will be made of University facilities.

Permission to register on leave must be approved by the student's supervisory committee and the graduate program committee. Students on leave are required to register during the normal registration period for each semester by indicating on leave status on their current registration form. A student who does not register is considered to have withdrawn from the University.

1.9 Preparation for Examinations

Master's Students

1.9.1 Examining Committee for a Master's Degree Candidate

Each candidate for a master's degree shall be examined on the thesis, extended essays or project. Each examining committee shall have the following minimum composition:

a) the chair of the student's graduate program committee, or his/her designate, who shall be a non-voting chair of the examining committee. If the chair of the graduate program committee is also on the student's supervisory committee, he/she shall designate a member of faculty at this University, who is not a member of the student's supervisory committee, as chair.

b) all members of the student's supervisory committee.

c) a member of faculty at the University, or a person otherwise suitably qualified, who is not a member of the student's supervisory committee.

d) an external examiner who shall be specifically qualified in the field of the thesis and not be a member of faculty at the University.

1.9.2 Preparation for Examination of Master's Thesis

Preparation for the examination of a master's thesis shall not take place until the thesis is substantially complete and in the format laid down in In Preparation of Thesis, Extended Essays and Project: Regulations and Guidelines (revised February 1997). At least eight weeks before the proposed date for the thesis examination, the candidate's supervisory committee shall make a recommendation concerning the composition of the examining committee (in conformity with 1.9.1) and the date of the thesis examination. This recommendation, which shall also include the thesis title, an abstract of the thesis, and a short biography of the proposed external examiner, shall be sent to the graduate program committee, then to the Office of the Dean of Graduate Studies for consideration by the senate graduate studies committee. The recommendation must reach the Office of the Dean of Graduate Studies at least six weeks before the examination date. After the recommendation is approved, the dean of graduate studies shall formally invite the external examiner and provide information on the examination date and procedures.

Unbound copies of the completed thesis shall be given to the chair of the examining committee for distribution to that committee. A copy of the thesis shall also be made generally available for inspection by interested faculty members and students. The completed thesis shall be thus distributed no later than one month before the examination date and in no case prior to the approval of the examining committee by the senate graduate studies committee. The chair of the examining committee shall inform the dean of graduate studies in writing when the thesis has been distributed.

Doctoral Students

1.9.3 Examining Committee for Doctoral Thesis

Each candidate for a doctoral degree shall be examined on the thesis. Each examining committee shall have the following minimum composition:

a) the chair of the graduate program committee, or designate, who shall be a non-voting chair of the examining committee. If the chair of the graduate program committee is also on the student's supervisory committee, he/she shall designate a member of faculty at the University, who is not a member of the student's supervisory committee, as chair.

b) all members of the student's supervisory committee.

c) a member of faculty at the University, or a person otherwise suitably qualified, who is not a member of the student's supervisory committee.

d) an external examiner who shall be specifically qualified in the field of the thesis and not be a member of faculty at the University.

1.9.4 Preparation for Examination of Doctoral Thesis

Preparation for the examination of a doctoral thesis shall not take place until the thesis is substantially complete and in the format laid down in In Preparation of Thesis, Extended Essays and Project: Regulations and Guidelines (revised February 1997). At least ten days before the examination, the chair of the graduate program committee shall notify the candidate, the examining committee, the dean or deans of faculty concerned, and the assistant director, graduate studies of the date, place and time of the thesis examination; this date shall not be earlier than the originally proposed date. If the date or place has been changes, the chair of the graduate program committee will notify the University community.

The examination of the thesis shall take place under the regulations for thesis examination given in 1.10.1.
1.9.5 The Role of the External Examiner
The external examiner shall be chosen as a distinguished scholar with particular experience in the field of the thesis research. The examiner shall be free from potential conflict of interest which may arise, for example, from research collaboration with the student or prospective employment of the student. Whether the external examiner will participate in person or in absentia, including the possibility of a conference telephone connection or similar means, will be determined by the dean of graduate studies who will take into account the departmental views.

The external examiner shall be asked to report on the thesis, to the dean of graduate studies only, before the examination. The report, which should indicate whether the examiner believes the thesis is ready for defence, shall be sent to the chair of the examining committee, by the dean of graduate studies, for distribution to all members of the examining committee before the examination. In cases when the examiner finds the thesis ready for defence, the report will otherwise be kept confidential until after the examination; in other cases, the report need not be kept confidential. Once the examination has taken place, and if the thesis is passed, the external examiner shall send a brief report to the senior supervisor which indicates the general quality of the thesis. That report (which may be either a copy of the initial report to the dean of graduate studies or a report prepared after the thesis defense) shall accompany the recommendation for award of the degree.

In the event of examination in absentia, the report of the external examiner should be quite extensive and give a specific recommendation as to whether or not the thesis ought to pass, fail, or be subject to revision as under 1.10.2. The report shall be copied, by the dean of graduate studies, to the chair of the examining committee, for distribution to all members of the examining committee before the examination. Specific questions raised by the external examiner in that report shall be directed to the candidate during the examination.

1.9.6 Notification of Doctoral Thesis Examination
At least 10 days before the proposed examination, the chair of the graduate program committee will notify the candidate, the examining committee, the dean or deans of faculty concerned and the dean of graduate studies of the date, place and time of the thesis examination; this date shall not be earlier than the originally proposed date. The dean of graduate studies will notify the University community.

1.10 Examinations

Master’s and Doctoral Students

1.10.1 Thesis Examination
The candidate shall give an oral account of the research on which the thesis is based and defend the thesis itself. The candidate must be prepared to answer questions on the field of the research and related fields.

Thesis examinations are open to the University community. Copies of the thesis abstract shall be made available to all those attending the examination. The chair of the examining committee shall allow proper opportunity for questions on the thesis to come from persons who are not members of the examining committee but are attending the examination. The dean of graduate studies or designate shall have the right to attend all phases of the examination.

1.10.2 Classification of the Thesis
There are four possible outcomes of the thesis defence.
1) the thesis may be passed as submitted
2) the thesis may be passed on the condition that minor revisions be completed to the satisfaction of the senior supervisor
3) the examining committee may defer making judgement if it judges that the thesis could pass after additional work by the candidate. A thesis upon which judgement is deferred shall come forward for re-examination within a period specified by the examining committee. The examining committee may require formal re-examination under section 1.10.1 or may reach its decision by examination of the revised thesis. The examining committee may not defer judgement a second time.
4) the thesis may be failed. In this case, the candidate is required to withdraw from the University.

The decision of the examining committee is by simple majority vote except that, in the cases of doctoral candidates or candidates enrolled under special arrangements, the committee may not pass a thesis or defer its judgement on a thesis without the concurrence of the external examiner. A decision to pass the thesis or to defer making judgement may not be reached on a tie vote of the examining committee. If at first a majority vote to pass the thesis cannot be reached, and subsequently, if a majority vote to defer judgement cannot be reached, the thesis will be failed.

1.10.3 Recommendation for the Award of the Degree
When a student has successfully defended the thesis and made any minor revisions required, the supervisory committee shall recommend award of degree. This recommendation goes for approval respectively to the graduate program committee, the faculty graduate studies committee, the senate graduate studies committee and senate, which has the final authority to award the degree.

The title of the thesis, extended essays, professional paper and projects will be recorded on the student’s transcript.

1.10.4 Submission of the Thesis to the Library
If the examining committee has required minor revisions to a thesis, these will be completed as soon as possible after the examination and checked by the senior supervisor. Two unbound copies of the final draft of the completed thesis shall be sent to the library together with a memorandum from the senior supervisor certifying that all required revisions have been made. These two copies will be bound, catalogued and retained by the library, one for the general collection and one for the University archives. Graduate program committees may also require not more than two bound copies for departmental files and these should be submitted for binding at the same time.

When the library representative of the dean of graduate studies has checked the thesis and accepted the format, the representative will notify the registrar. No degree will be approved by senate until the registrar has been so notified.

Master’s Students

1.10.5 Examination of Extended Essays submitted in Partial Fulfillment of Degree Requirements
Examination for an extended essay shall be as for the examination of a master’s thesis. The extended essay of a successful candidate shall be deposited in the library in the same format as for a thesis.

1.10.6 Examination of Projects Submitted in Partial Fulfillment of Degree Requirements
For degrees designated ‘professional degrees’ by senate (presently executive MBA, day MBA, Med, MPM, MRM, MEng, MPub) the project will be examined in ways designated by the appropriate faculty graduate studies committee and the dean of graduate studies.

Examination of projects for all other graduate programs shall be as for the examination of theses with the following exceptions: when the project is either live, taped or filmed, only one presentation is required for examination, and only one recording is required for deposition in the library. The one copy deposited in the library shall be the property of the University. The student shall have the right to copy the original, and the right to borrow it for external showing at the discretion of the librarian.

1.11 Publication of Thesis
When the thesis is submitted to the library, the student shall authorize the copying and publication of the thesis as follows.

1.11.1 Partial Copyright License
Except as noted in 1.11.3, the student shall sign a partial copyright license which grants to the University the right to lend the thesis to users of the library, and to make partial or single copies for such users. Multiple copying is not permitted without written permission from the author except that, if the author is unobtainable, the dean of graduate studies may give this permission.

1.11.2 Microfilming
Except as noted in 1.11.3, the student shall sign an agreement form authorizing the National library to microfilm the thesis and to sell microfilm copies on request.

1.11.3 Postponement of Publication
The thesis may be withheld from circulation and from copying for a period of six months from the date of defence of the thesis, in order to protect patentable material, pending application, or where immediate commercial publication is in view. In unusual cases this period might be extended for a further six months. At the time of the thesis defence, a thesis withholding document requesting and authorizing such delay shall be signed by the student, the senior supervisor, and the dean of graduate studies. The official copies of the thesis and all pertinent forms shall be deposited in the library along with the withholding document. A copy of the thesis shall not be sent to the National Library during the restricted period but the abstract of the doctoral thesis shall be sent to Dissertation Abstracts International with the period of restriction duly noted.

1.11.4 Publication of the Thesis by the Student
None of the clauses above preclude the student from publishing the thesis in any form at any time.

1.12 Maximum Time for Completion of the Requirements for the Degree

1.12.1 General
The maximum times for completion given below are not intended to be the normal times for completion. They are intended to take into account a wide variety
of extraordinary circumstances and events that may delay completion. Individual departments may specify their expectations of normal degree completion times as a guide to determining whether a student’s progress is satisfactory.

1.12.2 Master’s Degree
A student shall complete all of the requirements for a master’s degree within twelve semesters of full time equivalent (FTE) enrolment. In addition, all requirements of the master’s degree must be completed within six calendar years of initial enrolment as a master’s student.

1.12.3 Doctoral Degree
A student shall complete all the requirements for a doctoral degree within eight calendar years of initial enrolment as a doctoral student or, in the case of a student who has transferred from a master’s program into the doctoral program without completing the master’s degree, within eight calendar years of initial enrolment as a master’s student.

1.12.4 Readmission
Under exceptional circumstances and with the recommendation of the departmental graduate program committee concerned, a student who did not complete the degree requirements within the maximum time, and who was thus required to withdraw, may be readmitted for one semester only to complete those requirements. Final approval for readmission is by the dean of graduate studies.

1.13 Award of the Degree

1.13.1 Application for Graduation
Every candidate for a graduate degree is responsible for applying for graduation on forms available from the Office of the Registrar.

1.13.2 Award of the Degree
Award of the degree is by resolution of senate.

1.13.3 Transcripts
Certified official transcripts of the student’s graduate academic record may be obtained from the Office of the Registrar. Only individually signed copies with the University seal are valid. For further information on cost refer to fees section.

1.14 Convocation Ceremony
Convocation is held twice annually. Graduates from the previous fall and spring semesters convocate in early June, while graduates from the summer semester convocate in October.

1.15 Class Interruption
Simon Fraser University makes reasonable efforts to ensure that its classes and courses of instruction proceed on a regular basis and without interruption. Faculty have certain discretion to cancel or change the timetable for their classes; they will endeavor to give reasonable notice of any cancellation or change. Simon Fraser University will not be responsible for
cancellation or change of any class. Neither will Simon Fraser University be responsible for the interruption or termination of any class or course of instruction which results from fire, riot, labor disruption or any other event which occurs despite the University’s efforts, or for failure to give notice of the interruption or termination.

1.16 Graduate Student Appeals

Grades
May be appealed to the instructor, department chair and, in some cases, faculty dean in accordance with academic policy T 20.01.

Progress Evaluations
May be appealed to the senate graduate studies committee (see 1.8.2).

Appeals
Appeals of admission decisions are referred to the committee to review university admissions. Appeals of decisions on registration, withdrawal, graduation, entry/re-entry to a program or any matter relating to academic standing (other than review of unsatisfactory progress) are referred to the senate appeals board.

Any decision of the graduate program committee under the provisions of general regulation 1.8.1 review of unsatisfactory progress may be appealed to the senate graduate studies committee through the dean of graduate studies.
The board of governors reserves the right to change the schedule of fees and refunds without notice.

Fees for Diploma, Master’s and PhD Students

full time fee unit ........................................ $768

exception: graduate diploma in business administration ......................... $3000
graduate diploma in advanced professional studies in education .................. $4,806
off campus MEd program .......... $1750
EdD program ......................... $2700
executive MBA program (weeknight program) ............................................ $3,500
executive MBA program (weekend program) ............................................ $4,430
MBA program (day program) ........ $800
MBA program (accounting professionals) ............................................... $5334
MBA program (management of technology) ...... per course $1667.67
joint MBA/MRM program ............ $784
MPub program ............... per course $500
................................................ internship $1000

- Part time fee is equal to one half of the full time fee unit (see Graduate General Regulations 1.4.5.).
- Co-op fee is equal to one half of the full time fee unit (see Graduate General Regulations 1.4.6.).
- The minimum fee for a master’s degree is set at six full time fee units, unless the degree is completed in no more than 24 consecutive months of full time enrolment, in which case the student is liable only for the fee units payable until the date of completion of all degree requirements.
- The minimum fee for the joint MRM/MBA degree is set at 12 full time fee units, unless the degree is completed in no more than 44 consecutive months of full time enrolment, in which case the student is liable only for the fee units payable until the date of completion of all degree requirements.
- The minimum fee for a doctoral degree is set at eight full time fee units, unless the degree is completed in no more than 32 consecutive months of full time enrolment, in which case the student is liable only for the fee units payable until the date of completion of all degree requirements.
- For students registered in the EMBA program, a continuing fee equal to one half of the regular full time fee unit will be payable in the second and subsequent semesters of continuing registration.
- The continuing fee, equal to one half of the full time fee unit, is payable by students who have met the minimum fee requirement stated above.
- Students who transfer to another degree program, without completing the first, retain credit for fee units already paid.
- Registration in specific semesters in programs designated as discontinuous does not require payment of a fee. Those programs designated as discontinuous and affected semesters are:
  - Program/ Semesters
  - MALS: first and second summers
  - MEng: every summer
  - MRM: first and second summers, only for students who have registered part-time exclusively.
- Students registered on a time extension beyond the maximum given in Graduate General Regulation 1.12 are required to pay a registration fee equal to one full time fee unit for each such registration.

Students registered for one semester to complete degree requirements as described in Graduate General Regulation 1.12.3 are required to pay a registration fee equal to one and a half full time fee units.

Fees for Special, Exchange, and Qualifying Students

tuition fee per credit hour ............... $77

Note: No tuition fees will be charged to an exchange student who is a bona fide graduate student paying regular fees at another Western Canadian university which extends a like privilege to graduate students registered at Simon Fraser University.

Other Fees

All fees are payable per semester.

Athletic-Recreation Fee

students registered full time ....................... $30.00
students registered part time ..................... $15.00

Students registered in co-op or on leave do not pay this fee.

Student Activity Fee

students registered full time ....................... $55.81
students registered part time ..................... $27.91

except for: students taking courses for credit at designated off campus locations ............... $27.91

Students registered on leave do not pay this fee.

Student Services Fee

students registered full time and part time ... $18.00
Students registered in co-op, on leave, or in the off-campus MEd program do not pay this fee.

Special Fees

application fee ................................. $55.00
on leave fee (see Graduate General Regulations 1.8.4) ......................... $154.00
late registration fee ....................... $50.00
reinstatement fee ....................... $100.00
official transcript of academic record ......... $3.25

Normally, students are required to submit the transcript fee before the transcript will be released. Only at the discretion of the registrar will the student be billed for a transcript after its release.

late submission fee ....................... (see Refunds below) replacement library card fee ............... $16.50

The non-refundable graduation fee is payable in six installments of $6.00 in each of the student’s first six semesters of registration in the graduate program.

Penalty for Late Fee Payment

A penalty of 2% of outstanding fees after the last day of the fourth week of classes is payable, plus 2% of outstanding fees for each four week period thereafter, for a minimum charge of $10.

Mandatory Supplementary Course Fees

In addition to credit course fees, mandatory supplementary course fees may be assessed for individual courses in addition to basic tuition. Mandatory supplementary course fees cover additional costs associated with photocopied materials, prepared computer disks and/or audio visual tapes that may replace or enhance the use of a required text as a means of instruction. This material may be distributed by the bookstore or individual departments.

A schedule of these fees appears below, and is also published in the Graduate Course Timetable. The fees are approved by the vice president finance and administration, following the recommendation of the advisory committee on mandatory supplementary course fees. Questions regarding these fees may be directed to the department initiating the fee, the Office of the Registrar, or the vice president finance and administration.

Mandatory supplementary course fees are not charged for regular credit instruction services which may include:
- evaluation of work or performance, such as marking of papers and exams
- laboratory use, including materials and supplies that are consumed during laboratory use. (Departments may charge a refundable deposit for materials that are used by the student and returned to the University in reasonable condition at the end of the course.)
- basic library facilities including one library card and access to collections
- basic microcomputer laboratory use
- materials or services required as a result of the method of instruction such as audio visual equipment, course outlines, study rooms and films and video tapes that are integral to the instruction and do not become property of the student.

Marine Science

All MASC courses offered at the Western Canadian Universities Marine Biological Station (Bamfield) ................................................. $137 per credit hour

Resource and Environmental Management

REM 698 .............................................. $100 per semester

Form of Payment

Unless otherwise authorized, fees must be paid in full each semester at the time of registration. Credits for scholarships or bursaries will be given only on the authority of the dean of graduate studies. A student applying for Canadian student loans should try to make arrangements to pay fees from other sources, as loans cannot be authorized until the student is officially registered.

With regard to the British Columbia student assistance program, students are reminded to register as full time students in order to qualify to receive funds in a given semester, to retain funds received in a given semester, and to be granted interest free status for a given semester.

Refunds

Withdrawal from Program

If a student withdraws from the graduate program without completing the degree before the end of the semester, refunds will be calculated from the date the student officially notifies the registrar in writing of his/her withdrawal from the University. Withdrawal in the first month of the semester will result in a refund of 50% of the tuition fees payable. No other refund will be made.

Change of Fee Status

Students whose registration status changes during a semester and within the first four weeks of classes,
may be eligible for partial refund of the applicable fees and should consult the Office of the Registrar for further information. No other refund will be made.

Qualifying and Special Students
Fees and fee refunds for qualifying and special students are in accordance with the undergraduate fee schedule.

Overdue Accounts
Students in bad financial standing because of overdue University accounts will be precluded from registering in subsequent semesters. In addition, the University will withhold certain services. For example, the Office of the Registrar will not release various letters and documents including: statement of grades, official transcripts of academic record, and parchments for degrees, diplomas and certificates. Delinquent accounts will be forwarded to a collection agency for appropriate action.

Students with overdue accounts will be assessed a penalty of 2% after the first day of the fifth week of classes, and an additional 2% in each four week period thereafter. A minimum charge of $10 will apply to each penalty assessment. Total penalties will be adjusted to conform to Canadian laws and regulations when the final payment is made.

Completion of Program
If a student completes all requirements for the degree during the semester, the following refund schedule for total tuition fees payable will apply:
Completion in the first month of the semester refund of 75% of fees payable for the semester
Completion in the second month of the semester refund of 50% of fees payable for the semester
Completion in the third month of the semester refund of 25% of fees payable for the semester

Refunds are applicable to the time extension surcharge, but not to the readmission, reinstatement or late registration fees. Refunds will be made only if the required minimum fee has been paid.

Fee Waiver
The on-leave fee may be waived in exceptional circumstances, for example, from accident, illness or parenting, on the basis of medical documentation.

Late Submission Fee
The fee for submission to the library of thesis, project or extended essays after the deadline for submission, but prior to the first day of classes of the next semester, shall be one eighth of a full time fee unit.

The late submission fee applies to all degree completion requirements, including the master's final examinations.

Fees for Courses at Another Institution
A student registered at Simon Fraser University who takes a course at another institution of higher learning and has had this course approved in advance for credit towards the graduate program (see General Regulations) is responsible for enrolling at the other institution and paying fees assessed by that institution. When the student produces satisfactory evidence of tuition fee payment at the other institution, the Simon Fraser University fees for that semester will be decreased by this amount.

The student must maintain full time registration at Simon Fraser University. The SFU fee paid for that semester will be refunded to an amount not to exceed the lesser of the two amounts.

The ‘minimum fee for the degree’ is at least six fee units for a master’s degree and at least eight fee units for a doctoral degree.

Tuition Fee Certificates (T2202A)
The official tuition fee certificates will be produced by the Cashiers’ Office in January of the following year. They will be available for personal pick up at the Cashiers’ Office during the month of February in the following year.

Financial aid is available from government and other granting bodies and from awards within the University which are administered by the Office of the Dean of Graduate Studies. Refer to the graduate awards database at the above Internet address. Other sources of income are teaching assistanceships (TAs) and research assistanceships (RAs) which are available in most departments. Applications should be directed to the chair of the appropriate graduate program committee.

The Financial Assistance office administers all student loan applications and awards based on financial need. These include the Canada student loan program, the work study program and graduate bursaries. For further information, contact the Financial Assistance office, Student Academic Resources, Maggie Benston Student Services Centre, (604) 291-4356.

Plan and apply well in advance as many scholarship deadlines occur up to 12 months before the granting of the award. Application deadlines are listed for some of the following awards. Please note that these are approximate dates only, and are subject to change by the awarding agency.

International students — students who are not Canadian citizens and who would require financial assistance to attend Simon Fraser University must seek such assistance in their country of origin before arrival in Canada. Many of the outside awards are restricted to Canadian citizens or permanent residents. However, foreign students are eligible for most awards granted by the University.

### Categories of Graduate Awards, Bursaries and Stipends

The following information is intended as a guide only. Further information may be found in the *Graduate Awards Guide* which is available for loan in the reserve section of the W.A.C. Bennett Library. Every attempt has been made to provide up-to-date information. However, it remains the prerogative of the award-granting agencies to change deadline dates, discontinue awards, etc. without prior notice.


The following awards are contingent upon the availability of funds. Detailed information is available from the Dean of Graduate Studies Office, AQ 6046. Completed application forms should be submitted to the applicant’s department of enrolment by the indicated deadlines.

#### Special Awards

**Academic and Service Awards**

*Terms of reference:* Graduate students are eligible for many of the University Service Awards listed in the undergraduate Financial Assistance and Awards section of the Calendar. Please refer to this section for detailed information.

**Athletic Awards**

*Terms of reference:* Graduate students who compete on a Simon Fraser University varsity team may be eligible for Athletic Awards. Please refer to the undergraduate Financial Assistance and Awards section of the Calendar for further information. See “Financial Assistance and Awards” on page 44.

#### Dean of Graduate Studies Convocation Medals

- **Value:** 0
- **Application deadline:** April 30
- **Terms of reference:** A silver medal has been established for a graduating graduate student from each faculty. The dean of the respective faculty will recommend a student who has achieved the highest level of academic excellence in his/her graduate program.

#### Governor-General’s Gold Medal

- **Value:** 0
- **Application deadline:** April 30
- **Terms of reference:** A gold medal, presented by His Excellency, the Governor General of Canada, will be awarded to the graduate student who achieves the highest academic standing in his/her master’s or doctoral degree program.

#### Entrance Scholarships

**Arthur Anderson & Company Graduate Entrance Scholarship**

- **Value:** $5,000
- **Application deadline:** March 15
- **Tenable:** Any semester
- **Terms of reference:** One or more scholarships valued at approximately $5,000 for a student entering a graduate program in the field of accounting.

**ASI Graduate Student Awards**

- **Value:** $5,000
- **Application deadline:** any semester, by nomination
- **Tenable:** any semester
- **Terms of reference:** Fellowships of approximately $5,000 to outstanding Canadian students entering a new graduate program in an advanced systems discipline such as information technology, micro electronics, robotics and/or telecommunications. Students must be nominated by their intended department of enrolment to the director of the Centre for Systems Science.

**Wm. F. and Ruth Baldwin Graduate Entrance Scholarship in Cultural History**

- **Value:** $8,000
- **Application deadline:** March 15
- **Tenable:** Two consecutive semesters
- **Terms of reference:** One or more, two-semester awards valued at approximately $8,000 awarded preferentially to an incoming student pursuing a graduate degree in British history.

**Douglas Cole Memorial Graduate Entrance Scholarship in Chemistry**

- **Value:** $1,500
- **Application deadline:** March 15 (by nomination)
- **Tenable:** Any semester
- **Terms of reference:** Two annual scholarships valued at $1,500 each will be awarded to the top entering graduate students in the Department of Chemistry. Candidates will be judged on their scholastic and research achievements and potential. Students must be nominated by their intended department. Nomination deadline: March 15.

**Graduate Entrance Scholarship in Business Administration**

- **Value:** $1,200
- **Application deadline:** March 15
- **Tenable:** Any semester
- **Terms of reference:** An award of approximately $1,200 for a student entering a graduate degree program in business administration in the Faculty of Business Administration.

**Faculty of Science Graduate Entrance Scholarship**

- **Value:** varies
- **Application Deadline:** March 15
- **Tenable:** Fall semester
- **Terms of reference:** Terms have not yet been finalized. One award for a student from the University College of the Fraser Valley entering the MSc program in a department in the Faculty of Science at Simon Fraser University. For further information, please contact the Office of Dean of Graduate Studies.

**Arthur and Ancie Fouks Graduate Entrance Award in Public Service**

- **Value:** $4,000
- **Application deadline:** March 15 (by nomination)
- **Tenable:** Any semester
- **Terms of reference:** One award valued at approximately $4,000 to recognize both outstanding academic performance and a high level of public service by a student entering a graduate program at Simon Fraser University. Student must be nominated by his/her intended department. Nomination deadline: March 15.

**Robert Hancock Dunham Memorial Scholarship in English**

- **Value:** $2,700
- **Application deadline:** March 15
- **Tenable:** Any semester
- **Terms of reference:** One award of approximately $2,700 for a student entering a graduate degree program in the Department of English.

**Graduate Entrance Scholarship in Geography**

- **Value:** $1,500
- **Application deadline:** March 15
- **Tenable:** Any semester
- **Terms of reference:** One award of approximately $1,500 for a student entering a graduate program in geography.

**Bert Henry Memorial Graduate Scholarship**

- **Value:** $18,000
- **Application deadline:** March 15
- **Tenable:** three consecutive semesters

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Terms of reference: The recipient is an outstanding student who has obtained the master’s degree and is entering any PhD program at Simon Fraser University. The recipient must show high academic performance and potential for significant contribution to the chosen field of study. One award valued at $18,000 per annum is made. Tenure is for one year and may commence in any semester.

Grace Woodsworth MacInnis Graduate Award
Value: $200
Application deadline: March 15
Tenable: Any semester
Terms of reference: Established in honour of Grace Woodsworth MacInnis in recognition of her outstanding contribution as a Canadian parliamentarian and a pioneer woman in Canadian politics. The award, valued at approximately $200, supports a student entering the graduate program in women’s studies.

Temple Maynard Graduate Entrance Award in English
Value: $16,000
Application deadline: March 15
Tenable: two consecutive semesters
Terms of reference: One award valued at $16,000 to a student entering a graduate program in the Department of English.

Master of Pest Management Graduate Entrance Scholarship
Value: $500
Application deadline: September 30
Tenable: January
Terms of reference: One award valued at approximately $500 for a student in their first semester of study only in a graduate degree program leading to a master of pest management.

C.D. Nelson Memorial Graduate Scholarships
Value: $17,000
Application deadline: March 15
Tenable: three consecutive semesters
Terms of reference: Recipients are outstanding scholars entering any Simon Fraser University graduate program. Twelve or more awards valued at $17,000 per annum are made. Tenure is one year and may commence in any semester.

Scott Paper Limited Bicultural Graduate Entrance Fellowship
Value: $15,000
Application deadline: March 15
Tenable: three consecutive semesters
Terms of reference: The recipient is an outstanding student who has received a previous degree at a University in the province of Quebec and is entering any Simon Fraser University graduate program. One award valued at $15,000 per annum is made. Tenure is one year and may commence in any semester.

Graduate Entrance Scholarship in Political Science
Value: $700
Application deadline: March 15 (by nomination)
Tenable: Any semester
Terms of reference: One award of approximately $700 for a student entering an MA or PhD program in political science. The student must be nominated by his/her intended department.

Simons Foundation Doctoral Entrance Fellowship (for Women)
Value: $17,000
Application deadline: March 15
Tenable: three consecutive semesters
Terms of reference: The recipient is an outstanding woman scholar entering any PhD program at Simon Fraser University. The recipient must show potential for significant contribution to society through achievement in her chosen field. One award valued at $17,000 per annum is made. Tenure is one year and may commence in any semester.

O.H. Sorila Memorial Graduate Scholarship in Philosophy
Value: $500
Application deadline: March 15
Tenable: Fall semester
Terms of reference: One scholarship of approximately $500 for a student entering a master of arts program in the Department of Philosophy. Preference is given to a student coming from overseas, but intending to return to their homeland after degree completion.

Southam Inc. Graduate Entrance Scholarship in Publishing
Value: $3,000
Application deadline: March 15
Tenable: Any semester
Terms of reference: One award valued at approximately $3,000 for a student entering the master of publishing program.

Special Graduate Entrance Scholarship
Value: $2,000-$3,000
Application deadline: any semester, by nomination
Tenable: September, January or May
Terms of reference: One semester awards between $2,000 and $3,000 to students entering a new graduate program at Simon Fraser University. To be eligible, a student must show academic excellence and proof that he/she is being actively recruited by another university. Students must be nominated by their graduate program chair in their intended department to the dean of graduate studies.

Dorothy Middler Thomas Graduate Entrance Scholarship in English
Value: $600
Application deadline: March 15
Tenable: Any semester
Terms of reference: One award valued at approximately $500 for a student entering a graduate program in the Department of English.

C.D. Nelson Memorial Graduate Scholarships
Value: $17,000
Application deadline: March 15
Tenable: three consecutive semesters
Terms of reference: Recipients are outstanding scholars entering any Simon Fraser University graduate program. Twelve or more awards valued at $17,000 per annum are made. Tenure is one year and may commence in any semester.

Doreen Wilkinson Memorial Graduate Scholarship in Economics
Value: $1,500
Application deadline: March 15 (by nomination)
Tenable: Any semester
Terms of reference: One or more scholarships of approximately $1,500 will be awarded to graduate students entering the doctoral program in economics at Simon Fraser University. The fund honors Doreen Wilkinson, economics departmental assistant, friend and mentor to many. Students must be nominated by the department by March 15.

Private Awards
The following awards are contingent upon the availability of funds.

J. Abbott/M. Fretwell Graduate Fellowship in Fisheries Biology
Value: $4,000
Application deadline: September 30
Tenable: January
Terms of reference: One fellowship of $4,000 to a graduate student showing academic merit in fisheries biology. Preference will be given to an applicant with a strong sports background. This fellowship was established in memory of Jeremy Abbott and Michael Fretwell after their death in a tragic helicopter accident in September 1988.

M.D. Angus & Associates Graduate Fellowship in Psychology
Value: $300
Application deadline: September 30
Tenable: January
Terms of reference: One award valued at approximately $300 to assist a graduate student in psychology with the development of a publishable standardized test.

Archaeometry Prize
Value: $200
Application deadline: April 15
Tenable: summer
Terms of reference: A prize valued at approximately $200 will be awarded annually in the summer semester. The prize will be available to either an undergraduate or graduate student who has shown exceptional scholarship and an interest in the application of physical science to archaeology.

Contact Financial Assistance and Awards, Student Academic Resources, Maggie Benston Student Services Centre.
BC Council of Garden Clubs
Value: $750
Application deadline: September 30
Tenable: January
Terms of reference: A scholarship of $750 will be awarded to a student in the master of pest management program whose course of studies emphasizes horticultural pest control. The recipient must be a Canadian citizen.

B.C. Environmental Studies in Transportation Award
Value: $700
Application deadline: September 30
Tenable: January
Terms of reference: One award of approximately $700 to recognize outstanding academic performance by a graduate student whose thesis research is related to the study of land-based transportation systems and their relationship to, and improvement of, the environment.

Aphra Behn Graduate Scholarship in English
Value: $8,000
Application deadline: May 30
Tenable: September and January
Terms of reference: One or more, two-semester awards valued at $8,000, for a mature (minimum age 30) female student pursuing a graduate degree program in English conducting research, preferably in pre-20th century English literature.

B.P. Beirne Prize in Pest Management
Value: $1,200
Application deadline: April 30 (by nomination)
Tenable: Any semester
Terms of reference: An annual prize, valued at approximately $1,200 with accompanying certificate will be awarded during May each year to the outstanding graduate from the master of pest management program in the three semesters immediately preceding Convocation. The award is in honor of the late Dr. B.P. Beirne, founder of the Centre for Environmental Biology at Simon Fraser University. It will be made by nomination by the director of the Centre for Pest Management in consultation, as necessary, with faculty. The candidate will be judged equally on his or her scholastic record, professional paper and relevant professional attributes. The student must be nominated by the department by April 30.

Alan Boag Scholarship
Value: $2,000
Application deadline: September 30
Tenable: January
Terms of reference: This scholarship, valued at $2,000, is the gift of the trustees of a fund established by the late Alan Boag. It is available to graduate students in business administration, economics, history, political science, sociology and anthropology who have completed two semesters of full time study at Simon Fraser University.

Applicants must submit a superior essay on some aspect of socialism which shows originality in analysis and treatment of the area. Students are advised to consult with faculty regarding the suitability of the proposed essay subject. No award will be made if, in the opinion of the referees, a suitably high standard has not been reached.

Boag Foundation Graduate Scholarship in Women's Studies
Value: $2,000
Application deadline: April 30
Tenable: September
Terms of reference: One award of $2,000 for a graduate student in women's studies. Submission of a superior report/essay on any topic concerning feminist socialist issues is required. Special consideration given for originality in analysis and treatment of the area.

Cable Television Pioneer Graduate Scholarship
Value: $700
Application deadline: September 30
Tenable: January
Terms of reference: One scholarship of approximately $700 for a graduate student working towards the degree of master of science or doctor of philosophy specializing in fish biology or aquatic ecology.

Canadian Fishing Company Graduate Scholarship
Value: $600
Application deadline: September 30
Tenable: January
Terms of reference: A scholarship valued at $600 will be awarded to a student working towards the degree of master of science or doctor of philosophy specializing in fish biology or aquatic ecology.

CanCopy Graduate Award in Publishing Studies
Value: $1,800
Application deadline: September 30
Tenable: January
Terms of reference: A scholarship of approximately $1,800 is awarded to a graduate student in the master of publishing program, demonstrating experience within the Canadian book publishing and/or periodical publishing and/or music publishing sector.

Canron Limited Sidney Hogg Memorial Graduate Scholarship
Value: $650
Application deadline: September 30
Tenable: January
Terms of reference: An award of approximately $650 will be awarded to a worthy and deserving student in postgraduate studies in physics. The spirit of this scholarship is to assist a student who requires financial aid to continue studies and who, at the same time, qualifies in terms of character and scholarship as determined by the physics department and the senate graduate awards adjudication committee.

CanWest Graduate Scholarship in Communication
Value: $4,000
Application deadline: September 30
Tenable: January
Terms of reference: One or more scholarships of $4,000 are awarded annually to graduate students in the School of Communication with a particular interest in issues related to broadcasting.

Chemistry Graduate Research Award
Value: $800
Application deadline: May 30
Tenable: September
Terms of reference: One award valued at approximately $800 to recognize superior performance in the first year of graduate studies in chemistry.

David and Rachelle Chertkow Healthy Families Essay Prize
Value: $300
Application deadline: May 30
Tenable: September
Terms of reference: One award of approximately $300 for a graduate student in any faculty who is pursuing research in the area of healthy families. The prize will consist of the cash award plus a plaque or certificate. The criteria include demonstrated academic excellence at the undergraduate or graduate level and submission of an essay/research paper on promoting healthy families, or prevention of family violence.

Israel Chertkow Memorial Scholarship in Gerontology
Value: $150
Application deadline: September 30 (by nomination)
Tenable: January
Terms of reference: One award of approximately $150 is awarded to the top graduating student in the gerontology diploma program. It is made by nomination by the director of the Gerontology Research Centre. Nomination deadline: September 30.

Barry Clark Memorial Graduate Scholarship in Pre-Twentieth Century English Literature
Value: $800
Application deadline: September 30
Tenable: January
Terms of reference: One award of approximately $800 for a graduate student in English, specializing in pre-twentieth century English literature.

COGECO Graduate Scholarship in Communications
Value: $12,000
Application deadline: September 30
Tenable: January
Terms of reference: One or more, two-semester awards of approximately $12,000 for a graduate student in communication.

Samuel and Leatrice Cohen Prize in Environmental Physiology
Value: $600
Application deadline: September 30
Tenable: January
Terms of reference: Two awards of $300 each are awarded to students who demonstrate an unusual interest in human physiology.

The Graduate Prize in Computing Science
Value: $150
Application deadline: January 30 (by nomination)
Tenable: May
Terms of reference: One prize of approximately $150 is awarded to the top graduate student in computing science from income earned from the Graduate Prize in Computing Science endowment fund. The student must be nominated by the department.

Cook Conference Scholarship
Value: $1,500
Application deadline: January 30
Tenable: May
Terms of reference: One or more scholarships will be awarded to graduate students studying in any field of history on the basis of high academic performance.

Criminology Graduate Student Research and Education Grants
Value: $250
Application deadline: January 15, September 15
Tenable: May or January
Terms of reference: Travel grants limited to $250 each for graduate students to travel to conduct research or participate at a conference, workshop or attend a course.

Isabel Dawson Memorial Scholarship in Gerontology
Value: $150
Application deadline: September 30
Tenable: January
Terms of reference: A scholarship of approximately $150 to provide financial recognition to an outstanding student engaged in research or study in gerontology.

Gordon Dyewert Graduate Scholarship in Kinesiology
Value: $1,200
Application deadline: September 30
Tenable: January
Terms of reference: A scholarship valued at approximately $1,200 will be awarded to a graduate student on the basis of high academic performance and study in the area of motor learning in kinesiology. This fund has been established in honor of Dr. Gordon Diewert for his contribution to the School of Kinesiology at Simon Fraser University.

**Distinctive Travel Service Inc. Graduate Scholarship in Education**

Value: $700  
Application deadline: September 30  
Tenable: January  
Terms of reference: One or more awards valued at approximately $700 for a graduate student in the Faculty of Education. When possible, the scholarship should be granted to a graduate student with travel costs that are not funded from other sources involved in their research project.

**Ebco/Epic Graduate Scholarships in Expert Systems**

Value: $700-$1,000 each  
Application deadline: September 30 (by nomination)  
Tenable: January  
Terms of reference: Several scholarships valued between $700 and $1,000 each are available to graduate students in the Centre for Systems Science. These are:
- The Eppich Family Graduate Scholarship
- The Helmut Eppich Graduate Scholarship
- The Hugo Eppich Graduate Scholarship
- The Gordon, Monica, and Sonia Eppich Graduate Scholarship
- The Kalteneiger Family Graduate Scholarship
- The Ralph M. Howatt Family Graduate Scholarship
- The Century 21/Charwood Family Graduate Scholarship
- The Frieder Karl Kempe Graduate Scholarship
- The Cy and Emerald Keyes Graduate Scholarship
- The Franklin D. and Helen K. Van Pykstra Graduate Scholarship
- The Bel Construction Ltd. Graduate Scholarship
- The BC Welding Supplies Ltd. Graduate Scholarship
- The Clark, Wilson Graduate Scholarship
- The Canadian Liquid Air Ltd. Graduate Scholarship
- The Hanson Inc. Graduate Scholarship
- The Deskin Sales Graduate Scholarship
- The Jardine Rolfe Ltd. Graduate Scholarship
- The Nova-Tech Engineering Inc. Graduate Scholarship
- The Westak International Sales, Inc. Graduate Scholarship
- The Transco Tool and Equipment Ltd. Graduate Scholarship
- The ABC Recycling Ltd. Graduate Scholarship
- The Robar Industries Limited Graduate Scholarship
- The Opus Building Corporation Graduate Scholarship
- The Ladner Downs Graduate Scholarship
- The Pacific Metals/Leon Lotzkar Memorial Graduate Scholarship
- The Backwater Industries/Jost Family Graduate Scholarship
- The Global (West) Wholesalers Ltd. Graduate Scholarship
- The Kreykenbohm Family Graduate Scholarship
- The Anna Kreykenbohm Graduate Scholarship
- The Wilhelm Kreykenbohm Graduate Scholarship
- The Michael and Grace Kreykenbohm Scholarship

Students are nominated for these awards by the director of the Centre for Systems Science. Nomination deadline: September 30.

**Emergency Preparedness Conference Scholarship in Emergency Communications**

Value: $2,000  
Application deadline: September 30  
Tenable: January  
Terms of reference: An award valued at approximately $2,000, to provide financial support for a graduate student in the School of Communication or other appropriate area in the emergency communications field, pursuing an applied research project in the area of emergency/disaster management.

**Executive MBA Alumni Scholarship**

Value: $500-$2,500 each  
Application deadline: September 30, January 30, May 30  
Tenable: January, May, September  
Terms of reference: Scholarships valued at between $500 and $2,500 awarded to graduate students in the first, second, or third years of the executive master of business administration program (EMBA).

**Dr. E. A. Fattah Graduate Scholarship in Criminology**

Value: $2,000  
Application deadline: September 30  
Tenable: January  
Terms of reference: An award valued at approximately $2,000 to a graduate student in criminology pursuing graduate work in the area of victimology. Student should show promise of outstanding achievement at the graduate level with particular emphasis on intellectual ability, originality and ability in research.

**Marguerite Fauquenoy Graduate Scholarship in French**

Value: $500  
Application deadline: September 30 or January 30  
Tenable: January or May  
Terms of reference: One award valued at approximately $500 to a graduate student who has completed at least one semester of graduate work at Simon Fraser University in the area of French linguistics, varieties of French, French-based Creoles, French literature, or French studies.

**Professor Thelma Finlayson Fellowship**

Value: $4,000  
Application deadline: September 30  
Tenable: January  
Terms of reference: Professor Thelma Finlayson has established a $4,000 fellowship to be offered to graduate students enrolled in programs leading to the master of pest management degree. Preference will be given to students working in the field of entomology.

**French Memorial Graduate Scholarship**

Value: $1,200  
Application deadline: May 30  
Tenable: September  
Terms of reference: One award of approximately $1,200 for a graduate student in French.

**Mahatma Gandhi Memorial Scholarship in Kinesiology**

Value: $700  
Application deadline: January 30  
Tenable: May  
Terms of reference: A scholarship valued at approximately $700 will be awarded to a kinesiology graduate student whose research interests are in the areas of nutrition and/or aging. Preference may be given to students who are considered to be deserving and financially needy.

**Glen Geen Graduate Scholarship in Marine Biology**

Value: $500  
Application deadline: September 30  
Tenable: January  
Terms of reference: One award of approximately $500 for a graduate student in biological sciences with a concentration on marine biology.

**German Canadian Benevolent Society of British Columbia Aulinger Award in Gerontology**

Value: $500  
Application deadline: September 30  
Tenable: January  
Terms of reference: One or more scholarships of approximately $500 will be awarded to a graduate student in the area of gerontology of approximately $500 provides financial support for a graduate student pursuing a master’s degree in gerontology. Emphasis is on high academic performance and a research focus on aging and the built environment or on health promotion and aging.

**Sidney Hogg Memorial Graduate Scholarship**

Value: $750  
Application deadline: September 30  
Tenable: January  
Terms of reference: Mrs. Sidney Hogg has established an endowment, the earned income therefrom to provide a perpetual scholarship of approximately $750 annually. This scholarship is to be awarded to a graduate student in science who needs financial assistance in order to continue studies and who is qualified in terms of character and scholarship. The award may be held in conjunction with other awards.

**Imperial Order of the Daughters of the Empire Seaman Morley Scott Memorial Graduate Scholarship**

Value: $300  
Application deadline: September 30  
Tenable: January  
Terms of reference: A graduate scholarship of approximately $300 in memory of Dr. Seaman Morley Scott will be awarded annually to a female graduate student who is a Canadian citizen who demonstrates high meritious performance in her academic program.

**International Reading Association Scholarship**

Value: $700  
Application deadline: January 30  
Tenable: May  
Terms of reference: One scholarship of approximately $700 awarded to a full or part time graduate student pursuing studies in literacy education.

**Daniel Janzen Memorial Graduate Scholarship**

Value: varies  
Application deadline: September 30  
Tenable: January  
Terms of reference: Established in memory of Daniel Janzen by his friends and family. To provide financial support to a graduate student studying for an MA degree in economics or political science, or an MBA in business administration. Preference, when possible, will be given to a student coming to Simon Fraser University from the University College of the Fraser Valley.

**Billy Jones Memorial Graduate Scholarship**

Value: $2,500  
Application deadline: September 30 (by nomination)  
Tenable: January  
Terms of reference: This award of approximately $2,500 for a graduate student in physics, was established in honor of the late Dr. B.L. Jones, a faculty member in the physics department from 1967 to 1981. The student must be nominated by the department.

**Dr. Tai Whan Kim Memorial Graduate Scholarship in Languages and Linguistics**

Value: $1,000  
Application deadline: May 30  
Tenable: January  
Terms of reference: One award of approximately $1,000 for a graduate student pursuing a master’s or PhD degree in Romance languages, Romance linguistics or a related field.

**Leon J. Ladner Graduate Scholarship in History**

Value: $500  
Application deadline: January 30  
Tenable: May  
Terms of reference: One or more scholarships of approximately $500 will be awarded to a graduate student whose academic and extracurricular activities demonstrate high potential for contributing to the field of history.
student possessing high academic standing and a special aptitude for research and wishing to undertake postgraduate work in the field of British Columbian history at Simon Fraser University.

Frank A. Linville Graduate Scholarship in Olfaction
Value: $5,000
Application deadline: May 30
Tenable: September
Terms of reference: One or more awards valued at approximately $5,000 for students pursuing a graduate degree program whose research is on olfaction. Award criteria include demonstrated academic excellence and promise of outstanding achievement at the graduate level with particular emphasis on intellectual ability, originality and ability in research.

Margaret Lowe Benston Memorial Graduate Bursary in Women’s Studies
Value: $900
Application deadline: May 30
Tenable: September
Terms of reference: One or more bursaries valued at approximately $900 each for graduate students in women’s studies. Preference will be given to students working in areas relating to women in science and technology.

H.R. MacCarthy Graduate Bursary
Value: $6,000
Application deadline: September 30
Tenable: January
Terms of reference: The H.R. MacCarthy Bursary Endowment Fund provides one or more bursaries, totalling approximately $6,000, to graduate students in the Department of Biological Sciences. The award will be based on financial need, good academic standing, and promise of service to mankind through the application of science.

MacMillan Bloedel MBB Graduate Scholarship
Value: $4,400 (MSc); $5,000 (PhD)
Application deadline: September 30
Tenable: January
Terms of reference: One or more scholarships valued at approximately $4,400 or $5,000 for graduate students carrying out research in the molecular biology and biochemistry graduate program.

Management of Technology MBA Graduate Scholarships
Value: $10,000
Application deadline: by nomination
Tenable: any semester
Terms of reference: Established by the MOT business council. Two scholarships per calendar year, to full time students entering the ‘accelerated cohort’ after a minimum of two years of employment in the high-tech industry in a professional capacity. Students must be nominated by the academic director of the management of technology program to the dean of graduate studies.

Temple Maynard Memorial Graduate Bursary in English
Value: $2,000
Application deadline: May 30
Tenable: September
Terms of reference: One bursary of approximately $2,000 for a graduate student in English.

Colin McPhee Graduate Endowment Fund
Value: $6000
Application deadline: May 30
Tenable: September
Terms of reference: A one-semester award valued at approximately $6,000 for a student pursuing a graduate degree in any art discipline in the School for the Contemporary Arts.

Alan Mekler Memorial Graduate Scholarship
Value: $500
Application deadline: May 30
Tenable: September
Terms of reference: One award of approximately $1,500 for a student pursuing a graduate degree in the School for the Contemporary Arts.

Petro-Canada Graduate Scholarship in Science
Value: $3,000
Application deadline: September 30
Tenable: January
Terms of reference: One scholarship of $3,000 awarded to a student pursuing a graduate degree in the Faculty of Science.

Dr. L. B. Peter Rae Memorial Award in Business Ethics
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: One award, valued at approximately $1,000 to recognize a student pursuing an MBA or EMBA and whose thesis or MBA project addresses issues in business ethics.

Rogers Communications Inc. Graduate Scholarship in Communication
Value: $4,000
Application deadline: September 30
Tenable: January
Terms of reference: One award of approximately $4,000 awarded annually to graduate students in the School of Communication with a particular interest in issues related to broadcasting or cable.

Phillip Rutherford/Harper Collins Memorial Bookstore Internship
Value: $1,000
Application deadline: January 30
Tenable: May
Terms of reference: One or more awards of approximately $1,000 for graduate students in publishing.

Fung Chan Yee Shan Memorial Scholarship in Gerontology
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: An annual scholarship of approximately $1,000 for a student pursuing a diploma in gerontology.

The Sulzer Bingham Pumps Inc. Graduate Scholarship
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: One scholarship of approximately $1,000 for a student pursuing a graduate degree in the Faculty of Science or the Faculty of Applied Sciences.

TCG International Graduate Scholarship in Business Administration
Value: $8,000
Application deadline: September 30
Tenable: January and May
Terms of reference: Two semester awards of approximately $8,000 for graduate students in the master of business administration program specialising in marketing, international business or policy analysis.

VanCity Environmental Graduate Scholarship
Value: $5,000
Application deadline: May 30
Tenable: September and January
Terms of reference: A two-semester scholarship of approximately $5,000 tenable in the fall and spring semesters, for a graduate student enrolled in the
natural resources management program who is researching environmental and resource management problems in British Columbia.

**Vancouver A.M. Tourist Services Association Graduate Scholarship in Tourism in Memory of Bob Chambers**

Value: $750
Application deadline: May 30
Tenable: September
Terms of reference: A scholarship awarded in memory of Simon Fraser University alumnus Bob Chambers. Valued at approximately $750 for a graduate student in the School of Resource and Environmental Management with a concentration on tourism.

**Viswanathan-Delord Graduate Endowment Fund**

Value: $500
Application deadline: January 30 or May 30
Tenable: September
Terms of reference: One award valued at approximately $500 for a graduate student working in the area of French literature.

**Linda Waddell Memorial Scholarship in Publishing Studies**

Value: $2,000
Application deadline: May 30
Tenable: September
Terms of reference: Sponsored by Penguin Canada, an award valued at $2,000 for a student pursuing a master’s degree in publishing studies.

**Garfield Weston Foundation/BC Packers Limited Graduate Fellowship in Marine Sciences**

Value: $16,000
Application deadline: May 30
Tenable: September, January and May
Terms of reference: A one year award valued at $16,000 for a graduate student pursuing a science-based educational research and development activities that support or enhance the aquaculture and/or commercial wild fishing industries in Canada.

**Madame Justice Bertha Wilson Graduate Bursary**

Value: $250
Application deadline: September 30
Tenable: January
Terms of reference: One bursary valued at approximately $250 is available to a graduate student pursuing research that has a focus on the feminist analysis of law and society. Academic excellence and financial need will be considered.

**Lang Wong Memorial Endowment Scholarship in Economics**

Value: $1,000
Application deadline: January 30
Tenable: May
Terms of reference: One scholarship of approximately $1,000 is awarded annually to a graduate student in economics who has completed one semester of graduate work and is a citizen of an Asian developing country.

**Lang Wong Memorial Endowment Scholarship in Engineering**

Value: $1,000
Application deadline: January 30
Tenable: May
Terms of reference: One scholarship of approximately $1,000 is awarded annually to a graduate student in engineering who has completed one semester of graduate work and is a citizen of an Asian developing country.

**Dr. John Yorston Memorial Graduate Scholarship in Pest Management**

Value: $1,000
Application deadline: May 30
Tenable: September
Terms of reference: One award of approximately $1,000 for a graduate student in the master of pest management program specializing in crop protection, plant pathology and nematology.

**Externally Funded Awards**

**Graduate Research and Engineering Technology Awards (G.R.E.A.T.)**

Value: $20,000
Application deadline: January 15
Tenable: One award will be offered for study towards a doctoral degree (master’s degree or equivalent must be completed or in progress at time of application). Deadline: December 1. Eligibility: Canadian citizens; must have done or be doing postgraduate work. Value: $12,000 for study in Canada, $15,000 for study within the Commonwealth. Note: A candidate must apply in the province of the university from which he/she has graduated.

**Imperial Order of the Daughters of the Empire War Memorial Doctoral Scholarships**

Value: $12,000
Application deadline: December 1
Terms of reference: Eight scholarships will be offered for study towards a doctoral degree (master’s degree or equivalent must be completed or in progress at time of application). Deadline: November 15. Eligibility: Canadian citizens; must have done or be doing postgraduate work. Value: $12,000 for study in Canada, $15,000 for study within the Commonwealth.

**Mackenzie King Open Scholarships**

Value: $8,000
Application deadline: February 1
Tenable: One award will be offered for study in any field at any university. Eligibility: Graduates of any Canadian university. Value: $8,000.

**Mackenzie King Travelling Scholarships**

Value: $11,500
Application deadline: February 1
Tenable: Four scholarships are available for study in the fields of international or industrial relations (including the international or industrial aspects of law, history, politics and economics). Eligibility: Graduates of any Canadian university who propose to engage in postgraduate study of international relations or industrial relations in the United States or the United Kingdom.

**Canadian Federation of University Women Postgraduate Fellowships**

A candidate for any of the following awards must be a Canadian citizen and must have held landed immigrant status for one year prior to submitting application. Information and application forms are available from: The CFUW, 600 – 251 Bank Street, Ottawa, Ontario, K2P 1X3, and the Dean of Graduate Studies Office.

**Margaret McWilliams Pre-doctoral Fellowship**

One fellowship of $10,000 is awarded annually to a pre-doctoral woman scholar in any field of study. master’s degree or equivalent; study well advanced (at least one year) into doctoral program; may be studying abroad. Deadline: November 15.

**Professional Fellowship**

This fellowship of $5,000 is open to any woman who has completed a bachelor's degree from a Canadian university and who is enrolled in graduate work below the PhD level at an accredited professional school. One Professional Fellowship is awarded. The student may be studying abroad. Deadline: November 15.

**Alice E. Wilson Grants**

Three grants of $1,000 each are to assist in refresher work, specialized study, or training in new techniques. Applicants must have a bachelor’s degree or equivalent from a recognized university. Deadline: November 15.

**Margaret Dale Philip Award**

This award of $1,000 is open to any woman scholar who holds a bachelor’s degree from a Canadian university, who resides in Canada and who wishes to embark on, or continue a program leading to an advanced degree in the field of humanities or social sciences. Special consideration will be given to candidates who wish to specialize in Canadian history. Deadline: November 15.

**International Federation of University Women Research fellowships, grants and bursaries.**

Applicants must be members of CFUW. Deadline: approximately November 15. For detailed information contact: International Federation of University Women, 37, Quai Wilson, CH 1201, Geneva, Switzerland.

**Natural Sciences and Engineering Research Council Awards**

Value: $17,300, $19,000, $35,000
Application deadline: unknown
Tenable: May, September, or January start
Terms of reference: NSERC offers postgraduate awards and a limited number of post doctoral fellowships in the fields of pure and applied science including interdisciplinary research, physical geography and experimental psychology. Canadian citizens and permanent residents who at the time of application are residing in Canada are eligible. Two categories of postgraduate awards are available:

PGS: valued at $17,300 per year for 2 years and available to students for the first and second years of postgraduate study either at the MSc or PhD level.

PGSB: valued at $19100 per year for two years and tenable during the third and fourth, or fourth and fifth year of doctoral studies.

Postdoctoral Fellowships: NSERC postdoctoral fellowships are tenable in Canadian universities or in universities abroad. Applicants must be Canadian citizens or permanent residents of Canada, living in Canada at time of application. Value: at $35,000 per year for two years.

**Northern Scientific Training Grants Program**

Value: varies
Application deadline: November 7
Tenable: Any semester
Terms of reference: The training program is managed by the Department of Indian and Northern Affairs. The primary purpose of this program is to help advanced students carry out research in the North. The work will normally be undertaken in the Northwest Territories and the Yukon.

Eligibility: Students must be Canadian citizens or permanent residents. Value: Training funds are intended to cover transportation costs as well as living expenses up to a per diem rate for time spent in the field.

**Social Sciences and Humanities Research Council Awards**

Value: $16620
Application deadline: October 15
Tenable: Any semester
Terms of reference: SSHRC offers doctoral fellowships in the humanities and social sciences valued at $16,620 per year. Applicants must be Canadian citizens or permanent residents of Canada, living in Canada at the time of application. Applicants must have completed a master's degree or at least one year of doctoral study, and will be pursuing full time studies leading to a PhD or its equivalent. This is a renewable award. The deadline for applications to the appropriate SFU department is approximately October 15. Website: www sshrc.ca.

Externally Administered Programs
The following programs are not administered by Simon Fraser University. The information is intended for general reference only; it may be subject to change. The student is responsible for enquiring and applying through the appropriate agency as indicated in the description.

Applications can be obtained from the Office of the Dean of Graduate Studies.

Awards Administered by the International Council for Canadian Studies
The ICCS administers a number of national and international programs on behalf of Canadian and foreign donors. A brief description of some of the awards is given below. A comprehensive list of awards, including those offered for study abroad, is available from International Council for Canadian Studies, 800 – 325 Dalhousie Street, Ottawa, Ontario, K1N 7G2. Deadlines for application are normally in October of each year. Website: www.iccs-cciec.ca.

Commonwealth Scholarship Plan
Value: varies
Application deadline: unknown
Terms of reference: The Commonwealth Scholarship and Fellowship Plan offers awards to graduate students in Commonwealth countries to pursue advanced degrees. They are normally tenable for two years in any of the following countries: Australia, Ghana, Hong Kong, India, Jamaica, Malaysia, New Zealand, Nigeria, Sri Lanka, Trinidad and Tobago, Uganda, United Kingdom.

Canadian Federation of University Women Fellowships
Value: varies
Application deadline: unknown
Terms of reference: A candidate for any of the following awards must be a Canadian citizen or must have held landed immigrant status for one year prior to submitting application. Information and application forms are available from: The CFUW, 600 - 251 Bank Street, Ottawa, Ontario, K2P 1X3, and the Dean of Graduate Studies Office.

Celanese Canada Internationalist Fellowships
Value: $10,000
Application deadline: February 15
Tenable:
Terms of reference: The Celanese Canada Internationalist Fellowships provide opportunities for Canadians to study abroad to build their international competence, and to further Canada’s participation in the world economy into the new millennium. Targeted at outstanding university graduates of proven academic merit and demonstrated personal suitability, fellowships will be awarded on a competitive basis. There will be 125-150 fellowships of $10,000 each awarded over the initial five years (1997-2001). Fellowships are non-renewable. Further information is available from the Office of the Dean of Graduate Studies. For full information about these awards, visit www.cbie.ca.

International Development Research Centre
Value: $20,000
Application deadline: unknown
Terms of reference: IDRC offers a number of awards to graduate students in Canadian universities to facilitate their involvement in Third World issues. Eligibility: Canadian citizens or landed immigrants who have completed course work at graduate level and who have an affiliation with an institution in a developing country. Value: Up to $20,000 per award. For full information about these awards, visit www.idrc.ca.

OMAE Calgary Chapter (ASME) Graduate Scholarship
Value: $2,000-$4,000
Application deadline: March 31
Tenable: Any semester
Terms of reference: The purpose of this $20,000 scholarship is to enable selected British Columbians who have graduated from a public university in BC to take further studies at approved universities in the British Commonwealth, except Canada. Eligibility: a graduate of the University of British Columbia, the University of Victoria, Simon Fraser University or the University of Northern British Columbia for two years; b) whose ordinary domicile, home or residence is in BC; c) who is a Canadian citizen. Deadline: March 31. Applications are available in the Office of the Dean of Graduate Studies. All enquiries, applications and all documents pertaining to this scholarship must be forwarded directly to the Chief of Protocol, Ministry of Finance and Corporate Relations, Parliament Buildings, Victoria, BC, V8V 1X4.

Rhodes Scholarships
Value: $12,000
Application deadline: September 30
Terms of reference: The Rhodes Trustees offer annually in the Province of British Columbia one Rhodes Scholarship, which is tenable at Oxford University for two years, and renewable for a third year. Eligibility: Canadian citizens or British subjects who have been ordinarily resident in Canada for at least five years by October 1st in the year of application; from 19 to 25 years of age on October 1st in the year of election, with at least three years of university study completed at time of tenure. Distinction of character and intellect are given most consideration in selection. Further information and application forms are available from the Financial Aid and Awards office and the Office of the Dean of Graduate Studies.

Rotary Club of Burnaby Scholarship
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: A scholarship of $1,000 has been established by the Rotary Club of Burnaby to be awarded to a graduate student in the Faculty of Education in recognition of scholarly merit and the advancement of education practice.

Soroptimist Foundation of Canada
Value: $5,000
Application deadline: January 31
Tenable: May
Terms of reference: These are grants to assist female students with university studies which will qualify them for careers serving other women by improving the quality of their lives.

J.H. Stewart Reid Memorial Fellowship
Value: $5,000
Application deadline: April 30
Terms of reference: The J.H. Stewart Reid Memorial fellowship is open to doctoral students in any field at any Canadian university. Eligibility: a) Canadian citizen or landed immigrant; b) completion of at least one full academic year of graduate work by June 1; c) a first class academic record. Value: $5,000. Application forms are available from the Office of the Dean of Graduate Studies.

Carl H. Westcott Memorial Fellowship
Value: $5,500
Application deadline: June 26
Terms of reference: One scholarship is awarded annually to a student whose research work is being carried out at TRIUMF or on TRIUMF related projects. Value: $5,500.

International Federation of University Women
Value: varies
Application deadline: November 15
Terms of reference: Research fellowships, grants and bursaries. Applicants must be members of CFUW. Deadline: approximately November 15. For detailed information contact: International Federation of University Women, 37, Quai Wilson, CH 1201, Geneva, Switzerland.

Bursaries and Loans

Bursaries Administered by the University
The following regulations govern all bursaries over which the University has jurisdiction. The deadline to apply for bursaries is the end of the second week of classes each semester.

Regulations
• Bursaries are a supplemental source of funding for students in high financial need. Students are expected to find their primary funding through other sources such as government student loan or grant programs, part time work, savings, family, etc.
• Students must have a demonstrated financial need.
• Students must have a minimum CGPA of 2.00 to be eligible for bursaries.
• Graduate students must be registered for residence credit in an approved full time program for the semester of application. Students who do not register or subsequently change to on-leave or part time status may have their awards cancelled.
• The student must apply on the Simon Fraser University Bursary application form. It is the student’s responsibility to meet applicable deadlines and supply all required documentation. Incomplete applications may be rejected.
• Unless otherwise stated, bursaries are tenable only at Simon Fraser University.
• Funds will be credited to the successful student’s account with the University. Outstanding debts to the University will be deducted from the bursary funds before a cheque for the credit balance is issued.
• Bursaries are tenable only for the semester indicated on the notice and may not be deferred. Students who do not register in the semester for which the bursary is granted forfeit the award. To be considered for bursaries in future semesters of registration, students must reapply.
Bursaries for All Students
Alumni Scholarship and Bursary Endowment Fund
Program code: GEBO-584
Value: $500
Awarded: Fall Spring Summer
Terms of reference: Undergraduate and graduate students. The awards are based on financial need and satisfactory academic standing.

Birk Family Foundation Bursaries
Program code: GEBO-551
Value: $500
Awarded: Fall Spring Summer
Terms of reference: The Birk Family Foundation has established a plan of annual contributions to the Student Aid Fund of recognized Canadian universities and colleges for the creation of these bursaries. The bursaries are awarded by the Foundation on the recommendation of the University Scholarship Committee, are not restricted by faculty or year, and may be renewed. The number and amount of such awards may vary annually depending upon the funds available from the Foundation.

The Honourable Angelo E. Branca and Mrs. Branca Bursary Endowment Fund
Program code: GEBO-586
Value: $800
Awarded: Fall
Terms of reference: Students entering from secondary school. Applicants must demonstrate financial need and have satisfactory academic standing. Other bursaries valued approximately at one semester’s tuition are available to students from any faculty, who have a minimum of 60 credit hours at Simon Fraser University, have maintained satisfactory standing, and are in financial need. In honor of the 50th wedding anniversary of the Honourable Angelo E. Branca and Mrs. Branca, and on the occasion of his retirement from the bench, this bursary endowment fund has been established by the following donors, Confratellanza Italo-Canadese and friends. Mr. J. Diamond, Mr. J. Segal, Mr. Ben Wosk.

Burnaby-New Westminster Women’s Club
Program code: GPBO-672
Value: $750
Awarded: Fall
Terms of reference: A mature female student who has continued her education after several years’ absence, and who has completed sixty credits with satisfactory academic performance as well as being a BC resident. This bursary is in memory of Caroline Velichko, a former member of the Burnaby-New Westminster Business and Professional Women’s Club.

Burrard Charitable Foundation Bursary
Program code: GPBO-554
Value: $750
Awarded: Fall
Terms of reference: A student with any physical disability. Adjudication will occur in consultation with the Physically Challenged Students’ Co-ordinator.

Daycare Bursaries
Program code: GUBO-700
Value: $100
Awarded: Fall Spring Summer
Terms of reference: Applications for daycare bursaries are available at the Daycare Centre. Eligible students may qualify for a bursary provided that financial need can be demonstrated by a completed Canada Student Loan assessment or an Open Bursary assessment. Daycare bursaries are available to both graduate and undergraduate students.

Father Della-Torre Bursary Endowment Fund
Program code: GEBO-592
Value: $600
Awarded: Fall
Terms of reference: Entering students: Bursaries valued approximately at one semester’s tuition are available to students entering from Secondary School. Applicants must demonstrate financial need and have satisfactory academic standing. Other bursaries valued approximately at one semester’s tuition are available to students in any faculty, who have a minimum of 60 credit hours at Simon Fraser University, have maintained satisfactory academic standing and are in financial need. A Bursary Endowment Fund has been established in honor of Father Della-Torre for his 27 years of pastorate at the Sacred Heart Church, Vancouver. This fund will provide annual bursaries in perpetuity from the earned income.

Alex W. Fisher Bursary
Program code: GEBO-596
Value: $400
Awarded: Spring

Lois M. Fisher Bursary
Program code: GEBO-597
Value: $400
Awarded: Spring
Terms of reference: A hard-working and deserving female student in need of financial assistance. Donated by Mr. Alex W. Fisher.

Government of BC Women’s Equality Bursaries
Program code: GPBO-677
Value: $500
Awarded: Fall
Terms of reference: To support women enrolled in full or part-time programs in Women’s Studies or related coursework or fields in which women have not traditionally sought post-secondary training, which will lead to a degree, diploma or certificate. Satisfactory academic standing and financial need are also required. Apply on the Simon Fraser University Bursary application available at Financial Assistance. The application deadline is the end of the second week of classes.

Hamber Foundation
Program code: GEBO-559
Value: $1,000
Awarded: Fall
Terms of reference: Women students with satisfactory academic standing and need for financial assistance.

Carma Israel Bursary Endowment Fund
Program code: GEBO-598
Value: $100
Awarded: Fall
Terms of reference: Based on financial need. An endowment fund in memory of Carma Israel has been established by Mrs. Katherine Leshgold.

Blayne and Sharon Johnson Bursary
Program code: GEBO-523
Value: $1,200
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance.

Charles Chan Kent Golden Wedding Bursaries
Program code: GPBO-563
Value: $500
Awarded: Spring
Terms of reference: A student who is proceeding to a degree in any field, has successfully completed at least one year at Simon Fraser University, and needs financial assistance. Preferably the bursary will be made to a student of Chinese descent.

Dr. Carol Matusicky Family Studies Bursary
Program code: GEBO-708
Value: $500
Awarded: Spring
Terms of reference: On the basis of demonstrated financial need and satisfactory academic performance. Preference will be given to a student in the Certificate in Family Studies program or, failing that, to a student in any faculty whose course work will prepare them to work with children, youth and families after university.

Jo-Ann Mychaluk Bursary Endowment Fund
Program code: GEBO-602
Value: $850
Awarded: Fall
Terms of reference: Students with satisfactory academic standing. These bursaries are available to students who are or have been residents of the Chilcotin or Cariboo regions of BC. This fund, has been established in memory of Jo-Ann Mychaluk who worked in the Centre for Distance Education.

Madeleine Nelson/Megan Thomas Bursary
Program code: GEBO-735
Value: $450
Awarded: Summer
Terms of reference: Granted to graduate or undergraduate students in any faculty based on demonstrated financial need and satisfactory academic performance. Preference will be given to mature female students beginning or returning to University.

Opsimath Club Bursary Endowment
Program code: GEBO-603
Value: $1,000
Awarded: Fall
Terms of reference: For mature, continuing students at Simon Fraser University, who have financial need and good academic standing. The Opsimath Club is an organization of senior (60 years) students.

Office of the Registrar Bursary for Physically Challenged Students
Program code: GEBO-665
Value: $500
Awarded: Fall
Terms of reference: Physically challenged undergraduate or graduate students in any faculty. The bursaries will be granted to physically challenged students holding satisfactory academic records and who are experiencing financial need in the pursuit of studies.

Rotary Club of Vancouver Community Service Bursary
Program code: GPBO-568
Value: $500
Awarded: Fall
Terms of reference: Students in financial need with satisfactory academic standing.

William and Jane Saywell Bursary
Program code: GPBO-682
Value: $1,500
Awarded: Fall
Terms of reference: A student who is a single parent and who has demonstrated a deep commitment to any field of study at Simon Fraser University and has financial need. A letter is required that outlines and discusses their extracurricular activities and interests that would demonstrate commitment to the chosen field of study.

Mrs. Rosalie Segal Endowment Fund for Students With Special Needs
Program code: GEBO-604
Value: $1,000
Awarded: Fall
Terms of reference: This fund has been established to provide bursaries to physically challenged students. Up to 3 bursaries will be awarded on the basis of financial need. Adjudication will occur in consultation with the physically challenged students’ co-ordinator.
Simon Fraser University Disabled Graduate Student Award  
Program code: GUBO-850  
Value: $2,000  
Awarded: Fall Spring  
Terms of reference: An award of $2,000 per semester for one year may be made by the University to a disabled graduate student. The applicant must be a full time registered graduate student in good standing whose disability substantially increases the cost of study and who can demonstrate financial need.

SFU International Students’ Bursary Fund  
Program code: GUBO-600  
Value: $500  
Awarded: Fall Spring Summer  
Terms of reference: This fund has been established to assist undergraduate visa students who have critical financial need. Students applying for this bursary must be registered in a minimum of 9 credit hours and have satisfactory academic standing.

Simon Fraser University International Students’ Emergency Assistance Fund  
Program code: GPBO-637  
Value: $800  
Awarded: Fall Spring Summer  
Terms of reference: This fund has been established primarily to assist undergraduate visa students who have critical financial need. Students applying for this bursary must be registered in a minimum of 9 credit hours and have satisfactory academic standing.

SFU Punjabi Students Association Bursary  
Program code: GUBO-521  
Value: $500  
Awarded: Summer  
Terms of reference: The SFU Punjabi Students Association Bursary valued at a portion of the income earned on the endowment, will be awarded annually in any semester. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students in any faculty.

Jennifer Allen Simons Bursary  
Program code: GUBO-669  
Value: $1,000  
Awarded: Fall Spring Summer  
Terms of reference: An undergraduate or graduate woman student in any faculty. The bursary will be granted to a student who is a single parent supporting a child, and who is in financial need and has satisfactory academic performance. Applicants must have completed one semester at Simon Fraser University as a full-time student.

Harry and Dora Annie Sme Bursary  
Program code: GUBO-606  
Value: $900  
Awarded: Fall  
Terms of reference: Up to 3 bursaries will be awarded to students in any faculty who have completed at least 30 credit hours at Simon Fraser University. The awards will be based on financial need and satisfactory academic standing. Preference will be given to female students.

Merle L. Smith Bursary  
Program code: GPBO-572  
Value: $525  
Awarded: Fall  
Terms of reference: A physically challenged student in any faculty who is beyond first year studies. Initial preference will be given to wheelchair users.

Squamish Nation Bursary  
Program code: GEBO-738  
Value: $250  
Awarded: Summer  
Terms of reference: Valued at a portion of the earned interest, is granted in any semester based on financial need and community service to a student who is a member of the Squamish Nation. The bursary may be granted to graduate or undergraduate students in all disciplines. The successful student will have completed a minimum of 20 credits and will have achieved a minimum CGPA of 2.00. The application should include a discussion of the student’s involvement in SFU or Squamish Nation community activities and confirmation of the student’s status with the Squamish Nation.

TSSU Member Child Care Bursary  
Program code: GUBO-550  
Value: $250  
Awarded: Fall Spring Summer  
Terms of reference: TSSU employees are eligible to apply to the TSSU Member Child Care Bursary for each semester in which they hold an appointment and are registered as students at SFU and in which they receive child care services from a paid child care provider. All applications are subject to verification. The applicant must identify him/herself as an employee in the bargaining unit on the bursary application.

Western Businesswomen’s Association Bursary  
Program code: GEBO-705  
Value: $800  
Awarded: Fall  
Terms of reference: A full or part-time student who is either entering the University for the first time or returning after an absence. Preference will be given to a mature female student. The bursary will be based on satisfactory academic performance and demonstrated financial need. The award will include a one year’s membership in the Western Businesswomen’s Association as well as the opportunity to engage in the Association’s mentorship program.

Bursaries for Applied Sciences Students  
Delcan Corporation Bursaries  
Program code: GPBO-667  
Value: $1,000  
Awarded: Spring  
Terms of reference: Undergraduate students registered full time at Simon Fraser University, in the faculties of Science or Applied Sciences. It is the intention of the Delcan Corporation to promote socio-environmental research and studies relative to major civil engineering projects; to support opportunities for women to enter careers at the management level in engineering; to increase high technological input into civil engineering, and to promote superior written and oral communication skills. Students will apply for these bursaries through Financial Assistance and Awards, and must include a letter of recommendation from the Office of the Dean of the major program.

Olga and Richard Murray Bursary in Applied Sciences  
Program code: GEBO-725  
Value: $1,000  
Awarded: Fall Spring Summer  
Terms of reference: Granted to graduate or undergraduate students in the Applied Sciences Faculty on the basis of demonstrated financial need and satisfactory academic performance. To the extent feasible, preference will be given to a student, or the spouse or child of a person, who is a member of the Telecommunication Workers Union or of Van-Tel Credit Union.

Dr. Tom Richardson Memorial Graduate Entrance Bursary  
Program code: GEBO-726  
Value: $300  
Awarded: Fall Spring  
Terms of reference: To a graduate student entering Kinesiology or in the first semester of Kinesiology or for a student pursuing graduate studies in other Departments with a focus on biomedical engineering. The criteria for this award are: financial need; demonstrated academic excellence at the undergraduate level and, if applicable, at the graduate level; intention to enroll in the graduate program in Kinesiology or completion of the first semester in a graduate program in Kinesiology or intention to pursue research in biomedical engineering as a graduate student in another department.

Vancouver Foundation Health Science Bursaries  
Program code: GPBO-578  
Value: $500  
Awarded: Fall Spring  
Terms of reference: Full-time undergraduate and graduate students who have completed two years of post-secondary education. Areas of study include any of the following: pre-med program, clinical psychology, kinesiology, bio-medical engineering, and gerontology. Awards are based upon financial need and good academic standing.

Bursaries for Arts Students  
Adaline May Clark Bursary Permanent Endowment  
Program code: GEBO-590  
Value: $400  
Awarded: Fall  
Terms of reference: The late Mrs. Clark has provided for the endowment of funds, for bursaries to enable students to attend, or continue to attend university. Students must be registered in the School for the Contemporary Arts, and must demonstrate financial need and a high level of achievement in the Arts.

Aird Dundas Flavelle Memorial Bursary  
Program code: GEBO-659  
Value: $2,500  
Awarded: Fall  
Terms of reference: A student who has completed at least 15 hours at Simon Fraser University with a satisfactory academic standing and whose course of study is in the following areas: political science, economics and/or business administration.

Keith G Loughlin Gerontology Bursary  
Program code: GEBO-702  
Value: $700  
Awarded: Fall  
Terms of reference: A graduate student enrolled in the master of gerontology program, or to an undergraduate student enrolled in the gerontology program, a post baccalaureate diploma program. The bursary will be granted to a student demonstrating financial need and in satisfactory academic standing. Preference will be given to a student specializing in quality of life issues in intermediate care facilities for seniors. Applicants should submit with their application, a letter outlining specialization or area of interest in the gerontology field. A departmental nomination is to be submitted along with the application form.

Dr. Grazia Merler Bursary in French  
Program code: GEBO-714  
Value: $500  
Awarded: Spring  
Terms of reference: A student in French on the basis of demonstrated financial need and satisfactory academic performance.
Bursaries for Business Administration Students

Aird Dundas Flavelle Memorial Bursary
Program code: GEBO-659
Value: $2,500
Awarded: Fall
Terms of reference: A student who has completed at least 15 hours at Simon Fraser University with a satisfactory academic standing and whose course of study is in the following areas: political science, economics and/or business administration.

J. Rose Memorial Bursary Fund
Program code: GUBO-400
Value: $1,400
Awarded: Spring
Terms of reference: An undergraduate or graduate Business Administration student who is in full time studies. The bursary will be granted on the basis of financial need and satisfactory academic performance. This bursary is provided by the Vancouver Foundation. A departmental recommendation is required.

Bursaries for Education Students

BC Exchange Teachers' Association Bursary
Program code: GPBO-594
Value: $300
Awarded: Summer
Terms of reference: Granted to undergraduate or graduate students in the Faculty of Education, in any semester based on demonstrated financial need and satisfactory academic performance.

University Women's Club of Vancouver/Jean Beatty Memorial Bursary in Education
Program code: GEBO-519
Value: $600
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to a mature student in the Faculty of Education.

Hildegard and Cornelius Renner Graduate Bursary in Education
Program code: GEBO-517
Value: $250
Awarded: Summer
Terms of reference: Awarded annually in any semester on the basis of demonstrated financial need and satisfactory academic performance to mature graduate students in the Faculty of Education. Preference will be given to mature graduate students with an interest in adult education. Application should include a discussion of the student applicant's interest in adult education.

Bursaries for Science Students

Curzon-Digman Bursary
Program code: GEBO-594
Value: $1,000
Awarded: Fall Spring
Terms of reference: Available to graduate students in physics or for majors or honours students in physics, mathematical physics, chemical physics, biophysics or other joint programmes with physics. These bursaries are subjected to financial need and academic ability. Nominations will be made by the chair of the physics department in consultation with Financial Assistance.

Delcan Corporation Bursaries
Program code: GPBO-667
Value: $1,000
Awarded: Fall Spring
Terms of reference: Undergraduate students registered full time at Simon Fraser University, in the Faculties of Science or Applied Sciences. It is the intention of the Delcan Corporation to promote socio-environmental research and studies relative to major civil engineering projects; to support opportunities for women to enter careers at the management level in engineering; to increase high technological input into civil engineering, and to promote superior written and oral communication skills. Students will apply for these bursaries through Financial Assistance and Awards, and must include a letter of recommendation from the office of the dean of the major program.

Urea Formaldehyde Foam Insulation Action Association Bursary
Program code: GEBO-607
Value: $300
Awarded: Fall
Terms of reference: Students who have completed at least 60 credit hours and who are studying in the areas of toxic chemicals or pollutants and their effects on human health and functioning. Please document eligibility. The endowment has been established by the association.

Vancouver Foundation Health Science Bursaries
Program code: GPBO-578
Value: $500
Awarded: Fall Spring
Terms of reference: Full-time undergraduate and graduate students who have completed two years of post-secondary education. Areas of study include any of the following: pre-med program, clinical psychology, kinesiology, bio-medical engineering, and gerontology. Awards are based upon financial need and good academic standing.

Vancouver Horticulture Society Bursary
Program Code: GEBO-590
Value: $1,000
Awarded: Fall
Terms of reference: This award is available to students of the master of pest management program studying pest problems relating to horticulture. It is awarded to students who are in financial need and qualified in terms of character and scholarship.
Faculty of Applied Sciences


Dean
R.G. Marteniuk BPE, MA (Alta), EdD (Calif)

Associate Dean
R.D. Cameron BASc, PhD (Br Col)

Graduate Degrees Offered
Master of Applied Science
Master of Arts
Master of Engineering
Master of Resource Management
Master of Science
Doctor of Philosophy

General Regulations
For admission requirements, registration, residence requirements and time limit for completion of degrees, see “Graduate General Regulations” on page 283.

School of Communication

Director
B. Lewis, BA (Hamilton), MA, PhD (Iowa)

Graduate Program Chair
C.A. Murray BA, MA (Wat), PhD (Gu)

Faculty and Areas of Research
For a complete list of faculty, see “School of Communication” on page 101.

P.S. Anderson – telecommunication and broadcasting policy; communication technology; communication to mitigate disasters/emergency communications
R.S. Anderson – international development; communication in conflict and intervention; community economic development; negotiation as communication; research methods in field situations
E. Balka – women and information technologies; technology assessment; participatory design of technology; information technology and work; technology and social movements
A.C.M. Beale – communication theory; history of communication; cultural policy; feminist analyses; film and video
G.W. Fauxschou – media analysis; aesthetics and popular culture; social and political theory; economic discourse and market populism
R.S. Gruneau – popular culture, media; communications and cultural theory
P. Guild – management of technological change; new product and service formulation; mediated communication
D. Gutstein – journalism studies; information policy; access to information; documentary research techniques
R.A. Hackett – political communication; journalism and media studies; news analysis; press policy; media democratization
L.M. Harasim – computer mediated communication and collaboration; telelearning and telework; social network design and evaluation
P. Heyer – media history and theory; non-verbal communication
M.P. Hindley – interpersonal communication; communication and psychological issues; family communication; conflict resolution
J.A.D. Holbrook – measurement and quantitative analysis of innovation and S&T activities; regional systems of innovation; innovation and S&T policy analysis
P.M. Howard – communication in the computerized workplace; technology transfer; knowledge systems in development; risk communication with a focus on biotechnologies
R.W. Howard – communication in development; conflict and communication; international environmental issues; participatory research
S. Kline – advertising; children’s media and culture; audience research; public communication campaigns; non-broadcast video designs and uses
M. Laba – popular culture; media; applied communication for social issues
B. Lewis – Pacific Rim; film, broadcasting and communications policy; documentary media
M. Lipsett – science, technology and innovation metrics; management of technology; policy development and analysis
R.M. Lorimer – publishing; mass communication
C.A. Murray – strategic marketing, policy and regulation in telecommunications and broadcasting; political communication and opinion research; social marketing
W.D. Richards – communication/social network theory and network analysis methods; simulation methods; organizational communication/information networks and network analysis
R.K. Smith – management of technological innovation; innovation and cross-cultural communication; information society; the role of design in new service formulation
B.D. Truax – acoustic and electroacoustic communication; audio aspects of media and advertising; electroacoustic and computer music
J.W. Walls – intercultural communication; communication in East Asian languages and cultures; language and culture in translation

Communication is a comparatively new discipline that builds on traditional social science disciplines. It focuses on analysis of the context and means in which information in its diverse forms is created, packaged, circulated, interpreted, and controlled. As an applied science, communication is important in the creation and critical evaluation of legal and public policies in broadcasting, telecommunications, and community and international development. The study of communication has also become prominent in the professions, notably in law, education, community medicine, counselling, and mental health, and in business administration, advertising, and broadcasting.

The school draws on a variety of perspectives, but it is most readily distinguished by the fact that it treats communication as a humanistic social science with both theoretical and applied dimensions. Students are given opportunities to explore communication theory and practice and are encouraged to apply research and theory to issues and problems in contemporary societies and cultures.

The school offers graduate programs leading to an MA degree or PhD degree.

Fields of Study and Research
Faculty resources provide for graduate studies in the following general areas of interest. Students may wish to specialize in one or more of these general areas, or to select related aspects from two or more.

- the information society/economy
- computer mediated networks and virtual environments
- publishing
- international communication, inter-cultural communication
- science and technology policy, technology-transfer, communication of science
- media and cultural studies
- cultural policy and cultural politics
- acoustic environments and communication
- management of technology
- telework, telelearning, distance education
- political communication
- communication in conflict and intervention
- crisis/emergency communication

Research and Training Facilities
Assessment of Technology in Context Design Laboratory
Graduate Resource Centre
Interactive Media Lab (network and multimedia studies)
Media Analysis Laboratory
Sonic Research Studio and Soundscape Archives
Telematics Laboratory

MA Program

Admission
Admission requires a bachelor’s degree in communication (with at least a good second-class standing) or an equivalent degree in an interdisciplinary or humanities program, in one of the social sciences, or in socially oriented information systems, or biological sciences. However, qualified students will be accepted only if the communication graduate studies committee find a suitable thesis supervisor. Besides applications from communication students, the school encourages applications from those with experience in humanities, social or biological sciences, and interdisciplinary studies.

All applications should be directed to the graduate studies committee and, in addition to general university requirements, should include the following:

- an application form, which is due the first working day of January, along with the application fee.
- a 2-3 page succinct statement of interests and goals, together with an account of relevant academic and personal background.
- two samples of scholarly and/or other written work relevant to the applicant’s objectives and any tapes, films, etc. the applicant considers relevant.
- three references, at least two of whom should be familiar with the applicant’s academic work.

The application deadline is February 1. The committee announces decisions before the last week of April. Students enter the program in fall semester.

The school recognizes the special needs of working individuals who wish to upgrade their qualifications. The graduate program in communication has been approved for part time students; however, University regulations require all MA students to complete their studies within 12 full time equivalent semesters or six years, whichever is shorter.

Advising and Supervision
Each new student is assigned an interim advisor upon program admission. The student selects a senior supervisor and in consultation with this faculty member selects one or two other faculty to serve on a supervisory committee by the beginning of the
Co-operative Master’s Option
In the fall of 1998, the School of Communication introduced a co-operative education option on a trial basis for master’s students. This program combines professional work experience with academic studies. After the first two semesters of the program, students may alternate work and academic terms. All work positions are in paid, study-related jobs and may lead to the communications project or extended essay in lieu of a master’s thesis. Application for the co-operative education program is made through the school’s co-op co-ordinator and the University office of Co-operative Education.

PhD Program
The school will offer PhD students the opportunity to choose from the fields of study and research listed above under Faculty and Areas of Research and Fields of Study and Research.

Admission
Admission requirements for this program will normally include a master’s degree or an exceptional record of undergraduate and/or graduate work in a relevant area of study. Enrolment is strictly limited by the school.

For general university admission requirements, refer to General Regulations. In addition to satisfying general requirements, applicants are asked to provide:
- an application form, which is due the first working day of January, along with the application fee.
- a 2-3-page succinct account of their past academic experience, scholarly work, and research accomplished or in progress.
- an account of the applicant’s relevant previous experience including teaching and degree of responsibility for course content.
- samples of scholarly writing, research reports, or other material.
- references from three persons (at least two of whom should be familiar with the applicant’s academic work).
- a brief outline of the applicant’s research objectives, with representative bibliographical references and other source material, where applicable.

Students will normally enter the program in the fall of their third semester. Although the graduate studies committee will endeavor to select interim advisors with expertise in the student’s stated area of research interest, there is no obligation to select the interim advisor as senior supervisor.

Advising and Supervision
Students are advised to read section 6 of the General Regulations and the school’s Guidelines for Supervisory Committees.

Each new student is assigned an interim advisor upon program admission. The student is expected to select a senior supervisor in consultation with this faculty member to select two or three other faculty to serve on a supervisory committee by the beginning of the student’s third semester. Although the graduate studies committee will endeavour to select interim advisors with expertise in the student’s stated area of research interest, there is no obligation to choose the interim advisor to be senior supervisor.

An Original Dissertation
PhD students complete a doctoral dissertation that demonstrates an ability to make an original contribution to the field of communication.

Required of students admitted to the PhD program who have not first obtained a master’s degree. CMNS 860, the graduate colloquium is required for students entering with a bachelor’s degree and may be included as one of the six required courses. A minimum of four of these courses must be taken from course offerings within the school. For all students, a maximum of two courses may be taken from groups 4 and 5. No more than two of group 4 or 5 courses may be taken with the same instructor, except by permission of the graduate studies committee.

Students will be required by the communication graduate studies committee to demonstrate adequate command of any language essential to the completion of their dissertations.

Group 1 Courses: Surveys of History and Theory
CMNS 800, 802, 804

Group 2 Courses: Research Design and Methods
CMNS 801, 805

Group 3 Courses: Research Area Courses
CMNS 815, 830, 840, 845, 855, 856, 859

Group 4 Courses: Research Internship and Fieldwork
CMNS 881, 882

Group 5 Courses: Directed Readings and Studies
CMNS 850, 851, 880

Group 6 Courses: Colloquia, Theses and Comprehensives
CMNS 860, 895, 898, 899

Faculty of Applied Sciences – 303
Management of Technological Change (NSERC/SSHRC/Bell Northern Research/BC Tel Chair in Management of Technology)
(604) 291-5116 Tel, (604) 291-5165 Fax
Director
P. Guild BA (Wat), MA (Car), PhD (Oxf)
The pressure to produce and adopt technological innovation often outstrips industry’s ability to manage the change necessary to direct its innovative capacities toward attractive market opportunities in the shortest possible time. The research and teaching program is designed to assist Canadian firms to manage technological innovation more quickly while increasing the quality of investment decisions. Pursuing this goal, the program looks to design teams and their management. Design teams are multidisciplinary work groups who collectively may have such skills as engineering, computing science, industrial design, human factors, market research and project management.
The management of technology research program is part of the Centre for Policy Research on Science and Technology (CPROST).

Graduate Courses
CMNS 800-5 Contemporary Approaches in Communication Studies
This course surveys current interdisciplinary perspectives in communication studies and theory. It is normally offered in the fall term, and expected in the first year of graduate study.
CMNS 801-5 Design and Methodology in Communication Research
A survey course which examines the problems, methods and theoretical assumptions in communication research using case studies of research design and methods. Students may design a research project and conduct a small pilot study in a selected area. Normally offered in the spring semester and expected in the first year of graduate study.
CMNS 802-5 History of Communication Theory
A survey of classic works, issues and debates in communication theory.
CMNS 804-5 Seminar in Advanced Communication Theory
CMNS 805-5 Communication Research Methods and Techniques
Survey of research methodology and techniques used in empirical communication studies. Includes research design, measurement, and the use of the computer in evaluation.
CMNS 815-5 Social Construction of Communication Technologies
A study of the social theory of information technologies, examining issues affecting computer-mediated communication.
CMNS 830-5 Popular Culture and Media Theory
Examines recent debates in popular culture and media theory, including post-modernism, hegemony, resistance and culture at the margin.
CMNS 840-5 Political Economy of Communications
A study of the political, economic and social process that produces the structure and policies of mass media, and of telecommunication agencies in their historical setting.
CMNS 845-5 Communication, Knowledge Systems and Development
A study of communication in development, with a special emphasis on indigenous knowledge systems, the processes of globalization and cross-cultural communication, and the sustainability of local cultures. Prerequisite: one of CMNS 800, 801, 802.
CMNS 850-5 Directed Readings and Research
Pursuance of particular areas of interest related to a student's program.
CMNS 851-5 Directed Study
Pursuance of interest in specific areas, including field studies related to the student’s program. May include work and study in supervised professional settings.
CMNS 855-5 Selected Topics in Communication Studies
Specialized one-time graduate course offerings on topics related to the current research of school faculty of visiting professors.
CMNS 856-5 Graduate Seminar
Advanced work in an area of specialization. Review and evaluation of research in progress.
CMNS 859-5 Acoustic Dimensions of Communications
Special topics in sound and communication studies with emphasis on specific problems in psycho-acoustics, theories of sound cognition and information processing, soundscape studies, acoustic design, community noise surveys, media analysis and related technology. Students will gain experience in designing and conducting research projects in one of these areas. Prerequisite: CMNS 359 or equivalent.
CMNS 860-2 Graduate Colloquium
Discussion of essentials of researching, writing, and defending a thesis. Presentation by students of thesis related research plans or results, thesis architecture, finished chapters for critical review by faculty and students. MA students must complete this course once before proceeding to a thesis defence. S/U standing only.
CMNS 880-5 Directed Readings and Research
Supervised enquiry in concentrated areas of specialization.
CMNS 881-5 Research Internship
Work and study in an approved professional setting.
CMNS 882-5 Research Field Work
External research beyond regular contact with the University.
CMNS 891-0 Co-op Practicum I
CMNS 892-0 Co-op Practicum II
CMNS 895-0 Comprehensive Examination
Examination of three areas of which one must be on the theoretical or methodological framework/ procedures indicated by the proposed dissertation. S/U standing only. The exam may be retaken once in the event of unsatisfactory performance.
CMNS 899-0 MA Thesis
CMNS 899-0 PhD Thesis

School of Computing Science

Director
J.P. Delgrande BSc, MSc, PhD (Tor)
Graduate Program Director
M.S. Atkins BSc (Nott), MPhil (Warw), PhD (Br Col)

Faculty and Areas of Research
For a complete list of faculty, see “School of Computing Science” on page 304.
H. Alt-Kaci – theory and implementation of programming languages, logic, and symbolic computation

M.S. Atkins – medical computing, medical image analysis, operating systems and distributed system design
B.K. Bhattacharya – pattern recognition, computational geometry
F.W. Burton – functional programming, parallel computing
T.W. Calvert – information processing in man and machines, biomedical applications, graphics
R.D. Cameron – programming languages and systems, software engineering
V. Dahl – logic programming, computational linguistics, artificial intelligence
J.P. Delgrande – artificial intelligence, knowledge representation
J.C. Dill – computer graphics, computer aided engineering, design and manufacturing
B.V. Funt – artificial intelligence, computer vision, colour perception
A. Gupta – constructive combinatorics, parallel complexity theory
R.F. Hadley – artificial intelligence, automated learning, philosophical foundations of cognitive science, computational semantics,
L. Hafer – constrained optimization, design automation
J.W. Han – database and knowledge-base systems, deductive databases, logic programming
R. Harrop – medical applications, automata theory, logic
W.S. Havens – expert systems, constraint reasoning, artificial intelligence
P. Hell – computational combinatorics, algorithm graph theory
R.F. Hobson – very large scale integrated design, computer design, circuit design
K.M. Inkpen – human-computer interaction, multimedia, educational technology, computer-supported collaborative learning and co-operative work, user interface design, telelearning
T. Kameda – analysis of algorithms, computer communications networks, database systems
R. Krishnamurti – reconfigurable architectures, parallel computing, image processing, interconnection networks
Z.N. Li – computer vision, image processing, artificial intelligence
A.L. Liestman – analysis of algorithms, distributed systems, graph theory
W.S. Luk – database systems, distributed processing
T. Möller – computer graphics, scientific visualization
M. Monagan – computer algebra, symbolic computation, computer graphics, data structures
J.G. Peters – combinatorial approximation, parallel processing, distributed processing
F. Popowich – computational linguistics, logic programming, artificial intelligence
R.D. Russell – numerical solution of ODE, mathematical software
T.C. Shermer – computational geometry, graph theory, computer graphics
T.D. Sterling – statistics and data processing applications, social applications, systems design
M. Trummer – numerical analysis
K. Wang – database systems and data mining
Q. Yang – scheduling, case-based reasoning, constraint problem-solving

Associate Members
J. Borwein, Mathematics and Statistics
P. Borwein, Mathematics and Statistics
J.C. Dill, Engineering Science
M. Monagan, Mathematics and Statistics
R.D. Russell, Mathematics and Statistics

Research Facilities
The School of Computing Science operates several interconnected local area networks in co-operation with other departments in the Faculty of Applied Sciences –
Sciences. These networks are connected to SFU LAN, the campus-wide network, which also provides access to the Internet.

Facilities include over 300 networked workstations, file servers, CPU servers, and other specialized systems. The workstations are mostly SUN UltraSparc and PC, with some Silicon Graphics and Macintosh workstations. Additionally, the school has comprehensive resources to facilitate VLSI design, simulation, fabrication and testing.

Other computing resources are provided by Academic Computing Services including six large SGI 4D multi-processor systems, four Sun SPARC-II computers, an IBM RS6000, and an Auspex file server. These systems and a range of software and services are available to the campus community.

**Degrees Offered**

The School of Computing Science offers programs leading to the MSc and PhD in computing science. It provides students with graduate studies in the following areas: theoretical computing science; artificial intelligence; database systems; computer graphics and multimedia computing; hardware design; distributed computing; programming languages and systems; computer vision and medical imaging.

**Admission**

To qualify for admission to the MSc program, a student must satisfy the University admission requirements stated in section 1.3 of the Graduate General Regulations and must have a bachelor’s degree or the equivalent in computing science or a related field.

To qualify for admission to the PhD program, a student must satisfy the University admission requirements stated in section 1.3 of the Graduate General Regulations and

• have a master’s degree or the equivalent in computing science or a related field or
• have a bachelor’s degree or the equivalent in computing science or a related field, with a cumulative grade point average of 3.5 (on a scale of 0.0-4.0) or the equivalent.

At its discretion, the school’s graduate admission committee may offer either MSc or PhD admission to students applying to the PhD program without a master’s degree or equivalent in computing science or a related field. Students enrolled in the MSc program may apply to transfer to the PhD program after two semesters in the MSc program; the school’s evaluation procedure for such applications is the same as that used for outside applicants.

**Breadth and Course Requirements**

For purposes of defining the MSc and PhD breadth requirements, a set of sub areas are identified and grouped into three major areas: Formal Topics in computing science, computer systems, and knowledge and information systems. Table 1 shows the standard sub areas within each area.

**Table 1**

<table>
<thead>
<tr>
<th>Area I – Formal Topics in Computer Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>algorithms and complexity</td>
</tr>
<tr>
<td>formal logic and language semantics</td>
</tr>
<tr>
<td>discrete mathematics</td>
</tr>
<tr>
<td>operations research</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area II – Computing Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>operating systems and networks</td>
</tr>
<tr>
<td>computer design and organization</td>
</tr>
<tr>
<td>programming languages and compilers</td>
</tr>
<tr>
<td>software methodology and engineering</td>
</tr>
</tbody>
</table>

**Area III – Knowledge and Information Systems**

artificial intelligence and robotics

database and information retrieval systems
numerical and symbolic computing
computer graphics and interfaces

The course requirements for the MSc and PhD degrees each have a distribution requirement to ensure breadth across the major areas defined in Table 1. This requirement is specified in terms of number of courses and sub-areas selected from each of the three major areas. At its discretion, the graduate breadth evaluation committee may accept requests to define sub-areas other than those in Table 1 for the purpose of satisfying MSc or PhD breadth requirements.

**Supervisory Committees**

A supervisory committee, at either the MSc or PhD level, consists of the student’s senior supervisor, at least one other computing science faculty member, and other members (typically faculty) as appropriate. The choice of senior supervisor should be made by mutual consent of the graduate student and faculty member based on commonality of research interests. The student and senior supervisor should consult on the choice of the remainder of the committee members.

Section 1.6 of the Graduate General Regulations specifies that a senior supervisor be appointed normally no later than the beginning of the student’s third semester in the program, and that the remainder of the supervisory committee be chosen normally in the same semester in which the senior supervisor is appointed.

**Research Topics Seminars**

The research topics seminar series is presented over the course of the year by faculty and graduate students. Faculty presentations acquaint new graduate students with the research interests of the faculty. Graduate student presentations typically showcase thesis research. Students in the first year of graduate study are required to attend faculty research topics seminars to become familiar with the research interests of the faculty.

**MSc Program**

Students are expected to acquire breadth of knowledge through a sequence of courses and depth of knowledge through completion and defence of a thesis or a project. Under normal circumstances, an MSc program should be completed within six semesters and should not require longer than eight semesters. An MSc student must choose between thesis and project options by the end of the second semester. Any change in option thereafter must be approved by the graduate program committee.

**Breadth Requirement**

MSc students choosing the thesis option complete at least 15 credit hours of graduate work (typically five courses) such that at least one course is chosen from each of areas I, II and III of Table 1. At least 12 of the 15 credit hours (typically 4 courses) must be taken in computing science. Course work will normally be completed by the end of the fifth semester. MSc students choosing the project option complete at least 27 credit hours of graduate work (typically nine courses) such that at least two courses are chosen from each of areas I, II and III of Table 1. The two courses taken in each area should be from different sub-areas. At least 21 of the 27 credit hours (typically seven courses) must be taken in computing science. The project should be roughly equivalent to five credit hours of work.

**Depth Requirement**

MSc students submit and defend a thesis or project report based on their independent work. Thesis option students consult with his/her supervisory committee, and formulate and submit a written thesis proposal for approval, normally not later than the end of the program’s third semester.

Regulations specifying the examining committee’s composition and procedures for the final thesis or project exam appear in 1.9 and 1.10 of the Graduate General Regulations. MSc students with thesis option are required to give a seminar about their thesis research in the interval between distribution of the thesis to the committee and the defense.

**PhD Program**

Students in the PhD program are required to demonstrate breadth of knowledge as outlined below and demonstrate the capacity to conduct original research through the completion and defence of an original thesis. Under normal circumstances a PhD degree should be completed within 12 semesters and should not require longer than 15 semesters.

**Breadth Requirement**

PhD students are required to demonstrate breadth to a level equivalent to at least 21 credit hours of graduate level course credit (typically seven courses), subject to the following distribution.

• three courses chosen such that one course is drawn from each of areas I, II and III of Table 1.
• two additional courses chosen from any two of areas I, II and III and from sub-areas different from those used for the first three courses.
• two additional courses chosen by the student.

Up to two courses outside of computing science may be used in satisfying the breadth requirement, subject to approval by the student’s supervisory committee and the graduate breadth evaluation committee. A PhD student must achieve a minimum CGPA of 3.4 and passing marks in all courses.

Students submit, within two months of program entry, a proposal to satisfy breadth requirements or may request that up to four courses and any portion of the breadth distribution be waived based on previous graduate work, or by examination. A minimum of nine credit hours (typically three courses) is required. The graduate breadth evaluation committee may approve the proposal or recommend alternatives at its discretion. The breadth requirement is normally completed by the end of the third to sixth program semester, in proportion to the number of courses actually required.

**Depth Requirement**

PhD students demonstrate depth of knowledge in their research area through a public depth seminar and oral examination, give a thesis proposal seminar, and submit and defend a thesis based on their independent work which makes an original contribution to computing science.

**Depth Examination**

The depth seminar and examination may be scheduled at any time following the completion of breadth requirements. Typically this is between the fifth and seventh semester in the PhD program; a recommendation is made by the graduate breadth evaluation committee, in proportion to the amount of course work required to satisfy the breadth requirement. The examining committee consists of the supervisory committee and one or two additional examiners recommended by it and approved by the graduate program committee. The exam centres on the student’s research. The examining committee, in consultation with the student, specifies the topics in
the examination. The student prepares a written survey and gives a public depth seminar; the oral exam follows, and then the committee evaluates the student’s performance in the program to that point. The committee’s evaluation is diagnostic, specifying additional work in weak areas if such exist. A second depth examination or withdrawal from the program may be recommended in extreme cases.

**Thesis Proposal**

The student, in consultation with her/his supervisory committee, formulates and submits, for approval, a written thesis proposal consisting of a research plan and preliminary results. The student gives a seminar and defends the originality and feasibility of the proposed thesis to the supervisory committee. The thesis proposal is normally presented and defended within three semesters of the depth examination.

**Thesis Defence**

Regulations specifying the examining committee composition and procedures for the final public thesis defence are in sections 1.9 and 1.10 of the *Graduate General Regulations*. PhD students give a seminar; typically this will be about their thesis research and is presented in the interval between distribution of the thesis to the committee and the defence.

**Graduate Courses**

**CMPT 601-5 Computing Science Education I**

This course will introduce graduate students in Education to the basics of computing science. Emphasis will be placed on the use of microcomputers. Topics will be programming microcomputers; file handling; microcomputer hardware; word processing; graphics; social, economic and legal implications. Prerequisite: graduate status in education. If the student has an adequate background in computing, this course must be replaced by other computing science undergraduate or graduate courses.

**CMPT 602-5 Computing Science Education II**

This course introduces some formal topics in Computing Science to the graduate student in education. Topics include discrete mathematical structures; models of computing; data structures; formal languages and algorithms. Also, methods will be introduced for the design and implementation of large programs using structured modular design. Prerequisite: CMPT 601 or consent of instructor(s).

**CMPT 710-3 Computational Complexity**

This course provides a broad view of theoretical computing science with an emphasis on complexity theory. Topics will include a review of formal models of computation, language classes, and basic complexity theory; design and analysis of efficient algorithms; survey of structural complexity including complexity hierarchies, NP-completeness, and oracles; approximation techniques for discrete problems.

**CMPT 720-3 Artificial Intelligence**

Artificial Intelligence brings concepts such as computation, process, sub-procedure, data structure, and debugging to bear upon questions traditionally raised by psychologists, linguists, and philosophers.

In this course we will study a representative sample of work in the field. This will include programs which process written English, ‘see’, play games, prove theorems, and solve problems.

**CMPT 730-3 Foundations of Programming Language**

This course will cover basic concepts in the area of programming languages. The course will be largely of a theoretical nature and will concentrate on fundamental concepts of lasting importance; rather than topics of current interest.

**CMPT 740-3 Database Systems**

Introduction to advanced database system concepts, including query processing, transaction processing, distributed and heterogeneous databases, object-oriented and object-relational databases, data mining and data warehousing, spatial and multimedia systems and Internet information systems.

**CMPT 750-3 Computer Architecture**

Parallel processing; SIMD & MIMD systems, pipelining, data flow architecture; microprogramming; control memory minimization, optimization and verification of micro-programs.

**CMPT 760-3 Operating Systems**

This course will discuss design issues relating to the functionality and performance of modern workstation operating systems, such as methods for sharing memory, file and data objects, and choice of communication protocols. The special needs of high performance multiprocessor systems and real time systems will also be addressed.

**CMPT 770-3 Computer Graphics**

This course covers advanced topics and techniques in computer graphics such as solid modelling, curves and surfaces, fractals, particle systems, advanced rendering techniques, animation and post-production techniques. Research topics in virtual reality, human figure animation, CAD, scientific visualization and other areas will also be discussed. Students with credit for CMPT 461 or equivalent may not take CMPT 770 for further credit.

**CMPT 813-3 Computational Geometry**

This course covers recent developments in discrete, combinatorial, and algorithmic geometry. Emphasis is placed on both developing general geometric techniques and solving specific problems. Open problems and applications will be discussed.

**CMPT 814-3 Algorithmic Graph Theory**

Algorithm design often stresses universal approaches for general problem instances. If the instances possess a special structure, more efficient algorithms are possible. This course will examine graphs and networks with special structure, such as chordal, interval, and permutation graphs, which allows the development of efficient algorithms for hard computational problems.

**CMPT 815-3 Algorithms of Optimization**

This course will cover a variety of optimization models that naturally arise in the area of management science and operations research, which can be formulated as mathematical programming problems.

**CMPT 816-3 Theory of Communication Networks**

This course investigates the design, classification, modelling, analysis, and efficient use of communication networks such as telephone networks, interconnection networks in parallel processing systems, and special-purpose networks.

**CMPT 817-3 Knowledge Bases with Visual and Natural Language**

This course examines recent significant advances in knowledge bases, focusing in particular on knowledge representation, reasoning, and integration of knowledge bases with friendly front ends such as visual and natural language interfaces. It is expected that students who complete the course will gain sufficient background to begin research projects at the master’s or doctoral levels in the topics covered. Students from computing science, mathematics, linguistics, education, philosophy, psychology, cognitive science and engineering science are especially encouraged to register for this course.

**CMPT 820-3 Multimedia Systems**

This seminar course covers current research in the field of multimedia computing. Topics include multimedia data representation, compression, retrieval, network communications and multimedia systems. Computing science graduate student or permission of instructor.

**CMPT 821-3 Robot Vision**

This course discusses issues and research results pertinent to robot vision. Topics include depth recovery for robot navigation, three dimensional object recognition and scene analysis, model-based approaches, parallel vision machines and algorithms, and case studies of contemporary robot vision systems.

**CMPT 822-3 Computational Vision**

A seminar based on the artificial intelligence approach to vision. Computational vision has the goal of discovering the algorithms and heuristics which allow a two dimensional array of light intensities to be interpreted as a three dimensional scene. By reading and discussing research papers - starting with the original work on the analysis of line drawings, and ending with the most recent work in the field - participants begin to develop a general overview of computational vision, and an understanding of the current research problems.

**CMPT 823-3 Formal Topics in Knowledge Representation**

This course surveys current research in formal aspects of knowledge representation. Topics covered in the course will centre on various features and characteristics of encodings of knowledge, including incomplete knowledge, nonmonotonic reasoning, inexact and imprecise reasoning, meta-reasoning, etc. Suggested preparation: a course in formal logic and a previous course in artificial intelligence.

**CMPT 825-3 Natural Language Processing**

In this course, theoretical and applied issues related to the development of natural language processing systems and specific applications are examined. Investigations into parsing issues, different computational linguistic formalisms, natural language syntax, semantics, and discourse related phenomena will be considered and an actual natural language processor will be developed.

**CMPT 826-3 Automated Learning and Reasoning**

This course covers topics shared both by AI and cognitive science. Current AI research papers are examined from the perspective of cognitive science, and vice versa. Topics covered in a given semester will vary, depending upon the instructor, but most of the following topics will be addressed in any given semester: connectionist models of intelligence, ‘human-like’ automated deduction; reasoning by analogy; topics in natural language; automated concept learning; and computational approaches to semantics. Prerequisite: at least one graduate or undergraduate AI course, or instructor’s permission.

**CMPT 827-3 Intelligent Systems**

Intelligent systems are knowledge-based computer programs which emulate the reasoning abilities of human experts. This introductory course will analyse the underlying artificial intelligence methodology and survey advances in rule-based systems, constraint solving, incremental reasoning, intelligent backtracking and heuristic local search methods. We will look specifically at research applications in intelligent scheduling, configuration and planning. The course is intended for graduate students with a reasonable background in symbolic programming.

**CMPT 830-3 Compiler Theory**

Precedence, LL(k), LR(k) grammars; SLR(k), LALR(k), L(m)R(k) and LR(k) parsing techniques; transduction grammars; general compiler organization, code generation and optimization; memory allocation for object programs; garbage collection.
CMPT 831-3 Functional Programming
This course will cover functional programming including introduction to a functional programming language, program transformation and verification, implementation of functional programming languages, and other selected topics which may include parallel evaluation of functional programs, analysis of performance, and advanced applications.

CMPT 842-3 Concurrency Control in Database Systems
Transactions, recoverability, serializability theory, schedulers, locking, timestamping, optimistic schedulers, multiversion database systems; recovery, commit protocols, termination protocols; replicated database systems, quorum based concurrency control; distributed snapshot taking, distributed deadlock detection, reliable storage systems; concurrency control in object oriented database systems.

CMPT 843-3 Principles of Database and Knowledge Base Systems
An advanced course on database systems which focuses on data mining and data warehousing, including their principles, designs, implementations, and applications. It may cover some additional topics on advanced database system concepts, including deductive and object-oriented database systems, spatial and multimedia databases, and database-oriented Web technology.

CMPT 852-3 VLSI Systems Design
This course links two fields that traditionally have been considered to be separate: computer architecture and integrated circuit design. The vehicle used to demonstrate the interaction of layout issues and architectural concepts is metal oxide semiconductor technology.

CMPT 853-3 Computer-Aided Design/Design Automation for Digital Systems
Algorithms for logic synthesis and physical CAD/DA. Emphasis on routing, placement, partitioning, and gate level logic synthesis.

CMPT 873-3 User Interface Design
This course provides an overview of a number of research areas in human-computer interaction. Topics may include: overview of HCI (historical/intellectual, GUI, case studies), interactive systems (design, evaluation, software development), interaction methods (vision, graphic design, touch, speech, etc.), human factors (information processing, capabilities), research frontiers (computer supported co-operative work, intelligent systems, hypermedia, virtual reality, cyberspace). Recommended: CMPT 365 or equivalent (instructor discretion).

CMPT 878-3 Scientific Visualization
This course presents advanced topics in the field of scientific visualization. Topics may include: an introduction to visualization (importance, basic approaches and existing tools), abstract visualization concepts, human perception, visualization methodology, 2D and 3D display and interaction, advanced techniques (polygon reduction, volume rendering, multivariate representations, parallel algorithms, etc.) and virtual reality. Prerequisite: CMPT 461, 770 or equivalent (by permission of instructor).

CMPT 880-3 Special Topics in Computing Science
This course aims to give students experience to emerging important areas of computing science. Prerequisite: instructor discretion.

CMPT 881-3 Special Topics in Theoretical Computing Science
CMPT 882-3 Special Topics in Artificial Intelligence
CMPT 883-3 Special Topics in Programming Languages

CMPT 884-3 Special Topics in Database Systems
CMPT 885-3 Special Topics in Computer Architecture
CMPT 886-3 Special Topics in Operating Systems
CMPT 887-3 Special Topics in Hardware Design
CMPT 888-3 Special Topics in Computer Graphics
This course introduces graduate students to specialized topics in computer graphics. In most cases, such topics will build upon those discussed in previous graphics classes, or of prime interest to faculty (such as current research topics).

CMPT 889-3 Special Topics in Interdisciplinary Computing
(3-0-0)
CMPT 891-3 Advanced Seminar
Grade given: S (satisfactory) or U (unsatisfactory).
CMPT 894-3 Directed Reading
CMPT 897-0 MSc Project
CMPT 898-0 MSc Thesis
CMPT 899-0 PhD Thesis

School of Engineering Science

Director
J.D. Jones BSc (Sus), PhD (Reading), PEng
Graduate Program Chair
M. Saif BSc, MSc, PhD (Cleveland), PEng

Faculty and Areas of Research
For a complete list of faculty, see “School of Engineering Science” on page 307.

J.S. Bird – statistical signal processing, system performance analysis, underwater acoustics and optics, radar, sonar and communications applications C.R. Bolognesi – fabrication and characterization of advanced compound semiconductor devices such as high electron mobility and heterojunction bipolar transistors, development of new materials and processes for high speed devices, optoelectronics, heterostructure fabrication and characterization; solid state phenomena J.K. Cavers – mobile communications, signal processing, network protocols G.H. Chapman – microelectronics (fabrication, defect avoidance techniques, device physics), laser processing of materials, VLSI/wafer scale integration, computer aided engineering V. Cuperman* – signal processing, speech coding and recognition, multimedia information compression, digital communications, digital signal processing structures and hardware M.J. Deen – microelectronics, high frequency electronics, semiconductor devices and circuits, device physics, device modelling J.C. Dill – computer graphics, computer aided design, user interfaces, intelligent design D.A. George* – adaptive signal processing for communications and remote sensing systems W.A. Gurven – intelligent robotics, machine sensing and sensor-based control with applications to service robots, rehabilitation engineering, and manufacturing automation K.K. Gupta – computer vision, robotics, interpretation of three dimensional scenes, motion planning, spatial reasoning R.H.S. Hardy – computer networks, interaction between network and device technologies and network performance, wireless networks

P.K.M. Ho – mobile communications, modulation and detection techniques, joint source and channel coding techniques, integration of stream and packet mode CDMA traffic R.F. Hobson – very large scale integrated design, computer design, interpreter design J.D. Jones – applications of artificial intelligence to engineering design, design for manufacturing, finite element analysis, heat transfer and thermodynamics A.M. Leung – microelectronics, integrated circuit technology, integrated sensors, optical lithography M. Parameswaran – silicon micromachining, integrated microelectronics and micromechanical sensors and actuators, commercial integrated circuit process compatible sensors and actuators design, integrated circuit design, (application of micromachining for biomedicine and biotechnology) microelectronic processing, process and device simulation S. Payande – robot mechanics and control, modelling and control of grasping and manipulation, interpretation of contact forces and tactile images, kinematic geometry of mechanisms A.H. Rawicz – reliability physics and engineering, very large scale integrated reliability, physical transducers, integrated sensors, film, technology, nonlinear optics, materials processing in microelectronics M. Saif – estimation and control theory, model based fault diagnosis, large scale systems, optimization, and application of the above to engineering systems S. Stapleton – passive radio frequency/microwave circuits, GaAs monolithic microwave integrated circuits, nonlinear radio frequency microwave devices, active radio frequency microwave circuits M. Syrzycki – microelectronics, semiconductor devices, digital and analog VLSI design, integrated circuit technology, integrated sensors, integrated circuit fabrication defects, yield and reliability of VLSI integrated circuits L. Trajkovic – data communications (collection, characterization and modelling of traffic in high-speed networks), computer aided design tools (novel algorithms for simulation of transistor circuits); theory of nonlinear circuits and systems J. Vaisey – image compression and processing, signal processing, digital communications

Associate Members
P.N.S. Bawa, Kinesiology R.F. Frindt, Physics J.A. Hoffer, Kinesiology

*emeritus

Degrees Offered
The School of Engineering Science offers two distinct master’s degrees, master of engineering (MEng), or master of applied science (MASc) and a doctor of philosophy (PhD) degree.

Master’s Program
The MEng program, for part time study by practising engineers, is based on a set of courses, normally offered in the evenings, plus a project performed in industry. The principal areas of study for the MEng program are electronics, communications and signal processing. The MASc is a full time program with primary emphasis on the thesis, rather than course work, is more exploratory than the MEng, and covers a greater range of study.

Admission
The normal admission requirement to the MEng and MASc programs is a bachelor’s degree in electrical engineering, computer engineering, engineering science or a related area, with a cumulative GPA of at least 3.0 (B grade) from a recognized university, or
equivalent. The quantity of faculty members limits the number of MASc students accepted into
the programs.

Transfer from MEng Program to MASc Program
Normally transfer from MEng program to MASc program will be considered under the following
conditions.
• Undergraduate GPA. Minimum undergraduate CGPA of 3.3 required.
• MEng GPA. On at least two courses, a minimum CGPA of 3.5.

Degree Requirements – MEng Program
Course Work
MEng candidates are required to complete a minimum of 21 credit hours of course work at the
graduate level. Of the courses listed below, all students must take ENSC 820. Those specializing in
communications must take ENSC 805 and 810; those in electronics must take one of ENSC 851, 852 or 853
and students in intelligent systems and control must take ENSC 801.

In addition to course work, a student must complete a project, expected to take a minimum of two person
months. In the event that the project is performed in the student’s work place, the student will receive
academic supervision from the senior supervisor, and day-to-day supervision from the student’s manager, or
designated associate. Industrial supervisors, who are on the supervisory committee, will be appointed by
the graduate chair in consultation with the senior supervisor. In very small companies, alternate
arrangements will be made for industrial supervision.

In addition to submission of a technical report at the completing the project, the student will make an oral
presentation to the supervisory committee and the graduate chair. A grade will be assigned based on the
quality of the submitted report, the presentation, and the student’s understanding of the subject. A grade of
‘complete’ or ‘in progress’ will reflect the majority decision. In the case of an ‘in progress’ grade, the student is required to re-submit the project report and present it again.

MEng Fees
Students registered in the MEng program may complete their program before paying the minimum
total fee for a master’s degree. In such cases, an additional payment is required prior to graduation to
satisfy the minimum fee requirement of six full-time fee units. See “Graduate Fees” on page 290.

Degree Requirements – MASc Program
MASc candidates complete 30 credit hours consisting of a minimum of 12 credit hours of course work, plus
a thesis equal to 18 credit hours. The courses will, in consultation with the senior supervisor, normally be
selected from the list below. Additional courses may be required to correct deficiencies in the student’s
background. The thesis is based on an independent project with a significant research component. The
student defends the thesis at an examination, in accordance with regulations.

Graduate Research Internship
With the approval of the supervisory committee, students accepted in the MASc or PhD programs have
the option of doing research internship in industry. The responsibility for finding a suitable
internship rests with the student, though the senior supervisor will provide guidance.

In addition to satisfying the program’s degree requirements, students who choose this option must
satisfy the following conditions.

Proposal
The proposal must be approved by the supervisory committee and by the graduate committee. The
proposal must include the following.
• justification for undertaking the work in industry
• agreement regarding intellectual property and publications
• funding arrangement

On-campus Presence
During the internship, the student must spend at least one day per week (or equivalent as approved by the
graduate committee) on campus to meet with his/her supervisor and attend regular seminars. This is in
addition to time spent on campus for course work.

Oral Presentations
A minimum of two oral presentations for the supervisory committee (not including the thesis
defence) on the progress of the student’s work will be given during the internship.

Duration
The duration of the internship will not exceed two semesters, in the case of a MASc student, or four
semesters, in the case of a PhD student.

Failure to Comply
See “1.8 Progress, Withdrawal and Leave” on page 287

PhD Program
Admission
To qualify for admission, a student must have a master’s degree in electrical engineering, mechanical
engineering, physics, computer science or a related field, have submitted evidence that he or she is
capable of undertaking substantial original research in engineering science, and have identified a faculty
member willing to act as senior supervisor.

See “Graduate General Regulations” on page 283 for other PhD program admission requirements.

Residence Requirement
Students will conform to the residence requirement as outlined in section 1.7.3 of the General Regulations.

Transfer from the Master’s Program to the PhD Program
Proceeding to a PhD program without first completing a master’s degree is discouraged. However, a student
may be admitted after at least 12 months in the MASc program if all the requirements have been completed
with a 3.67 or better CGPA, outstanding potential for research has been shown, and approval of the
student’s supervisory committee, graduate program committee and senate graduate studies committee
been given.

Degree Requirements
Course Work
The minimum requirement is 18 credit hours beyond those for the master’s degree, of which six are
prescribed courses in the option in which the student is enrolled. Alternatives require approval of the
student’s supervisory committee. At most six hours may be senior level undergraduate courses. At most
six credit hours may be directed studies. At least six credit hours must be within engineering science.

Qualifying Examination
To qualify the student will submit a brief written research proposal and defend it orally to his/her
supervisory committee within the first 14 months of admission. The proposal defence will be judged
according to the feasibility and scientific merits of the proposed research, and demonstration of a
sophisticated understanding of general material in the student’s major area of research. This level of
understanding is associated with senior undergraduate and first year graduate course material. The possible outcomes of the qualifying examination are ‘pass’, ‘marginal’ and ‘fail’ (a student with ‘marginal’ will be required to re-submit the
research proposal and defend it for the second and final time within six months and/or to take more
courses, a ‘failing’ grade requires withdrawal).

Thesis
Students define and undertake original research, the results of which are reported in a thesis. An
examining committee is formed as defined in 1.9.3 of the Graduate General Regulations. Students conform
to residence requirements (1.7.3 of the Graduate General Regulations). The senior supervisor will be
an engineering science faculty member approved by the department’s graduate program committee.

The student’s progress will be reviewed every 12 months by a supervisory committee of three or more
faculty members. At each annual review, the student presents a summary of his/her work to date, with the
first review being the research proposal defence described in the section for Qualifying Examination.

Students not making satisfactory progress in their research topics, or failing to demonstrate satisfactory
knowledge and understanding of recent publications in their general area of research, or failing to have
their revised research proposal approved by the supervisory committee within 20 months of admission
may be required to withdraw as per section 1.8.2 of the Graduate General Regulations.

Research Seminar
PhD students present at least one research seminar per year as a part of regularly organized departmental
seminars, including some based on completed or nearly completed thesis work. Students are expected
to attend all the research seminars of the school.

Directed Studies and Special Topics Courses
Directed studies (ENSC 891, 892) and special topics (ENSC 894, 895) courses may be offered by the
following research groups, subject to student interest and demand.

Communications Group
estimation theory
ATM network performance evaluation
optical telecommunications networks
advanced modulation techniques
spread spectrum communications
information flow and decision theory
adaptive arrays
active and passive sonar systems
synthetic aperture radar

Microelectronic group
analog VLSI signal and information processing
applied solid state electronics
CMOS compatible micromachining
embedded VLSI systems
low power, low noise, high frequency circuits
optoelectronic devices
photonic and laser applications in engineering
reliability engineering
sensor – principles and applications
VLSI circuits for telecommunications

Intelligent Systems and Control Group
design optimization
algorithms for robotics
intelligent design
intelligent control of robotic systems
intelligent manufacturing systems
model-based fault diagnostics in control systems
multivariable control systems
Graduate Courses

ENSC 800-0 Graduate Seminar in Engineering
A seminar series presented by graduate students, university researchers, government or industrial labs on recent developments in engineering science. All full time graduate students are required to register for this course in fall and spring semesters. Grading will be restricted to satisfactory/unsatisfactory (S/U), and to attain a satisfactory grade, students need to attend at least two thirds of the seminars. (0-0-0)

ENSC 801-3 Linear Systems Theory

ENSC 802-3 Stochastic Systems
This course emphasizes the application of probability, random variables and stochastic processes. The main topics covered by the course are as follows: a brief review of probability and random variables; continuous and discrete random processes, including auto correlation, cross correlation and spectral density; AR and ARMA models; and an introduction to Markov chains and queuing theory. Areas of application include digital communication, speech and image processing, control, radar and Monte Carlo simulations. Prerequisite: graduate standing.

ENSC 805-3 Techniques of Digital Communications
This course discusses the fundamental techniques used in the physical layer of a digital communication system. The main topics are as follows: digital modulation, including complex baseband representations, the concept of the signal space, optimal demodulation, bit error probability analysis, as well as timing and carrier recovery; error control techniques, including soft decision decoding and the Viterbi algorithms; and various kinds of equalization (linear, decision feedback, and maximum likelihood sequence estimation). Sub topics of the equalization section include pulse shaping and eye diagrams. The emphasis may vary slightly in different offerings. Prerequisite: permission of instructor.

ENSC 810-3 Digital Signal Processing
This course covers advanced digital signal processing techniques. The main topics are as follows: transform representations of signals; fast transforms (FFT, DCT); signal processing of band pass signals and the Hilbert transform; random signals; the response of LTI systems to random signals; quantization noise in DSP; power spectrum estimation; an introduction to adaptive filters; linear prediction in DSP; and an introduction to hardware implementations of DSP algorithms. Prerequisite: ENSC 802 and a previous course in DP at the undergraduate level.

ENSC 815-3 Signal Processing Electronics
This course covers the techniques used to implement signal processing algorithms. Major topics include the following: complexity and performance in DSP; a review of algorithms, including those for DSP; speech and image processing; and signal processing applications of Harvard architectures; pipeline and parallel processing; the architecture of several commercially available DSP chips and a vector signal processor; real time software and development systems; the mapping of algorithms onto arrays; vectorization of scalar algorithms; languages for parallel algorithms; dependence and signal flow graphs; systolic and wavefront arrays; the Hypercube and the Connection Machine. Prerequisite: permission of instructor.

ENSC 820-3 Engineering Management for Development Projects
This course focuses on the management and reporting activities of typical engineering development projects. Through seminars and workshops it builds the student's skills at estimating project cost and schedule, keeping a project on track, and handling over the completed project to a customer or another team. A writing workshop emphasizes techniques for writing proposals, and writing and controlling documentation. Prerequisite: permission of instructor.

ENSC 823-3 Mobile and Personal Communications
Propagation phenomena, modulation techniques and system design considerations for mobile and personal networks. Topics include: fading and shadowing, noise and interference effects, analog and digital transmission, cellular designs, multiple access techniques. Prerequisite: permission of instructor.

ENSC 833-3 Network Protocols and Performance
This course covers the techniques needed to understand and analyse modern communications networks. The main topics are as follows: practical techniques for the design and performance analysis of data communication networks; performance analysis of error control, flow and congestion control, and routing; networks of queues using stochastic and mean value analysis; polling and random access LANs and MANs; wireless networks; broadband integrated services digital networks and asynchronous transfer mode; optical networks. Prerequisite: ENSC 802 or permission of instructor.

ENSC 834-3 Fundamentals of Optical Communication
This course discusses modern fibre optics communication systems. The major topics to be covered are as follows: the analysis of optical transmission media, including multimode and single mode technology; bandwidth limitations imposed by dispersive behaviour of fibre; modified fibre profiles for third generation fibre communication systems; solitons; semiconductor laser diodes; external modulation; PIN photo diodes and avalanche photo detectors; bandwidth and noise limitations; optical amplifiers’ semiconductor laser amplifiers; doped fibre amplifiers; optical receiver and transmitter circuits; quantum limited receiver performance; BER performance; optical communication networks. Prerequisite: permission of instructor.

ENSC 850-3 Modern Semiconductor Devices
This course is orthogonal to the silicon device fabrication course ENSC 851. Topics to be covered include: fundamentals of semiconductor devices; pn junctions, schottky barrier junctions, silicon-based heterojunctions and ohmic contacts; bipolar junction transistors; field effect transistors; heterostructures; charge coupled devices and microwave devices. (3-0-0) Prerequisite: PHYS 365 or permission of instructor.

ENSC 852-3 Analog Integrated Circuits
Models for integrated circuit activity and passive devices and their implementation; computer aided design tools and their use in designing analog integrated circuits; analysis of single transistor amplifiers; current sources, current mirrors, and voltage references; op-amps characteristics, analyses and circuit design examples; frequency response of integrated circuits; noise in integrated circuits; low power integrated circuits; non-linear analog integrated circuits. The students will be required to either design, fabricate and test simple analog ICs in the microelectronics lab, or to do a project which involves the design, analysis, modeling and simulation of an analog integrated circuit. Prerequisite: ENSC 850 or permission of instructor.

ENSC 853-3 Digital Semiconductor Circuits and Devices
MOS device electronics. Second Order Effects in MOS transistors. BJT device electronics. Static and transient analysis of inverters. Digital gates, circuits and circuit techniques. Speed and power dissipation. Memory systems. Gate arrays, custom and custom integrated circuits, CAD tools. Students are required to complete a project. Prerequisite: permission of instructor.

ENSC 854-3 Integrated Microsensors and Actuators
Microelectronic transducer principles, classification, fabrication and application areas. Silicon micromachining and its application to integrated microelectronic sensors and actuators. CMOS compatible micromachining. Static, dynamic and kinematic microactuator fabrication. Integrated transducer system design and applications. Students will learn design and develop microactuation systems in the microfabrication lab at ENSC. Prerequisite: ENSC 370, 453, 495 or permission of instructor.

ENSC 855-3 Modern Semiconductor Devices
This course covers the physical concepts required to participate in (or gain appreciation for) the field of high performance, high speed semiconductor devices used in telecommunication systems. Topics include: basic semiconductor energy band structure, low and high field transport in semiconductors, ballistic transport, the depletion approximation and beyond, heterostructures, band line-ups, lattice mismatched heterostructures - strain as design pauldulation, charge recombination, operating principles of modern semiconductor devices such as SiGe or III-V HBTs, MESFETs/HEMTs, photodetectors, quantum well lasers. Prerequisite: permission of the instructor.

ENSC 856-3 Compound Semiconductor Device Technology
The course will present the necessary tools and techniques required in the fabrication of compound semiconductor devices. Because of the wide disparity between III-V and silicon semiconductor devices, the course is orthogonal to the silicon device fabrication course ENSC 851. Topics to be covered include: basics of HBTs and HEMTs, elements of III-V compound semiconductor materials science, III-V substrate preparation and properties, doping of III-V compounds and amphoteric behavior, epitaxial growth by MBE, MOCVD, characterization of epitaxial layers, lithography: optical and electron beam, Schottky and Ohmic contact formation, plasma processing techniques such as RIE and PECVD. Prerequisite: permission of the instructor.

ENSC 858-3 VLSI Systems Design
Topics of relevance to the design of very large scale integrated (VLSI) circuits in CMOS technologies are covered. Key design techniques and fundamental limitations for high-speed computer and communication circuits are discussed. Most of the material will be presented through a series of case
these tools and methods for kinematic and dynamic modelling approaches. These new approaches allow more intuitive and geometrical representation of motion and interaction in any articulated multi-body system such as robotics devices. The course offers valuable background for students involved in computer graphics (e.g. animation), human/machine interface (e.g. haptic interface), control engineers (e.g. trajectory planning, master/slave system) and robotic designers. The course involves individual projects in modelling and co-ordination of a robotic device. Prerequisite: introductory course in robotics or permission of the instructor.

ENSC 891-3 Directed Studies I
ENSC 892-3 Directed Studies II
ENSC 894-3 Special Topics I
ENSC 895-3 Special Topics II
ENSC 897-0 MEng Project
ENSC 898-0 MASC Thesis
ENSC 899-0 PhD Thesis

Courses Offered by Other Departments

Of particular interest to engineering science graduate students are these courses. Complete descriptions can be found elsewhere in this Calendar.

BUEC 820-4 Analysis of Dynamic Processes
CMPT 720-3 Artificial Intelligence
CMPT 750-3 Computer Architecture
CMPT 815-3 Algorithms of Optimization
CMPT 821-3 Robot Vision
CMPT 822-3 Computational Vision
CMPT 827-3 Expert Systems
CMPT 851-3 Fault-Tolerant Computing and Testing
CMPT 852-3 VLSI Systems Design
CMPT 853-3 Computer-Aided Design/Design Automation for Digital Systems
KIN 885-3 Seminar on Man-Machine Systems
MATH 851-4 Numerical Solutions of Ordinary Differential Equations
PHYS 425/821-3 Electromagnetic Theory
PHYS 810-3 Fundamental Quantum Mechanics
PHYS 861-3 Introduction to Solid State Physics

School of Kinesiology

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Director
J.B. Morrison BSc, ARCS (Glas), PhD (Strath)

Graduate Program Chair
D. Weeks BA (Windsor), MSc (McM), PhD (Auburn)

Faculty and Areas of Research
For a complete list of faculty, see “School of Kinesiology” on page 310.

E.A. Accili – ion channels, signal transduction, pacemaker mechanisms of the heart
P.N.S. Bawa – neuroscience
A.P. Blaber – environmental and aerospace physiology
T.W. Calvert – human figure animation, telelearning, computer graphics and computer-human interaction
A.J. Davison – oxygen and the anti-oxidant vitamins; benefits and hazards
J. Dickinson – motor learning and human factors
D.T. Finegood – regulation of carbohydrate metabolism
D. Goodman – motor control and learning
J.A. Hoffer – neural control of movement and neural protheses
C. Krieger – physiology and pathophysiology of motor control
C.L. MacKenzie – motor control
R.G. Marteniuk – motor control
T.E. Milner – human biomechanics/neural control of movement
J.B. Morrison – bioengineering and environmental ergonomics
W.S. Parkhouse – exercise physiology and biochemistry
S.N. Robinovitch – biomechanics, falls and fall-related injuries in the elderly
M.P. Rosin – environmental carcinogenesis
M.V. Savage – thermoregulation; implications for the cardiovascular system
G.F. Tibbits – cardiac biology
A.V. Vieira – biochemistry and cell biology of vitamin and hormone research

Admission

For admission requirements, See “1.3 Admission” on page 283. At least 24 hours of appropriate undergraduate science courses are required.

MSc Program

Although the minimal requirements for the MSc are 12 credit hours of graduate courses and a thesis, most supervisory committees require more than the minimum. At least six of these hours must be from the graduate course offerings in kinesiology. Courses will be chosen by the candidates’ supervisory committee after consultation with the candidate. For further information and regulations, refer to the Graduate General Regulations.

Thesis

The school encourages early submission of the thesis proposal which is circulated to faculty and resident graduate students, and formally presented for discussion at an open forum. A formal defence of the completed thesis is made to the examination committee at an open forum. The thesis proposal must precede the defence by at least four months. For further information and regulations, refer to the Graduate General Regulations.

Time Required for Degree

Degree requirements can normally be completed in six semesters.

PhD Program

Degree Requirements

Students are admitted to the program in an area defined and determined prior to acceptance by the
school’s graduate program committee. The program must be within the student’s and the school’s capabilities. Students must show competence in methodology relevant to proposed research. Normally the supervisory committee will prescribe courses necessary to complete the student’s academic preparation. In exceptional circumstances, the supervisory committee may allow the student to proceed without additional course work over and above that for a master’s degree.

Study and research is designed to suit the background and research objectives of each student and may differ widely from student to student. A student may be directed to acquire an adequate knowledge of a language which would be relevant to his/her studies. The student will present two seminars plus a dissertation proposal on topics approved by the student’s supervisory committee. They will be presented during the regularly scheduled school seminar time, normally between the first and sixth semesters. Both the timing and subject matter of seminars will be chosen by the supervisory committee in consultation with the student.

Comprehensive Examinations
At a time set by the supervisory committee, and within six semesters of residence, the student takes written and oral comprehensive examinations. The comprehensive examination committee consists of a minimum of five people, at least three of whom must be faculty members of the School of Kinesiology, including the senior supervisor and the school’s graduate program chair (or designate, who will act as the committee chair), plus one faculty member from outside the school.

Written
There will be four written examinations.
Part One
One exam paper will be devoted to the student’s field of specialization and will permit extensive exploration of the research area. This examination is typically set by the senior supervisor in consultation with the comprehensive examination committee and consists of the following format.

• an initial response, based on a four to six hour single sitting, closed book exam.
• a further three days during which the student will prepare and submit a response to the same question.
Part Two
The other three examinations are based on three supplementary and related areas chosen by the comprehensive examination committee after consultation with the student. Decision of the examining committee is by simple majority.

Possible results of each written exam are pass, defer or fail. A deferral is used when the examiner wishes to defer judgment until after the oral examination. A student who fails one examination must rewrite that component. A complete rewrite of all four examinations at a subsequent sitting is required in the case of either failure of more than one or passing less than two of the written comprehensive examinations. An unsatisfactory performance on the second trial necessitates withdrawal from the program.

Oral
Students proceed to the oral examination when a pass or deferred (maximum of two) grade on all four sections of the written examination is received. The oral examination is held by the comprehensive examination committee. The student will be examined primarily in the areas covered by the written examination, but questions may range over the entire discipline. Possible results of the oral examination are pass, defer or fail. A student who fails the oral examination may take it again only once. A deferral results in specific conditions of remedial work or retesting as determined by the examining committee. A deferred evaluation will not be converted to a pass unless the comprehensive examination committee’s conditions have been met within the established time frame. Otherwise, the deferral will lapse to a fail. The student cannot proceed to the dissertation proposal until the oral comprehensive exam has been passed.

Dissertation
Dissertation Proposal
Upon successful completion of the comprehensive examinations, the candidate prepares a dissertation proposal, which is circulated to faculty and resident graduate students, and will formally present this proposal for discussion at a school open forum. The proposal must precede the dissertation defense by at least one year.
Completed Dissertation
The completed dissertation is judged by the candidate’s examining committee. If the dissertation defense is failed, the candidate is ineligible for further candidacy in the degree program at this University. For information and regulations, refer to the Graduate General Regulations.

Graduate Courses
Note: If the subject matter of a listed course has been previously completed with graduate credit, the course may not be taken again for credit.

KIN 805-3 Directed Studies
Seminar opportunity to develop under a faculty supervisor, special interest in considerable depth. Normally, KIN 805 may be taken not more than once for credit toward a degree.

KIN 806-3 Special Topics
Special topics in areas not currently covered within the graduate program offerings. The course may be offered as a lecture or a seminar course.

KIN 807-3 Special Topics
Special topics in areas not currently covered within the graduate program offerings. The course may be offered as a lecture or a seminar course.

KIN 808-3 Special Topics
Special topics in areas not currently covered within the graduate program offerings. The course may be offered as a lecture or a seminar course.

KIN 810-3 Seminar in Exercise Biochemistry
A detailed study of current topics in exercise metabolism including endocrine control of exercise metabolism, protein turnover in muscle, metabolic fatigue mechanisms in muscle, and cellular adaptation to training. Prerequisite: KIN 310, 407, and 430, or equivalent.

KIN 812-3 Molecular and Cellular Cardiology
This course involves biochemistry and biophysical analyses of cardiac function. Topics for discussion include excitation, contraction, E-C coupling and the regulation of pH. Prerequisite: Introductory biochemistry and biophysics.

KIN 821-3 Advanced Cardio-respiratory Physiology
Detailed review of the current topics in cardiovascular and respiratory physiology in health and disease. Prerequisite: KIN 305, 306 and 407.

KIN 825-3 Seminar - Learning and Motor Development
Study selected topics from skill learning and motor performance.

KIN 826-3 Motor Control: A Behavioral Perspective
The study of selected aspects of research in motor behavior. The focus will be on delineating the problems of a viable theory of action, and on seeking solutions to the problems. Prerequisite: KIN 467, or equivalent.

KIN 835-3 Kinanthropometry and Human Development
To provide detailed insights into strategies and tactics in studying human size, shape, composition, proportion, maturation, gross function as related to normal and atypical growth, exercise, performance and nutrition.

KIN 840-3 Gross Body Mechanics
To study in depth the selected aspects of the application and relevance of Newtonian mechanics to human gross bodily movement. Emphasis will be in terms of quantitative measurement of forces produced in human movement and their accuracy in both prediction and modification of human activity.

KIN 850-3 Cellular and Metabolic Control Systems
Molecular mechanisms of cellular control, and their relationship to the integration of metabolism and physiological function. The course will cover mechanisms of hormone action, immunoregulation, carcinogenesis, and the principles of metabolic control.

KIN 851-3 Recent Advances in Experimental Carcinogenesis
This class will integrate current knowledge on the process of carcinogenesis in tissues in which cancer commonly occurs in North America. Discussions will focus on new techniques being developed to identify individuals at risk for cancer and new approaches being used to intervene to prevent development of the disease. Prerequisite: KIN 431.

KIN 861-3 Control Mechanisms in Human Physiology
An intensive study of human neuro-muscular control and neuro-endocrine control phenomena. Prerequisite: KIN 305, 306 and 407.

KIN 865-3 Neural Control of Movement
The course covers the peripheral nervous system including reflexes and spinal cord organization in detail. This prepares the student with a thorough understanding of general functioning of the nervous system. In addition, the course covers the neurophysiology of the cerebellum, motor cortex, basal ganglia, vestibular system and other related structures involved in central control of movement. Laboratory demonstrations are part of the course.

KIN 870-3 Human Systems Modelling
Systems analysis will be applied to a variety of physiological problems. Quantitative tools will be developed and computer simulation introduced.

KIN 875-3 Histo-Physiology
Histo-physiology, biochemical cytology and fine structural studies of mammalian tissue with emphasis on human organ system. The course will comprise seminars and research projects where cytochemical and fine structural techniques can be adopted to investigate the project. Prerequisite: KIN 336 or equivalent.

KIN 880-3 Internal Biomechanics
To relate the laws of mechanics to the function and structure of tissues and systems of the human body. Emphasis will be in relation to internal events occurring in normal and abnormal human states. Prerequisite: KIN 402.

KIN 885-3 Seminar on Human-Machine Systems
A study of the principles involved in integrating human capabilities into complex machine systems.

KIN 890-3 Engineering Aspects of Human Function
The application of engineering principles to the study of normal and abnormal human function.
School of Resource and Environmental Management


Director
P.W. Williams BA (Ott), MA (Wat), PhD (Utah State)
Emeritus Professor
P.W. Williams BA (Ott), MA (Wat), PhD (Utah State)

Professors
J.C. Day BS, MSc (W Ont), PhD (Chic) – resource management policy, water resources, impact assessment
B. Newbury BSc, MSc (Manit), PhD (J Hopkins) – watershed analysis, hydrology of streams and lakes, river basin studies and river rehabilitation (limited term professor, stream hydrologist, Newbury Hydro)
R.M. Peterman BSc (Calif), PhD (Br Col) – fisheries population dynamics and management, simulation modelling, risk assessment, decision analysis
P.K. Hockenbury BA (Ott), MA (Wat), PhD (Utah State) – policy, planning and management issues in tourism and outdoor recreation

Associate Professors
M.J. Fortin BSc BioSc, MSc BioSc (Montr), PhD (NY State) – spatial analysis, ecology
A.M. Gill BA (Hull), MA (Alta), PhD (Manit) – tourism, resource communities*
F. Gobas BSc, MSc (Amst), PhD (Tor) – environmental toxicology
T.I. Gunton BA, MA (Wat), PhD (Br Col) – regional resource and development planning
M. Jaccard BA, MRM (S Fraser), PhD (Grenoble) – energy economics, modelling
K. Lertzman BSc (Man), MSc, PhD (Br Col) – forest ecology, long term forest dynamics, landscape ecology, conservation biology, global change
E. Pinkerton BA (Wellesley), MAT (Harv), MA, PhD (Brandies) – maritime anthropology, community roles in management of adjacent renewable resources

Assistant Professors
D. Alexander BA (Mich), MA (Trent), PhD (Wat) – regional planning, sustainable urban development, community economic development (limited term)
W. Haider MSc (Austria), MA (Ott), PhD (McG) – parks and outdoor recreation
D. Knowler BA, MA (Alta) – bioeconomic modelling, indirect incentives in natural resources management, and trial development and natural resource management

Associated Faculty
A.S. Harestad, Biological Sciences
D. Moore, Geography
M. Roseland, Geography
R.D. Routledge, Mathematics
M. Schmidt, Geography

Adjunct Professors
T. Berry BSc (Sask), MRM (S Fraser) – Principal, Compass Resource Management Ltd. (resource and environmental economics, sustainability analysis, electricity market reform, multi-criteria decision analysis)
D. Bisson BEnvStud (Wat), BLaw (Calg), MBC (S Fraser) – Senior Advisor, Environmental Health, Safety, Westcoast Energy Inc., Corporate (environmental legal and management advice, development and implementation of environmental management system EMS, environmental audit
A. Thompson LLB (Man), LLM (Tor), JSD (Col) – University of British Columbia Professor, Associate Council, Ferguson Gifford (natural resources, environment, energy)
P. Wright BS (Lakehead), MS, PhD (Ohio State) – (environmental conflict resolution, parks and outdoor recreation)

*joint appointment with geography

The School of Resource and Environmental Management offers two interdisciplinary graduate programs in resource management: a master’s degree (MRM) in resource management, a combined master’s degree in resource management and business administration (in co-operation with the Faculty of Business Administration) (joint MRM/ MBA), and a PhD degree in resource in environmental management.

These programs are designed for recent graduates from a range of disciplines, and for individuals with experience in private organizations or public agencies dealing with natural resources and the environment. Relevant disciplines of undergraduate training or experience include fields such as biology, engineering, chemistry, forestry and geology, as well as business administration, economics, geography, planning and a variety of social sciences. The graduate programs provide training for professional careers in private or public organizations and preparation for further training for research and academic careers. Some courses are scheduled in the evenings or week long blocks. An optional co-operative education program permits students to work in a private organization or a resource management agency to gain first hand experience.

Students take an integrated sequence of courses in complementary fields, pursue further courses in their area of specialization in the school and throughout the University, and complete a research project on a topic involving more than one traditional discipline. The aim is to increase familiarity and competence in understanding the dynamics of natural resources, the strategies and techniques of natural resource and environmental planning and management, and the biological, physical, social, economic and institutional implications of resource decisions. Students also become familiar with various quantitative methods of analysis and aids to decision making. In the field of natural resources, in particular, it is important that an academic program stress problem-solving as well as creative and critical thinking skills rather than focus primarily on subject matter such as fisheries, economics, or forestry.

The courses are designed specifically for resource and environmental management students. This full time faculty complement provides a strong focus and integration that significantly enhances the graduate educational experience.

Faculty and student research evaluates the effectiveness of existing natural resource management policies and, where appropriate, to develop alternatives. Innovative strategies often emerge from research into the biological dynamics of natural resources, or the institutional, social, economic or public policy aspects of their management. The emphasis in course materials and research programs is not simply to identify and describe resource and environmental problems, but to better understand causes and design acceptable solutions. Researchers apply a range of approaches including cost-benefit analysis, simulation modelling, legal and institutional assessment frameworks, and social surveys to address critical and emerging natural resource management issues on local, national, and international scales. Some research is in collaboration with resource management agencies to facilitate implementation of research results.
Co-operative Education
The REM co-operative education program places students in a resource management agency (government or private) to gain professional work experience in applied problem solving. The optional co-op program can lead to work that is directly applicable to REM 699 Research Project.

Tourism Research
In keeping with its multidisciplinary character, the school plays a leading role in Simon Fraser University’s Centre for Tourism Policy and Research which undertakes research, professional development seminars and workshops, and conducts planning and marketing research projects for public and private sector tourism organizations.

Admission Requirements
Refer to the Graduate General Regulations for admission requirements. Contact the School of Resource and Environmental Management directly for the application package.

Those with degree qualifications in fields not directly related but with extensive experience in resource management are encouraged to apply. Individuals will vary in their preparation for the various disciplines involved in the school. Therefore, admission to the school might be conditional upon the completion of certain undergraduate courses.

Application deadline: February 15.

Master’s Program
Requirements
Seventy-three credit hours must be completed, consisting of 43 credit hours of required courses plus 30 credit hours of electives. With the director’s approval, up to seven courses (35 credit hours) may be transfer credits from another institution. In exceptional cases, evidence of advanced education equivalent to one of the courses in the required group may allow a waiver for that course by the program director, thereby reducing the total degree requirements to 68.

Prerequisite Courses
All students must be familiar with the material covered in an undergraduate course in parametric and nonparametric statistics.

Required Courses
Students must complete all of
- REM 601-5 Natural Resources Management I: Theory and Practice
- REM 611-5 Applied Population and Community Ecology
- REM 621-5 Economics of Natural Resources
- REM 631-5 River Basin Analysis, Planning and Management
- REM 698-3 Field Resource Management Workshop
- REM 699-10 Research Project
- REM 801-5 Principles of Research Methods and Design in Resource and Environmental Management
and one of
- REM 642-5 Regional Planning I
- REM 644-5 Public Policy Analysis and Administration

Elective Courses
To fulfill the required 30 credit hours of electives, students generally choose a set of graduate courses that support their particular research interests. In consultation with the student’s senior supervisor, these courses may be chosen from offerings of other departments.

Joint Master in Natural Resource Management and Business Administration
Admission into this program is suspended pending determination of the program’s future status.

A combined program leading to a joint master degree in resource management (MRM) and business administration (MBA) is offered. This unique opportunity is designed to provide students with interdisciplinary skills and strategies for effective natural resource management.

Problems in the management of competing demands for tourism, forestry, energy, fisheries, water, mineral and agricultural resources are intensifying. Demand for expertise in traditional management disciplines thus continues to grow, and the capability of managers is greatly increased when their academic and professional experience encompasses an understanding of the roles various disciplines can play in addressing resource issues.

This program provides more in-depth opportunities and integrated education in study areas requiring natural resource and business management expertise. It gives students increased familiarity and competence in understanding not only the dynamics of natural resource systems, strategies and decision-making frameworks for their planning and management, but also an appreciation of the economic business implications of those strategies. It has a distinctly integrated natural resource and business management perspective.

The joint program encourages areas of concentration in policy, marketing, accounting, finance and organizational behaviour. While students are exposed to topical issues related to specific subject areas such as tourism, fisheries, forestry and water management, the program stresses the development of integrated problem-solving and critical thinking skills.

Student research evaluates existing and develops new and effective natural resource management systems. Students apply quantitative and qualitative techniques derived from business and natural resource management disciplines to address these issues. Full time faculty members from the school and the Faculty of Business Administration provide guidance and focus for these research initiatives.

Admission Requirements
Up to five students per year are admitted. Candidates must meet the entrance requirements of both the school and Faculty of Business Administration graduate studies committees. Minimum admission requirements are as follows.

- a minimum undergraduate CGPA of 3.0 (or equivalent)
- acceptable score on the GMAT test
- acceptable score (570 minimum) on the TOEFL if the native language is not English
- acceptable score (5 minimum) on the Test of Written English
- successful completion of undergraduate courses in probability and statistics
- introduction to computer programming; differential and integral calculus
- three strong letters of reference, of which two should be provided by university professors familiar with the student’s capabilities

Degree Requirements
This program leads to a master of resource management (MRM) and a master of business administration (MBA). Students must successfully complete 17 courses and a thesis.

Courses
The integrated combination of required and elective courses specify that 11 courses be derived from the core of the traditional MRM and MBA programs. Additionally, a minimum of three electives must be completed from the 800 level of the MBA program and another three must be chosen from MRM. These electives focus studies into areas of concentration. In consultation with their MRM/MBA supervisory committee, students select three courses from a specific field of concentration in the MBA curriculum (e.g. accounting, finance, marketing, policy, and organizational behavior); as well as three elective courses within specialty areas in the MRM curriculum (e.g. tourism, forestry, energy management, regional resource planning, environmental management, and fisheries management).

The 12 required courses (subject to any approved substitutions) follow.

BUS 512-4 Introduction to Business Finance
BUS 527-3 Financial Accounting
BUS 536-4 Quantitative Methods in Management
BUS 543-4 Introductory Graduate Marketing
BUS 572-4 Organizations and Human Resource Management
REM 601-5 Natural Resources Management I: Theory and Practice
REM 611-5 Applied Population and Community Ecology
REM 621-5 Economics of Natural Resources
REM 631-5 River Basin Analysis, Planning and Management
REM 698-3 Field Resource Management Workshop
REM 699-10 Research Project
REM 801-5 Principles of Research Methods and Design in Resource and Environmental Management
and one of
- REM 642-5 Regional Planning I
- REM 644-5 Public Policy Analysis
and one of
- BUS 507-4 Managerial Economics
- BUS 558-4 Business and the Public Interest

It is strongly recommended that students take BUS 526 as an elective.

Note: with permission of the directors of the school and the master of business administration program:
- students may waive a maximum of three required courses if equivalent courses have been completed
- in addition to any courses waived, students may substitute related electives for required courses.

Thesis
Students must complete a thesis in a research area deemed appropriate by a supervisory committee comprised of a minimum of one representative from each of the school and the Faculty of Business Administration. The topic must be of cross-departmental interest. The thesis should demonstrate the researcher’s comprehensive knowledge of relevant literature, as well as an original contribution to knowledge in an area of concern to business and natural resource management. The thesis manuscript will be examined in a manner similar to that normally employed by the department of the thesis supervisor.

Application Process
Upon request, application materials will be mailed. The following submissions must be completed prior to consideration for entry.

- completed Simon Fraser University graduate application form
- the applicant’s letter of statement of interest
Courses may be taken outside the School of prepare adequately for comprehensive exams. Normally, students take six to eight courses to Comprehensive Examinations

A minimum of 20 credit hours of graduate courses, at least two of which come from faculty members familiar with the student’s work (forms are supplied for references)

• official transcript of GMAT score
• official transcript of test of English as a foreign language (TOEFL) and test of written English (TWE) if student’s first language is not English and their undergraduate degree(ies) were not obtained at an institution in Canada, the United States, the United Kingdom, Australia or New Zealand where English has been the language of instruction

All complete applications must be submitted no later than February 1 of the year the student is seeking a September entry into the joint program.

Doctoral Program

Admission

All applicants submit at application time a 500-1000 word interest statement describing how the program fits career objectives and what they expect to get from the program. To qualify for admission, an applicant must meet SFU’s graduate general regulations and must have,

• the ability to carry out innovative, independent and original PhD level research in that field
• high academic standing in previous university work
• a master’s degree in a related discipline
• excellent performance on the graduate record exam (GRE). Students must send the GRE scores to the School of Resource and Environmental Management.

Applicants must be accepted by an identified senior supervisor prior to admittance. PhD applicants are strongly advised to visit the University for an interview prior to February 15 of the year of requested admission. See “1.3.4 Admission to a Doctoral Program” on page 284

Transfer from the Master’s Program to the PhD Program

A student in REM who shows exceptional ability may apply to transfer to the PhD program only if the first two requirements above are met, has been in the REM program for at least two but not more than four semesters, and if the applicable university regulations for transfers are met. Transfer applications must have the approval of the student’s supervisory committee, REM graduate studies committee, and the senate graduate studies committee. Transfer students will be eligible to earn only the PhD degree.

Degree Requirements

Courses

A minimum of 20 credit hours of graduate courses (excluding directed studies courses) are required, at least four of which must be in one of two disciplines in the student’s research area plus two others (see curriculum below). Normally, students take six to eight courses, approved by the supervisory committee, to prepare for comprehensive exams. Courses outside the school require approval of the REM graduate studies committee.

Comprehensive Examinations

Normally, students take six to eight courses to prepare adequately for comprehensive exams. Courses may be taken outside the School of Resource and Environmental Management, subject to approval of the REM graduate studies committee. Comprehensive exams will normally be taken within five semesters of full time registration after admission to the PhD program (or to the MRM degree program in cases of transfer from that program). The comprehensive exams in REM have two major parts with distinct goals. The first is the breadth exam, which assesses the candidate’s multidisciplinary knowledge and abilities. The breadth exam will examine the candidate in three areas: environmental science, natural resource and environmental economics, and resource and environmental policy and planning.

The breadth exam will comprise of three written field statements, one in each area, and an oral exam based on the field statements. The second major component is the depth exam, which is essentially an oral defense of a written PhD proposal and its theoretical and methodological background. This exam will have the scope of the comprehensive exams more typical of single-discipline programs.

Together, these exams should demonstrate the readiness of a PhD candidate to pursue and complete a multidisciplinary research project of a scope and standard that will merit awarding the PhD degree in resource and environmental management.

Prior to scheduling comprehensive exams, students must meet with their supervisory committee and the committee must submit a progress report to the chair of the graduate program committee recommending that the student proceed to the comprehensive examination.

Thesis Proposal

In conjunction with their supervisory committee, students develop a detailed written research proposal that defines the area and methods of intended research. Normally within six full time semesters after admission to the PhD program (or within four semesters if the student transferred from the MRM degree), a student must orally present a written thesis proposal at a departmental seminar. The candidate’s supervisory committee attends along with other interested faculty and students. The oral examining committee is composed of the supervisory committee plus the REM graduate studies committee chair. This thesis proposal presentation determines whether the student’s research abilities are adequate for PhD level research and whether the proposed research is feasible and has merit. The student must pass this presentation successfully to remain in the program. Those who do not make satisfactory progress on their research topic, or who fail to demonstrate adequate knowledge and understanding of recent publications in their research area, or whose revised thesis proposal isn’t approved within the time limit given at the start of this section, will be required to withdraw from the REM program.

A written thesis based on a student’s original research is the final requirement and must include aspects of at least two disciplinary areas (such as ecology and economics, or toxicology and law). The topic must be approved as noted above, and the student’s progress will be evaluated annually according to the Graduate General Regulations. To graduate, students must successfully complete a thesis defence, following the usual University format. All other general requirements for a PhD will be followed as outlined in the Calendar.

Residence Requirement

A PhD candidate must be registered and in residence at Simon Fraser University for the minimum number of semesters as described in the Graduate General Regulations.

Curriculum

All REM PhD students must complete at least four courses as follows:

REM 801-5 Principles of Research Methods and Design in Resource and Environmental Management
REM 802-5 Institutional Design and Decision Making for Environmental Management
At least one course in the student’s primary field
At least one course in the student’s secondary field
All courses in the school can be taken for credit toward a PhD degree except REM 601 and directed studies courses.

Graduate Courses

REM 601-5 Natural Resource Management I: Theory and Practice
An overview of disciplinary and interdisciplinary theories and their practical application to analysis of natural resource and environmental planning. Not for credit toward a PhD in resource and environmental management.

REM 602-5 Natural Resource Management II: Advanced Seminar
A professional group workshop course focusing on specific resource and environmental problems. Prerequisite: eight REM courses or permission of instructor.

REM 610-5 Management of Contaminants in the Environment
A study of environmental behavior and toxic effects of chemical substances in the environment and the application of methodologies for their management.

REM 611-5 Population and Community Ecology
A review of population, community, and ecosystem ecology; implications of these areas for methods of resource management and environmental assessment.

REM 612-5 Simulation Modelling in Natural Resource Management
Methods of constructing simulations models and analyzing them through sensitivity analysis. Application of simulation modelling to research and management of environmental and resource systems. Topics will include management of wildlife, forests, insect pests, fisheries, pollution problems, energy resources, and recreational land use. Prerequisite: REM 611 or permission of the instructor.

REM 613-5 Current Topics in Fisheries Management
Models of fish population dynamics, methods of data analysis, and management in the context of uncertainty. Case studies of management of various world fisheries. In-depth exploration of selected current fisheries problems including extensive data analysis. Focus will be primarily on biological aspects of fisheries management while illustrating how these interface with economic, social and institutional concerns of managers. Prerequisite: permission of instructor.

REM 621-5 Economics of Natural Resources
Application of economic theory to natural resources management problems with a view to assessing existing and alternative policies. Includes theoretical analysis of concepts such as resource pricing, market failure, taxation, etc., and management strategies for specific resources such as forestry, fisheries and environment.

REM 625-5 Risk Assessment and Decision Analysis for Management of Natural Resources
Use of quantitative methods of risk assessment and decision analysis to explicitly take uncertainty into account when making decisions in management of natural resources. Methods of quantifying uncertainty and the resulting risks. Examples from management of forests, wildlife, fisheries, water resources, energy, and toxic chemicals. Communicating information about uncertainties and the resulting risks to resource
managers, the public, and scientists. Advantages and limitations of various qualitative methods. Includes computer laboratories. Prerequisite: REM 612 and 621, or permission of instructor.

REM 631-5 River Basin Analysis, Planning and Management
A review of geomorphic and hydrologic principles; the morphology of drainage basins and rivers; selected case studies of impact assessment and river restoration.

REM 632-5 Terrain Evaluation
The extensive classification of a landscape based on geology, geomorphology, soils, vegetation, historic and current land use, and the assessment of qualitative values as an aid to multiple land use management.

REM 633-5 Introduction to Remote Sensing and Aerial Photographic Interpretation
The application of these techniques in the acquisition and display of selected resource data. Topics include air photo interpretation, multi-band photography, thermal infrared imagery, satellite imagery, orthophotography, topographic and thematic mapping, and computer cartography.

REM 634-5 Slope Stability and Snow Avalanches in Resource Management
Impact of slope failure and snow avalanches in mountainous environments. Technical countermeasures, zoning techniques, and the appraisal of acceptable risk are discussed within different geopolitical, climatic, and socio-economic contexts. Prerequisite: MRM 633 or permission of instructor.

REM 641-5 Law and Resources
A study of legal interventions related to resource planning and environmental control. The course looks at several aspects of environmental and resource law including administrative and constitutional law, fisheries and forestry regulation, and native rights.

REM 642-5 Regional Planning I
Theory and techniques of regional analysis; planning models and their application to key resource sectors.

REM 643-5 Environmental Conflict and Dispute Resolution
This course examines theoretical aspects of conflict and dispute resolution in natural resource management settings and is designed to assist students in understanding the nature of environmental conflict and the role of environmental dispute resolution (EDR) techniques.

REM 644-5 Public Policy Analysis and Administration
Analysis of methods of policy-making and problem solving with particular emphasis on natural resource issues. Topics include goal setting, problem definition, program scheduling, policy evaluation, policy implementation and public administration. A practical analysis of the structure and processes surrounding major contemporary policy issues.

REM 645-5 Resource Development Communities
Examination of the impact of resource developments on communities in Canada. An overview of the social organization of resources-based communities and an analysis of the participatory process in decision making in resource management.

REM 646-5 Environmental and Social Impact Assessment
Evaluation and application of current methodologies for social, economic, and biophysical impact assessment. Prerequisite: REM 601, 611, 621, 642, or permission of instructor.

REM 647-5 Parks and Outdoor Recreation Planning
The course examines a combination of both ecological and market-based resource assessment and planning techniques for conservation and use of parks, forests, and protected areas. Visitor behavior and management in recreation and protected areas settings will be examined.

REM 648-5 The Tourism System
This course will examine the social, environmental and economic components of tourism. Topics will include theoretical concepts and elements of tourism, historical evolution, spatial patterns, and case studies of tourism development in various parts of the world. Discussion of tourism planning and management will focus on the development of tourism as a renewable resource.

REM 649-5 Tourism Planning and Policy
The course provides frameworks and methodologies for understanding the policy and planning initiatives of public and private sector organizations. Foundations for resource assessment, market analysis, product-market matching and regional tourism strategy development are explored in detail. Prerequisite: permission of instructor.

REM 650-5 Energy Management and Policy
Integration of energy supply and energy demand management to formulate cohesive and efficient energy policies; topics include thermodynamics, modelling, conservation, energy pricing, oil markets, project assessment, the environment and energy planning in developing countries.

REM 651-5 Project Evaluation
The role, limitations and methods of benefit cost analysis. Different measurement techniques will be applied to the estimation of a range of benefits and costs. Market and nonmarket allocations will be considered. Prerequisite: ECON 200, REM 621, or permission of instructor.

REM 652-5 Community Tourism Planning and Development
The course critically examines approaches employed by communities incorporating tourism into their development strategies. Techniques for optimizing the resource potential of communities from economic, social, cultural and environmental perspectives are explored with a view toward developing policies for ‘appropriate’ community tourism. Prerequisite: permission of instructor.

REM 655-5 Water Planning and Management
Evaluation of theoretical models and management experiences; federal, provincial and international institutional arrangements and jurisdictional responsibilities; emerging problems and opportunities. Prerequisite: REM 601, 621, 631, and 646, or permission of instructor.

REM 658-5 Energy Systems Modelling
Training and practical experience in the use of the range of techniques for modelling energy systems: linear programming, econometrics, input-output, energy service models, integrated systems. Prerequisite: REM 621 and 650.

REM 660-5 Special Topics in Natural Resources Management
Special topics in areas not currently offered within the offerings of the resource and environmental management program.

REM 661-5 Special Topics in Resources Management
Special topics in areas not currently offered within the offerings of the resource and environmental management program.

REM 662-5 Special Topics in Resources Management
Special topics in areas not currently offered within the offerings of the resource and environmental management program.

REM 663-5 Special Topics in Resource Management
Special topics in areas not currently offered within the offerings of the resource and environmental management program.

REM 664-5 Directed Studies
Special topics in areas not currently offered within the offerings of the resource and environmental management program.

REM 670-5 Introduction to Forestry
Examines the theory and practice of forest management based on an understanding of the linkages between forest ecosystem dynamics, economics, policy and social concerns. Principles are illustrated with reference to contemporary forestry issues. Prerequisite: REM 611 or permission of instructor.

REM 671-5 Forest Ecology
Structure, function and development of forest ecosystems. Population, community, ecosystem and landscape approaches are used to enable students to understand the biology and management of forests in terms of the processes driving spatial and temporal dynamics.

REM 672-5 Silviculture
Principles and practice of silviculture; lecture and laboratory, with added emphasis on the state of the art in British Columbia. Prerequisite: REM 671, equivalent course, or permission of instructor.

REM 690-0 Practicum I
First semester of work experience in the School of Resource and Environmental Management’s co-operative education program.

REM 691-0 Practicum II
Second semester of work experience in the School of Resource and Environmental Management’s co-operative education program. Prerequisite: students must have completed at least one semester’s courses and permission of REM’s co-op co-ordinator.

REM 698-3 Field Resource Management Workshop
An intensive field course introducing students to the diversity of issues and viewpoints concerning management of natural resources. Problem areas will include forestry, mining, fisheries and wildlife management, energy, recreation and land use planning.

REM 699-10 Research Project
A research project dealing with a specific interdisciplinary problem in resource management, administration or allocation. The study must result in the preparation of a formal paper and the presentation of a seminar.

REM 801-5 Principles of Research Methods and Design in Resource and Environmental Management
Students will develop skills and insight into the design, implementation and analysis of interdisciplinary research in natural resource and environmental management. This will help prepare students to carry out their own research projects. Students who entered REM during or prior to the Fall 1994 semester and who have received credit for any one of MRM 601, 611 or 621 may not take REM 801 for credit.

REM 802-5 Institutional Design and Decision Making for Environmental Management
Students will develop a sophisticated understanding of the institutional structure and methods of decision making in natural resource and environmental management. This course complements material covered in a variety of masters level courses.

REM 899-0 PhD Thesis
Faculty of Arts

6168 Academic Quadrangle, (604) 291-4414 Tel, (604) 291-3033 Fax, www.sfu.ca/arts

Graduate Degrees Offered

Master of Arts
Master of Arts in Liberal Studies
Master of Fine Arts
Master of Publishing
Doctor of Philosophy

General Regulations

See “Graduate General Regulations” on page 283 for admission requirements, registration, residence requirements and time limit for completion of degrees.

Department of Archaeology

9635 Education Building, (604) 291-4727 Tel, (604) 291-5666 Fax, www.sfu.ca/archaeology

Chair
D.V. Burley BA, MA (New Br), PhD (S Fraser)

Graduate Program Chair
A.C. D’Andrea BSc (Tor), MSc (Lond), PhD (Tor), (604) 291-5790

Faculty and Areas of Research

The department offers specialization in archaeology, physical anthropology, ethnology, archaeometry, and zooarchaeology. The student is expected to gain a comprehensive understanding of the discipline. In so doing, the student should strive to acquire a general knowledge of world prehistory, physical anthropology, and archaeological theory and method, in addition to obtaining knowledge and expertise in particular areas of research interest.

Degree Requirements

A distinction is made between those who are enrolled in the program and those who have formally advanced to degree candidacy. A candidate is a student who successfully completed the requirements for advancement to candidacy (defined below). Normally, candidacy advancement happens once the SFU residence requirement is fulfilled, but not later than the end of the ninth semester after PhD admission and not later than the end of the sixth semester for MA students.

MA Program

This program consists of these sequential steps: course requirements, thesis prospectus, colloquium presentation, advancement to candidacy, and thesis completion and defence.

Course Requirements

Students complete a minimum of four graduate courses including ARCH 871. Students may be required to take additional courses and are also required to take ARCH 872/873 each semester the course is offered. ARCH 873 credit does not constitute part of the normal course requirements. Grading for these 872/873 courses will be restricted to satisfactory/unsatisfactory (S/U).

Comprehensive Exam

Students write a comprehensive examination prior to candidacy to test general knowledge in archaeology and in one regional or topical area selected by the supervisory committee in consultation with the student. Grading is on a pass/fail basis but the examination or parts thereof may be repeated once, at the department’s discretion.

PhD Program

Course Requirements are determined in consultation with the supervisory committee.

Thesis

After the above, students advance to candidacy and complete and defend the thesis. The defence topic should be the thesis itself and related matters.

Advancement to Candidacy

After the above, students advance to candidacy and complete the thesis. The defence topic should be the thesis itself and related matters.

Language Requirement

A knowledge of a language other than English is desirable, but there are no prescribed language requirements. However, if knowledge of a language is necessary for the candidate’s field work or reading, he/she will be required to attain the necessary language proficiency.

Graduate Courses

ARCH 840-3 Seminar in Zooarchaeology

Intensive examination of certain key topical areas of faunal studies in archaeology.
School for the Contemporary Arts

Faculty of Arts – 317

ARCH 871-5 Selected Topics in Archaeological Theory
Critical evaluation of new approaches to the study of the human past.

ARCH 872-0 Graduate Seminar in Archaeology and Prehistory
A seminar on selected problems in archaeological science and prehistory. Grading will be restricted to satisfactory/unsatisfactory (S/U).

ARCH 873-2 Graduate Seminar in Archaeology and Prehistory
A seminar on selected problems in archaeological science and prehistory. Students may take ARCH 873 for credit once in the graduate program.

ARCH 875-5 Seminar in Paleanthropology
Selected topics in human osteology, physical anthropology, and fossil humans.

ARCH 876-5 Selected Topics in Archaeological Method
Seminar focusing on examination of archaeological methods from historical/mathematical/statistical perspective.

ARCH 881-5 North American Prehistory
ARCH 882-5 African Prehistory
ARCH 883-5 Mesoamerican Prehistory
ARCH 894-3 Special Topics in Archaeology
This course will be offered from time to time to meet special needs of students and make use of specialization of visiting faculty members.

ARCH 895-5 Special Topics in Archaeology
This course will be offered from time to time to meet special needs of students and to make use of specialization of visiting faculty members.

ARCH 896-5 Readings in Archaeology
ARCH 897-5 Field Work Seminar
Seminar in field research. Participants will present their recent field work to the class for critical discussion.

ARCH 898-0 MA Thesis
ARCH 899-0 PhD Thesis

MFA Program
The program, leading to a master of fine arts in interdisciplinary studies, provides a advanced training in music, dance, theatre, film, and visual arts. It furthers cross-disciplinary research, technical skill and artistic creativity, and the development of critical awareness of the relatedness of the arts both in contemporary society and in an historical perspective. Courses provide flexibility to accommodate individual differences in background and artistic goals, with emphasis throughout on the production of creative work in an interdisciplinary context.

Admission Requirements
Applicants must hold a BFA, BA, BMus or BEd in one or more of the art disciplines, with a 3.0 CGPA or better. In special cases, a candidate may be admitted who does not satisfy this requirement but who either possesses comparable certification (an art school or conservatory diploma) or has exceptional experience as a practising artist.

Applicants must demonstrate creative competence with a high standing in undergraduate courses in music, dance, theatre, film, or visual art, or substantial experience in these fields outside the university. For the consideration of the admissions committee, applicants must submit a portfolio of work in the form of audio or video tapes, scores, slides, films, plays or academic papers. Performing artists may be asked to audition.

Candidates with deficient qualifications must take undergraduate courses specified by the admissions committee, in a qualifying year, to remedy the deficiency. Foreign students may be required to demonstrate proficiency in the English language, attained by scoring 570 or above in the Test of English as a Foreign Language.

Degree Requirements
MFA candidates complete a minimum of 40 credit hours, including 30 of course work and a project, which is the equivalent of 10 credit hours. In most cases, this project is an art presentation accompanied by appropriate documentation with an oral defence. The project plus the required interdisciplinary seminars account for 20 hours; of the remaining 20, 15 will normally be from within the school.

Students must complete all of
FPA 811-5 Interdisciplinary Graduate Seminar I
FPA 812-5 Interdisciplinary Graduate Seminar II
FPA 813-5 Interdisciplinary Graduate Studio
FPA 898-10 Master of Fine Arts Graduating Project

Degree plus three of
FPA 885-3 Studio in Fine and Performing Arts I
FPA 885-5 Studio in Fine and Performing Arts II
FPA 887-5 Selected Topics in Fine and Performing Arts*
FPA 889-5 Directed Study in Fine and Performing Arts*

*Work involving substantial investigation of another artistic discipline outside the area of concentration must be in the proposed work for at least one of FPA 885, 886, 887, 889. A graduate course from another department could substitute for FPA 887 or 889 with the supervisory committee’s permission.

Graduate Courses
FPA 811-5 Interdisciplinary Graduate Seminar I
Critical study of contemporary issues in the fine and performing arts, with emphasis on concerns common to diverse artistic disciplines and the interaction between art and society.

FPA 812-5 Interdisciplinary Seminar II
Continuation of FPA 811. Prerequisite: FPA 811 or 812.

FPA 813-5 Interdisciplinary Graduate Studio
A selected topics studio course with an emphasis on interdisciplinary artistic projects. Prerequisite: FPA 811 or 812.

FPA 885-5 Studio in FPA I
Intensive studio work, concentrated in a particular art discipline, but with opportunity to involve interdisciplinary materials and techniques.

FPA 885-5 Studio in FPA II
Continuation of FPA 885. Prerequisite: FPA 885.

FPA 887-5 Selected Topics in Fine and Performing Arts
Study of particular artistic techniques or issues. The topic varies from semester to semester.

FPA 889-5 Directed Study in Fine and Performing Arts

School of Criminology

School of Criminology

Director
R.M. Gordon BA (Latrobe), MA (S Fraser), PhD (Br Col)

Graduate Program Director
D.E. Chunnn BA (Br Col), MA, PhD (Tor)

Faculty and Areas of Research
See “School of Criminology” on page 317 for a complete list of faculty.
Areas of Study and Research

The graduate programs in criminology concentrate on advanced academic study and have a strong research emphasis. The broad goal of the program is to prepare students for careers in the teaching of criminology, in criminological research and in policy-making in criminal justice.

The emphasis of the graduate programs is to foster a spirit of inquiry and creative endeavour among the students, to develop their critical and analytical capabilities, and to train them in the various techniques of criminological research.

The graduate programs focus on five major (core) areas.

• the phenomena of crime
• theories of crime
• criminal justice policy analysis
• methods
• law and social control

Criminology Research Centre

See “Criminology Research Centre” on page 369.

Feminist Institute for Studies in Law and Society

See “Feminist Institute for Studies on Law and Society” on page 370.

Institute for Studies in Criminal Justice Policy


MA Program

Admission

Students holding a baccalaureate or equivalent from a recognized institution must meet the admission requirements for graduate studies.

See “1.3.2 Admission to a Graduate Diploma Program” on page 283. See “1.3.8 Conditional Admission” on page 284.

Normally, an applicant should have at least one course in social science research methods and one undergraduate introductory course in statistics.

Applicants must forward official transcripts and send a short statement of interests which includes a description of previous employment, and research or other work relevant to the candidate’s proposed graduate studies. Letters of recommendation from people who know the candidates and are familiar with their work are required.

A cheque or money order for $55 (Canadian), made payable to Simon Fraser University, should be submitted with the application form.

Deadlines for completed applications, for entrance commencing fall semester, is February 1. Applicants will be informed of the outcome as soon as possible thereafter.

Degree Requirements

Candidates for an MA degree must take a minimum of eighteen (18) credit hours of course work consisting of:

• Research Methods I (CRIM 860)
• Research Methods II (CRIM 861)
• Research Methods III (CRIM 862)
• Research Methods IV (CRIM 863)

plus:

• Theories of Crime I (3 credit hours)
• Proseminar (3 credit hours)
• at least six (6) hours selected from additional graduate curriculum offerings

The thesis will not normally be more than 100 pages in length, including bibliography and footnotes, but exclusive of appendices.

Satisfactory Performance

The candidate’s progress is assessed at least twice a year by the school (spring and fall). A student who performs unsatisfactorily is not permitted to continue in the program, subject to the procedure for the review of unsatisfactory progress described in Graduate General Regulation 1.3.2.

PhD Program

Admission

The minimum university requirements for admission to the doctoral program are provided in the Graduate General Regulations (section 1.3.3.)

Normally, an applicant should have at least one course in social science research methods and one undergraduate introductory course in statistics.

Direct admission may be approved for persons with a master’s in criminology, a master’s in a discipline other than criminology and, under exceptional circumstances, with an undergraduate degree or its equivalent provided that a CGPA of at least 3.5 has been maintained.

Applicants must submit a statement of research interests and at least two examples of previous academic work.

In exceptional circumstances, undergraduate degree holders (or equivalent) may be admitted if they meet University regulations for entry with a BA, have demonstrated a capacity for original research at the undergraduate level, and are recommended for direct entry by at least two criminology faculty members who are eligible to teach or supervise in the PhD program. Those who meet the GPA requirement and have demonstrated research ability through field criminal justice experience may also be considered on recommendation of at least two faculty members involved in the program. Those so admitted have their status reviewed by the end of the second semester following admission. The graduate program committee determines the candidate’s ability to complete the PhD by direct entry. The student will either be confirmed as an approved PhD candidate in criminology or directed to seek admission to the master’s program.

Because many disciplines are allied to criminology, the graduate program committee reserves the right to determine equivalent courses already taken in the applicant’s master’s program. At the time of admission, the graduate program committee may waive up to 15 credit hours of requirements.

A cheque or money order for $55 (Canadian), made payable to Simon Fraser University, must be submitted with the application form. The school must receive the completed application, for entrance to the fall semester, by February 1. Applicants are informed of the decision immediately thereafter.
Note: Those with two consecutive degrees from the School of Criminology at Simon Fraser University will not normally be admissible to the PhD program.

Degree Requirements
PhD candidates must take a minimum of 33 credit hours consisting of:
- at least three research methods courses (9 credit hours)
- theoretical courses (12 credit hours)
- CRIM 800-3 theories of crime (3 credit hours)
- proseminar (3 credit hours)
- at least eighteen (18) credit hours selected from additional curriculum offerings
- achieve satisfactory completion and oral defense of an original PhD thesis

A maximum of nine credit hours may be taken in another department or university on approval of the student’s supervisory committee and the graduate program committee. These courses may be accepted as partially meeting the requirements for any courses in the PhD program.

All students must write comprehensive exams in two of the five graduate core areas of the curriculum. Normally, students are expected to finish courses and comprehensives within two years of entering the program.

Note: While two of the course areas are entitled ‘methods’ and ‘theory,’ methodological and theoretical issues are relevant to all core areas.

Dissertation Procedures
In the semester after comprehensive examinations are passed, each candidate develops a thesis prospectus, based on original research, which defines the proposed investigation and demonstrates the relationship between it and existing scholarship. The thesis proposal is presented to the supervisory committee and, on approval, is circulated to faculty and resident graduate students and presented at a colloquium.

The thesis is defended in oral examination by an examining committee constituted under the provisions of Graduate General Regulation 1.9.3.

Satisfactory Performance
The progress of each candidate is assessed at least twice a year by the school (spring and fall). Students who perform unsatisfactorily may not continue in the program, subject to the procedure for review of unsatisfactory progress described in Graduate General Regulation 1.8.2.

Graduate Courses
CRIM 800-3 Theories of Crime
A comprehensive overview of theories and the development of theoretical knowledge in criminology.

CRIM 801-3 Theories of Crime II
Intensive exposure to the major streams of criminological theory. Topics for in-depth analysis will be selected according to the availability and interest of specific course instructors. Emphasis will be placed on the relationship between ideas and social forces, as well as the interplay of theory and practice.

CRIM 810-3 The Phenomena of Crime I
Designed for the beginning graduate student, this course covers a wide variety of topics all of which deal with what we know about the phenomena of crime historically, temporally and geographically. This course will look at the patterns of crime and victimization, and will explore crime patterns at local, provincial, national and international levels. Known characteristics of specific forms of crime will be studied.

CRIM 811-3 The Phenomena of Crime II
Topics for in-depth analysis will be selected according to the availability and interest of specific course instructors and selected from but not limited to one or more of the following topics: historical criminology; the ecology of crime; environmental criminology; the media and crime; fear of crime; victimization; organized crime; corporate crime.

CRIM 820-3 Criminal Justice Policy Analysis I
An introduction to policy development and policy analysis in the field of criminal justice, including a general review of the function of bureaucratic agencies in the public sector and the particular role of government ministries providing criminal justice services. Major topics include: organization theory; policy planning theory; decision theory; inter-governmental analysis as it applies to the administration of justice; and comparative analyses of criminal justice policies especially related to international or trans-national crime.

CRIM 821-3 Criminal Justice Policy Analysis II
Topics for in-depth analysis will be selected according to the availability and interest of specific course instructors and may be selected from any area of criminal justice practice including: law enforcement; the judiciary; court administration; corrections; or legal services. The course will emphasize the systems approach in criminal justice policy planning. Program evaluation techniques will be applied to the major types of planning and program initiatives taken within or across criminal justice systems.

CRIM 830-3 Law and Social Control I
An examination of the social utility of legal intervention in the instance of criminal law; the relationship between law and social order; and the process of law making and the social efficacy of specific criminal sanctions.

CRIM 831-3 Law and Social Control II
Topics for in-depth analysis will be selected according to the availability and interest of specific course instructors and selected from but not limited to one or more of the following topics: theoretical perspectives on punishment and social control; theoretical perspectives on policing; law and mental health; law and the environment; and law and gender.

CRIM 840-3 Proseminar
Examination of current theory and research by faculty in the School of Criminology.

CRIM 850-3 Research Methods I
The course will cover basic research design for criminological problems and basic techniques for the conduct of research in criminology and socio-legal study. The research methods course is designed to include both quantitative and qualitative techniques. The course is intended to establish fundamental research skills to be applied in advanced research methods seminars, in other core area courses, and in the preparation of theses and dissertations.

CRIM 861-3 Research Methods II
This course covers both parametric and non-parametric statistical techniques with an emphasis on parametric analysis. Basic descriptive and inferential statistics will be covered, including univariate measures, analyses of cross classified data, correlation, t-tests, analysis of variance, regression, and related measures. Also discussed are the experimental and statistical research strategies which produce those data. The approach will be conceptual and will emphasize the strengths, weaknesses, selection and application of various statistical, experimental and quasi-experimental techniques.

CRIM 862-3 Research Methods III
This course will address a range of research techniques generally subsumed under the rubric of ‘qualitative’ research including field research, interview techniques, historical and legal research, and documentary analysis. Emphasis will be on the logic underlying such inquiry, the advantages and limitations associated with different sources of information and procedures, and the processes by which analytical rigour is achieved.

CRIM 863-3 Research Methods IV
Advanced topics, issues and techniques in criminological and socio-legal research. The subject matter of this course will vary according to instructor interests and specialization. Specific areas of concentration may include the following: advanced multivariate statistical techniques, documentary and historical methods, evaluative and predictive research, participant observation/ethnography, systems analysis, and computer simulation modeling. Prerequisite: CRIM 860, 861, 862, or by permission of the instructor.

CRIM 870-3 Directed Readings
Intensive readings under the supervision of a faculty member, in areas of interest related to the student’s program.

CRIM 871-3 Selected Topics
Concentrated studies in areas of student specialization.

CRIM 872-3 Selected Topics
Concentrated studies in areas of student specialization.

CRIM 873-3 Selected Topics
Concentrated studies in areas of student specialization.

CRIM 898-0 MA Thesis
CRIM 899-0 PhD Thesis

Department of Economics
Chair
(to be announced)
Associate Chair
(to be announced)
Graduate Program Chair
(to be announced)
Faculty and Areas of Research
See “Department of Economics” on page 132 for a complete list of faculty.

D.W. Allen – microeconomic theory, industrial organization
J. Antovic – macroeconomics, monetary theory, learning and adaptation in economics
L.A. Boland – economic theory and methodology
J.F. Chant – macroeconomics, monetary theory, economics of financial markets
J.W. Dean – international finance, developing and transition economies
D.J. DeVoretz – development, immigration, demography, economics
G. Dow – microeconomic theory, theory of organization
S.T. Easton – international trade, economic history
J. Friesen – labor
R.G. Harris – international economics, economic theory
T.M. Heaps – natural resources, regional, mathematical economics
MA Program

Admission Requirements
See “1.3 Admission” on page 283 for University admission requirements. As well, the department requires that the applicant must hold a bachelor’s degree with honors in economics or business administration, or must complete additional work to that standard. Normally, the graduate admissions committee will specify the appropriate additional requirements at the time of admission.

Degree Requirements
The MA program has three options. Under each option, ECON 798 and 835 will be required in addition to the other work, unless equivalent courses have been taken. These requirements can be satisfied through undergraduate courses with the approval of the graduate program committee.

thesis option – six courses including core work plus an original thesis.

extended essay option – six courses including core work plus two extended essays.

project option – seven courses including core work plus a research project.

Core Course Work
The core course work will normally consist of the following
• microeconomics – ECON 802
• macroeconomics – ECON 807 or 808
• quantitative economics – ECON 836 or 837

Elective Course Work
The remaining courses beyond those designated as core work will be ECON and BUEC graduate courses or, with permission of the graduate program chair, courses in graduate business administration and other subjects.

Research and Writing Ability
Evidence of research and writing ability met by the satisfactory completion of one thesis, two extended essays or one research project is required. The form of these research papers must meet the standards set out in the Graduate General Regulations section.

Oral Examination
An oral examination is required covering the student’s written research in particular, and program in general, as outlined in the Graduate General Regulations section.

Co-operative Education
This optional program gives MA students work experience that complements academic studies. MA students in good standing with a minimum 3.0 GPA may apply to the co-op program after satisfactory completion of ECON 802, 807 (or 808), 835 and 836 or equivalent. The program consists of two separate work semesters. Arrangements are made through the Faculty of Arts co-op co-ordinator at least one semester in advance. For further details, see “Co-operative Education” on page 201.

PhD Program

Admission Requirements
See “1.3.4 Admission to a Doctoral Program” on page 284. Also required is an MA with graduate work in core areas equivalent to ECON 802, 808, 835 and 836. Any core area deficiency must be filled by taking the appropriate course(s) in addition to the course work normally required. In certain cases, students may be transferred into the PhD program from the MA program after meeting MA core and credit requirements (15 courses beyond the BA honors is required for such a PhD program).

Degree Requirements
This program allows specialization in economics, economics and business administration, or economics and a related discipline. Normally, every PhD program will include the following:
1. Successful performance in eight approved courses beyond the economics MA requirements listed above. Those specializing in economics must include ECON 803, 804 and 809; those specializing in economics and business administration must include ECON 803 and 804 or 809.

Other courses may be drawn from those normally offered at the graduate level by this or other related departments. Normally, a student must take at least five courses of regularly scheduled course work within this department; exceptions to this rule must be approved by the student’s supervisory committee and the graduate program committee.

2. Successful performance in written comprehensive examinations.

2.1 Students specializing in economics write comprehensive examinations in economic theory and one other field. In addition, students must complete a field either by successfully taking two courses approved by the graduate program chair (other than readings courses) with at least an A-average, or a comprehensive examination in the field. The economic theory examination consists of separate examinations in micro and macroeconomic theory and usually encompasses the topics and readings covered by ECON 802, 803, 808 and 809. Comprehensive exams in other fields normally encompass topics and readings presented in the main courses in those fields.

2.2 Students specializing in economics and business administration must write a comprehensive economic theory exam which covers the topics and guideline readings of either microeconomics (ECON 802 and 803), or macroeconomics (ECON 808 and 809). The student will complete three fields, subject to the following: a) at least two field requirements are satisfied by written examinations; b) at least two are drawn from accounting, finance, management science, marketing and organization behavior.

2.3 Arrangements for students specializing in Economics and a related discipline or economics and business administration and a related field will be recommended by the student’s supervisory committee and approved by the department’s graduate program committee.

2.4 Normally, full time students write micro/macro theory comprehensive examinations at the first scheduled opportunity after the exam period of their third semester.

3. An original and significant thesis completed by the candidate under supervision of faculty members of the department.

Dissertation Procedures
A thesis proposal seminar should be given by each candidate early in the research program. Each candidate produces a written prospectus, makes it available to all interested department members and presents it on a pre-announced date in the departmental seminar. The candidate’s supervisory committee should attend and arranges for others interested to also attend. That committee, along with the candidate, should decide on the future course of the thesis research paying due regard to the comments that have been received.

A thesis core and a thesis seminar should be given by each candidate after the supervisory committee agrees that the thesis is substantially complete and before it is formally approved for defence. The thesis core should be a paper that describes the major original contributions of the thesis (preferably in a form appropriate for journal submission) and should be made available to all interested members of the department.

The thesis defence. Procedures for this defence are described in the Graduate General Regulations.

Satisfactory Performance
Each candidate’s progress is assessed at least once a year (fall). Any student who performs unsatisfactorily is subject to the review of unsatisfactory progress described in Graduate General Regulation 1.8.2.

Research on Immigration and Integration in the Metropolis
RIIM is one of four Canadian research centres studying the impact of Canadian immigrants on local economies, family, educational systems and physical infrastructure of cities. RIIM concentrates only in Vancouver but has links to all other Canadian metropolitan sites and the world. This research group, based at Simon Fraser University, the University of Victoria and the University of B.C., investigates immigrant impact in Vancouver.

Business and Economics
Graduate Courses

BUEC 815-4 Portfolio Theory
A study of optimum portfolio selections and diversification of financial assets including cash vis-à-vis different classes of utility functions of final wealth. Also, an examination of the behavior of speculative prices and rates of return. Prerequisite: ECON 331. Offered once a year.

BUEC 817-4 Theory of Capital Markets
A study of capital market equilibrium theories, risk allocation, valuation models under perfect and imperfect markets and their empirical testing. Prerequisite: ECON 331, 835. Offered once a year.

BUEC 818-4 Advanced Topics in Business Finance
Extensions of advanced topics beyond those covered in BUEC 815 and 817. Prerequisite: BUEC 815, 817.
ECON 808-4 Macroeconomic Theory
This course covers advanced macroeconomic theory topics. Emphasis will be placed on current research techniques. Topics covered may include: capital and growth theory, real business cycle models, models of flat money, asset pricing models, endogenous growth models, development traps, macroeconomic complementarities, co-ordination failures, and adaptive behavior in macroeconomic models. Prerequisite: ECON 808. Students who have taken ECON 806 cannot take 808 for further credit.

ECON 810-4 Monetary Theory
An examination of theories of the supply and demand for money in micro- and macro-contexts, from the classical analysis to the most recent developments. Emphasis will be placed upon the role of money in economic activity, the precise nature of its demand and supply conditions, and policy-implications of theoretical conclusions with regard to money.

ECON 811-4 Advanced Monetary Theory
Selected topics in monetary theory and policy.

ECON 825-4 Industrial Organization
A presentation and critical examination of the industrial organization models; includes a review of mainstream and current theoretical literature, and important empirical work in the field. Prerequisite: ECON 803.

ECON 826-4 Industrial Organization II
This course examines topics specific to the theory of the firm. Classes will focus on theories of transaction cost, principal-agency, and the theory of contracts. Particular attention will be given to the strategic interaction of the agents.

ECON 831-4 Mathematical Economics
Various equilibrium models of micro and macro theory will be examined with emphasis on their solution, stability conditions and the uniqueness of solutions. Prerequisite: ECON 331.

ECON 835-4 Econometric Theory
The theory of the general linear model and the implications of basic econometric problems such as multicollinearity, autocorrelated residuals, errors in variables and heteroscedasticity. The use of dummy and lagged variables, simultaneous equation models. The identification problem. Estimation of over-identified equations. Prerequisite: ECON 835. Offered once a year.

ECON 836-4 Applied Econometrics
A hands-on course in implementing econometric techniques for empirical investigation of economic issues. Prerequisite: ECON 835 or equivalent.

ECON 840-4 Theory of International Trade
The analytical course dealing with the pure theory of international trade. The motivation of supply and demand in international trade, the dynamic basis of trade, the role of the price mechanism and of income changes in international trade. Specific problems may be considered, such as the theoretical case for free and multilateral trade, and the theory of customs unions.

ECON 842-4 International Monetary Economics
Balance of payments theory, foreign exchange theory, and adjustment processes. A range of applied problems will be dealt with such as the operation of exchange rates, analysis of exchange rate systems, exchange control and the processes of short and long term capital movements in international trade.

ECON 843-4 Current Problems in International Trade
Detailed studies of a limited number of international economic problems. The selection of topics will depend to some extent upon the expressed interests of the students.

ECON 850-4 Methodology and Sources in Economic History
A close examination of the work and methodology of leading economic historians. Study of methodology of selected works in economic history, with special emphasis on the identification of implicit theories and assumptions. Application of quantitative approaches and economic theory to selected problems. Independent work.

ECON 851-4 Economic History of Europe
An examination of theories and controversies from the transition of feudalism to capitalism. Comparative study of the emergence and subsequent evolution of industrialization. How economic institutions affect the character and pace of economic development. Regional disparities and economic growth in given countries. Relationship between economic growth and international expansion. Examination of declining sectors, stagnation, institutional changes in the 20th century.

ECON 853-4 Economic History of North America
Effects of the North Atlantic economy on the pace and character of Canadian and American economic development. The role of staple exports and the linkages to manufacturing and transportation developments. Canadian national policy, with emphasis on regional effects, internal consistency and comparison to similar policies in the United States. Factors for growth and cyclical changes in the 20th century. In all the above areas, an attempt will be made to apply quantitative techniques of the new economic history to the problems of economic change.

ECON 855-4 Theories of Economic Development
Characterization of non-growing economies; mechanics of the process of economic development; the role of economic and non-economic factors; structural transformation in economic development.

ECON 856-4 Theories of Economic Growth
Equilibrium analysis and economic growth; determinants of growth; steady state and steady growth; technical progress and equilibrium growth. Prerequisite: ECON 855.

ECON 857-4 Studies in Economic Development
Examination of the characteristics of a given underdeveloped economy; allocation of resources and factor strategies; historical or contemporary comparisons of public policy and development.

ECON 859-4 Population Economics

ECON 860-4 Environmental Economics
The analysis of the role of the natural environment in economic system. All economic activity creates waste products (pollution) which must be disposed of back into the natural environment. The socially efficient amount of waste generation and disposal is determined and methods of reaching this level.
evaluated. This involves the theoretical and empirical determination of the costs and benefits of waste generation and a thorough discussion of the role of government policies: taxes, standards, tradeable emission permits, and private market initiatives. The effects of market structure and taxation on intertemporal supply patterns will be considered.

**ECON 863-4 Fisheries Economics**

Theoretical analysis of fisheries exploitation, emphasizing the characteristics of a common property resource and the economic expression of biological factors. Problems of productivity against the background of national fisheries regulations and international agreements. Public policies in respect of the fisheries, with their social and economic implications.

**ECON 864-4 Studies in Economic Fisheries Management**

Analysis of economic fisheries management techniques derived from the study of a variety of actual fisheries management projects. Prerequisite: ECON 863, or permission of the instructor.

**ECON 865-4 Regional Economic Theory**

The theoretical aspects of regional economics, particularly the following topics: the concept of a region, location theory, theories of regional economic growth, and techniques for regional analysis. Prerequisite: ECON 331 recommended. Offered once a year.

**ECON 867-4 Regional Development Problems**

An applied course in regional economics. Topics include the following: concepts of regional planning, development planning techniques, study of Canadian regional development problems. Prerequisite: ECON 865.

**ECON 869-4 Transportation Economics**

Emphasis on costs, demand and pricing of transportation services. Additional topics to be studied include government promotion of transport, transport regulation and the economic effects of transportation improvements. Recommended: ECON 331.

**ECON 877-4 Methodology in Economic Theory**

Topics to be discussed include theories of rationality; social theories involved in the economic concept of equilibrium; the role and status of economic theories and models; methodology versus sociology of economics; theories of economic knowledge; realism of assumptions and value premises in economics.

**ECON 878-4 History of Economic Thought**

The origins and development of economic thought from early times until 1870 with special emphasis on mercantilist, physiocratic, classical, Malthusian and socialist doctrines.

**ECON 879-4 History of Economic Thought**

The development of economic thought since 1870 will be examined with special emphasis on the evolution of marginal utility theory, general and partial equilibrium analysis, business cycle theories, Keynesian and post-Keynesian economics.

**ECON 881-4 Labor Economics**

Theoretical analysis of labor in the context of a national resource. Critical examination of the aspects of quantity, quality, allocation and utilization of human resources. Topics given particular attention include labor force participation, structural employment, human capital, incomes policies and the concept of an active manpower policy. Prerequisite: ECON 835.

**ECON 886-4 Natural Resource Economics**

Basic issues of intertemporal valuations. The economic theory of natural resource management for non-renewable resources, fisheries and forests. The effects of market structure and taxation on intertemporal supply patterns will be considered.

**ECON 889-4 Seminar in Law and Economics**

An in-depth study of the resource allocation and distributional implications of current and alternative legal arrangements. The economic rationale for and effects of the development of various legal doctrines will be considered. Topics may include an examination of legislation, compensation and public regulation, and market regulation for purposes of safety, consumer information and income maintenance of producers.

**ECON 890-4 Public Finance**

The application of welfare criteria to the theoretical investigation of methods of expenditure determination and approaches to taxation. Consideration of the problems of efficiency, equity, and incidence.

**ECON 891-4 The Economics of Public Choice**

An analysis of public choice and its economic effects in the analysis of non-market, political choice. Some of the topics studied will include rational voter behavior; allocations under various property rights systems; optimal constitutions; public sector externalities; federalism; discrimination, nationalism and crime.

**ECON 893-4 Introduction to Marxian Economics**

Examination of Marx’s economic theory, with particular emphasis on capital, theories of surplus value and the Grundrisse.

**ECON 895-4 Comparative Economic Systems**

Comparative study of capitalist, communist, socialist, and mixed forms of national economic organization, with emphasis on the allocation of resources and distribution of income.

**ECON 911-4 Selected Topics in Economics**

Offered by arrangement.

**ECON 912-4 Selected Topics in Economics**

Offered by arrangement.

**ECON 913-4 Selected Topics in Economics**

Offered by arrangement.

**ECON 921-4 Directed Readings**

Supervised reading in a particular field of specialization. Offered by arrangement.

**ECON 922-4 Directed Readings**

Supervised reading in a particular field of specialization. Offered by arrangement.

**ECON 923-4 Directed Readings**

Supervised reading in a particular field of specialization. Offered by arrangement.

**ECON 990-0 PhD Thesis**

**ECON 991-0 MA Thesis**

**ECON 998-0 MA Essays**

**ECON 999-0 MA Project**

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**Department of English**


**Chair**

A. Higgins BA (Conn), MA (McG), MA (Mass), MA, MPhil, PhD (Yale)

**Graduate Program Chair**

M.A. Gilles BA (Alta), MPhil, DPhil (Oxf)

**Faculty and Areas of Research**

See “Department of English” on page 133 for a complete list of faculty.

C.M. Banerjee – 18th century English literature, literary criticism

S.A. Black – American literature, literature and psychoanalysis, Shakespearean and Greek tragedy

G. Bowering – Canadian and American literature, contemporary/avant garde literature

P. Budra – Shakespeare, drama to 1642, Elizabethan and Jacobean poetry and prose, popular culture

R.M. Coe – rhetorical theory and history, contrastive rhetoric; composition theory and pedagogy; literary; discourse analysis (including ‘public doublespeak’ and ‘plain language’), genre theory, rhetorical approaches to literary criticism, drama

L. Davis – Romantic literature, Scottish and Irish literature 1700-1850, literature and nationalism, feminist critiques of Romanticism, 18th century folk music and print culture

P. Delany – 20th century English literature, literature and economics, literary theory, computers and humanities

S. Delany – Chaucer, medieval comparative literature, middle English, Tudor literature, Marxist criticism, early literature (Old Testament, Middle Eastern and Greek), critical theory, gender in art

H. DeRoo – Old English, Middle English, heroic literature, Old Norse, studies in language

S. Djwa – Canadian literature, modern poetry, literary history, biography

C. Gerson – Canadian literature and literary history, women and literature, print culture in Canada

M.A. Gilles – 19th and 20th century British literature

T. Grieve – modernism (poetry and fiction), twentieth century literature, nineteenth century poetry, the essay; history and theory of rhetoric; composition

M.D. Harris – Victorian novel, Middle Eastern and Greek, critical theory, gender in art

A. Higgins – Medieval and Renaissance drama, Shakespeare, Middle English literature

M. Linley – Victorian poetry and prose; 19th century women poets, literature and visual representation

K. Mezei – Canadian literature, Quebec literature and translation, modern British fiction, especially Virginia Woolf, feminist literary criticism

R.A. Miki – 19th century American literature, modern American poetry, contemporary Canadian poetry

S. Page – 18th century literature, 19th century women writers, print culture

D. Stuck – American literature, Canadian literature

M.A. Stuck – Chaucer, middle English, 15th century poetry

J. Sturrock – poetry of the Romantic period, especially William Blake; 19th century domestic fiction, women writers of the 19th century, especially Jane Austen and Charlotte Mary Yonge; literature and the visual arts, especially 1780-1900; Iris Murdoch, A.S. Byatt

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**Graduate Program Chair**

M.A. Gilles BA (Alta), MPhil, DPhil (Oxf)

**Faculty and Areas of Research**

See “Department of English” on page 133 for a complete list of faculty.

C.M. Banerjee – 18th century English literature, literary criticism

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L. Davis – Romantic literature, Scottish and Irish literature 1700-1850, literature and nationalism, feminist critiques of Romanticism, 18th century folk music and print culture

P. Delany – 20th century English literature, literature and economics, literary theory, computers and humanities

S. Delany – Chaucer, medieval comparative literature, middle English, Tudor literature, Marxist criticism, early literature (Old Testament, Middle Eastern and Greek), critical theory, gender in art

H. DeRoo – Old English, Middle English, heroic literature, Old Norse, studies in language

S. Djwa – Canadian literature, modern poetry, literary history, biography

C. Gerson – Canadian literature and literary history, women and literature, print culture in Canada

M.A. Gilles – 19th and 20th century British literature

T. Grieve – modernism (poetry and fiction), twentieth century literature, nineteenth century poetry, the essay; history and theory of rhetoric; composition

M.D. Harris – Victorian novel, Middle Eastern and Greek, critical theory, gender in art

A. Higgins – Medieval and Renaissance drama, Shakespeare, Middle English literature

M. Linley – Victorian poetry and prose; 19th century women poets, literature and visual representation

K. Mezei – Canadian literature, Quebec literature and translation, modern British fiction, especially Virginia Woolf, feminist literary criticism

R.A. Miki – 19th century American literature, modern American poetry, contemporary Canadian poetry

S. Page – 18th century literature, 19th century women writers, print culture

D. Stuck – American literature, Canadian literature

M.A. Stuck – Chaucer, middle English, 15th century poetry

J. Sturrock – poetry of the Romantic period, especially William Blake; 19th century domestic fiction, women writers of the 19th century, especially Jane Austen and Charlotte Mary Yonge; literature and the visual arts, especially 1780-1900; Iris Murdoch, A.S. Byatt
MA Program

Admission

In addition to requirements in the Graduate General Regulations section, the department requires evidence of ability in academic writing, in the form of at least two substantial literary essays which are scholarly in format and approach. The papers submitted may be undergraduate essays previously prepared, or ones specially written for this purpose. Applicants intending to specialize in writing and rhetoric may wish instead to submit a portfolio of representative writings, which should include at least one academic paper.

Language Requirement

All MA students must demonstrate a reading ability in one language other than English that is acceptable to the students' supervisory committee. Ability will be determined by a time limited examination consisting of the translation of a passage of literature or translation of a literary or scholarly passage in the particular language. A dictionary is permitted. The Department of French offers courses to help meet language requirements. Students interested in courses in German, Russian or Spanish should consult with the Office of the Dean of Arts.

Examinations

While the general regulations set the minimum cumulative grade point average necessary for continuance at 3.0, the department regards grades below B to be unsatisfactory and expects students to achieve an average above the minimum. If progress is deemed unsatisfactory, withdrawal under section 8.3 of the Graduate General Regulations may be required.

Thesis option students submit a thesis proposal and are examined by the supervisory committee no later than one semester following the completion of course work. Students proceed with the thesis only after the approval of the supervisory committee and the graduate program committee.

In exceptional cases, a distinction will be recognized.

The oral will be graded pass/fail. In exceptional cases, a distinction will be recognized.

The oral exam will be approximately two hours. Both field exams are completed by July 30 of the second year in the program (sixth semester). The examiners consist of two faculty in the area appointed by the graduate program committee. The senior supervisor cannot be an examiner in the field exam. Students are awarded pass/fail or pass with distinction for truly exceptional exams.

Those in a field exam may be allowed to repeat it once not later than the following semester. A second failure leads to elimination from the program.

Examinations

The general regulations set the minimum cumulative grade point average necessary for continuance at 3.0, the department regards grades below B to be unsatisfactory and expects students to achieve an average above the minimum. If progress is deemed unsatisfactory, withdrawal under section 8.3 of the Graduate General Regulations may be required.

Thesis option students submit a thesis proposal and are examined by the supervisory committee no later than one semester following the completion of course work. Students proceed with the thesis only after the approval of the supervisory committee and the graduate program committee.

Students in the non-thesis option will be exempt from this procedure.

The Thesis

Students complete their research and proceed with the writing of their thesis. Students have 9-12 semesters to complete their degree.

Individualized Field Exams

Each candidate will write two field exams. The student will take home the examination question and complete the paper within three days. The submitted examination paper should be no more than 30 pages. There will be no oral defence.

In each field exam area, a partial reading is prepared by the faculty specializing in the area. Students add to the reading list. The completed list must be approved by the graduate program committee. Current field reading lists may be obtained from the department.

Both field exams are completed by July 30 of the second year in the program (sixth semester). The examiners consist of two faculty in the area appointed by the graduate program committee. The senior supervisor cannot be an examiner in the field exam. Students are awarded pass/fail or pass with distinction for truly exceptional exams.

Those in a field exam may be allowed to repeat it once not later than the following semester. A second failure leads to elimination from the program.

Joint Master’s in English and French Literatures

This program allows students who have already been trained in both literatures to continue studies beyond the undergraduate level. See “Joint Master in English and French Literatures” on page 325.

Program Requirements

The first two years of the program provide necessary grounding before students pursue a thesis project; in the third year, students will engage in the research and writing of the dissertation. Upon admission, an advisor is assigned until a supervisor and supervisory committee are selected.

The doctoral program has three stages.

Courses

Four courses are completed by the end of the third semester: any three of choice plus ENGL 810/811 graduate professional development seminar, a required graduate course. The senior supervisor in consultation with the graduate program committee will advise students in their choice of courses.

Field Exam and Thesis Oral

Students must write field exams by the end of the sixth semester, and complete the thesis oral by the end of the seventh semester.

The Thesis

Students complete their research and proceed with the writing of their thesis. Students have 9-12 semesters to complete their degree.

Individualized Field Exams

Each candidate will write two field exams. The student will take home the examination question and complete the paper within three days. The submitted examination paper should be no more than 30 pages. There will be no oral defence.

In each field exam area, a partial reading is prepared by the faculty specializing in the area. Students add to the reading list. The completed list must be approved by two faculty in the area and the graduate program committee. Current field reading lists may be obtained from the department.

Both field exams are completed by July 30 of the second year in the program (sixth semester). The examiners consist of two faculty in the area appointed by the graduate program committee. The senior supervisor cannot be an examiner in the field exam. Students are awarded pass/fail or pass with distinction for truly exceptional exams.

Those in a field exam may be allowed to repeat it once not later than the following semester. A second failure leads to elimination from the program.

Examinations

While the general regulations set the minimum cumulative grade point average necessary for continuance at 3.0, the department regards grades below B to be unsatisfactory and expects students to achieve an average above the minimum. If progress is deemed unsatisfactory, withdrawal under section 8.3 of the Graduate General Regulations may be required.

Thesis option students submit a thesis proposal and are examined by the supervisory committee no later than one semester following the completion of course work. Students proceed with the thesis only after the approval of the supervisory committee and the graduate program committee.

Students in the non-thesis option will be exempt from this procedure.

Language Requirement

All MA students must demonstrate a reading ability in one language other than English that is acceptable to the students' supervisory committee. Ability will be determined by a time limited examination consisting of the translation of a passage of literature or translation of a literary or scholarly passage in the particular language. A dictionary is permitted. The Department of French offers courses to help meet language requirements. Students interested in courses in German, Russian or Spanish should consult with the Office of the Dean of Arts.

For further information and regulations, refer to the Graduate General Regulations section 1.

Joint Master’s in English and French Literatures

This program allows students who have already been trained in both literatures to continue studies beyond the undergraduate level. See “Joint Master in English and French Literatures” on page 325.

PhD Program

Applicants to the Department of English’s small PhD program will have a well planned project that integrates into the department’s areas of specialization. Cross disciplinary proposals and innovative studies are encouraged. Students are expected to contribute at all stages of the program.

The department has expertise in major areas of English literature, cultural theory, aesthetics and politics. Students wishing to specialize in one of the various areas of strength in the department, the program requires them to ground their interest in a wide and flexible understanding of English studies.

Students without a strong background in English may be required to strengthen their preparation before admission.

The program may be completed in two ways: In option A students take four courses, write a thesis of about 100 pages and defend it in an oral examination, while in option B they take six courses and write a field examination in three of the six courses followed by an oral exam based on the written. Students in either option may have one course as an individually supervised study to pursue a special interest or satisfy a need.

Students may enrol in one or two courses per semester. Students also working as teaching assistants will complete the program in six semesters.

For further departmental requirements consult the departmental handbook.

The department recognizes the special needs of working people who wish to improve qualifications. Some graduate courses are regularly offered at night, and part-time students are permitted (though regulations require that all MA students must complete their work within twelve semesters of full time equivalent enrolment or six calendar years, whichever is shorter).

Specialization in Print Culture 1700-1900

The MA program also permits students to specialize in the politics of print culture (1700-1900), focusing on the changing role of printed texts in an emerging commercial society. This specialization has an interdisciplinary focus.

Interdisciplinary Studies

In addition to the MA programs described here, which accommodate and encourage interdisciplinary study, the University offers degree programs to exceptionally able applicants whose proposed course of studies cannot be carried out in any existing program.

Students interested in pursuing an MA may wish to submit a proposal for special arrangements through the Office of the Dean of Graduate Studies. See “1.3.4 Admission to a Doctoral Program” on page 284.

Program Requirements

The first two years of the program provide necessary grounding before students pursue a thesis project; in the third year, students will engage in the research and writing of the dissertation. Upon admission, an advisor is assigned until a supervisor and supervisory committee are selected.

The doctoral program has three stages.

Courses

Four courses are completed by the end of the third semester: any three of choice plus ENGL 810/811 graduate professional development seminar, a required graduate course. The senior supervisor in consultation with the graduate program committee will advise students in their choice of courses.

Field Exam and Thesis Oral

Students must write field exams by the end of the sixth semester, and complete the thesis oral by the end of the seventh semester.

The Thesis

Students complete their research and proceed with the writing of their thesis. Students have 9-12 semesters to complete their degree.

Individualized Field Exams

Each candidate will write two field exams. The student will take home the examination question and complete the paper within three days. The submitted examination paper should be no more than 30 pages. There will be no oral defence.

In each field exam area, a partial reading is prepared by the faculty specializing in the area. Students add to the reading list. The completed list must be approved by two faculty in the area and the graduate program committee. Current field reading lists may be obtained from the department.

Both field exams are completed by July 30 of the second year in the program (sixth semester). The examiners consist of two faculty in the area appointed by the graduate program committee. The senior supervisor cannot be an examiner in the field exam. Students are awarded pass/fail or pass with distinction for truly exceptional exams.

Those in a field exam may be allowed to repeat it once not later than the following semester. A second failure leads to elimination from the program.

Examinations

While the general regulations set the minimum cumulative grade point average necessary for continuance at 3.0, the department regards grades below B to be unsatisfactory and expects students to achieve an average above the minimum. If progress is deemed unsatisfactory, withdrawal under section 8.3 of the Graduate General Regulations may be required.

Thesis option students submit a thesis proposal and are examined by the supervisory committee no later than one semester following the completion of course work. Students proceed with the thesis only after the approval of the supervisory committee and the graduate program committee.

Students in the non-thesis option will be exempt from this procedure.

Language Requirement

PhD students must demonstrate a reading ability in a language other than English that is acceptable to the supervisory committee. Ability is determined by a time limited exam of a literature or criticism passage translation in that language. A dictionary is permitted. The Department of French and the Latin American Studies Program offer courses to help graduate students meet language requirements. For German or Russian courses, consult the Office of the Dean of Arts.

For further information and regulations, refer to the Graduate General Regulations section 1.
Thesis
In consultation with the graduate program committee, the student creates a supervisory committee consisting of a senior supervisor and two readers (one may be from another department). By the third semester, the student submits the proposed supervisory committee and thesis proposal to the graduate program committee for approval.

The completed thesis is defended in an oral examination. The (defence) examining committee consists of a chair (normally the graduate program chair), members of the supervisory committee (senior supervisor and at least one other department member), a faculty member external to the Department of English, and an external examiner who is not a member of Simon Fraser University.

From the time of the supervisory committee’s appointment, the student and senior supervisor meet regularly (at least three times a semester) through the field examination the thesis oral semester, and the thesis research and writing period. It is the student’s responsibility to set a meeting schedule. The senior supervisor should inform the graduate program committee of absences of more than a month to arrange for another committee member to meet regularly with the student. Students in research (ENGL 899) should give the supervisor a written report about the research at the end of every semester. This is particularly important for those who do not submit chapters of their work. Any changes in direction or new developments should be discussed.

Students may make changes to their supervisory committee when, for instance, the development of a more refined topic indicates a different faculty member would be more appropriate for the committee. Changes made for any reason must be formally approved by the graduate program committee and the dean of graduate studies.

Graduate Courses
ENGL 801-5 The Theory of Literary Criticism
Explores some of the basic theoretical problems involved in the reading and interpretation of literature. May treat, among others, epistemological, intertextual, social, historical, semiotic, gender, and psychological issues.

ENGL 802-5 Theories of Language and Writing
The study of the discursive and/or non-discursive (poetic) uses of language. May include theories and practice of rhetoric and composition.

ENGL 803-5 Literary Movements and Historical Periods
Medievalism, the Renaissance, metaphysical poetry, Neo-classicism, Romanticism, transcendentulism, pre-Raphaelitism, modernism and post-modernism are examples of possible topics.

ENGL 804-5 Studies in Canadian Literature
In addition to particular movements and periods in literature in Canada, may explore relations between Canadian, Quebec, American, British, or Commonwealth literatures.

ENGL 805-5 The Study of Genre
History and theory of the novel, epic, lyric, poetry, comedy, tragedy, satire, the grotesque and autobiography are among the possible areas of study.

ENGL 806-5 Approaches to Individual Authors
May deal with one or more authors from a particular theoretical perspective.

ENGL 810-5 Graduate Professional Development Seminar Part I
The Graduate Professional Development Seminar (ENGL 810/811) is required of both MA and PhD students. All incoming students will take 810 in their first year. ENGL 810 has two components. The first component is to introduce students to the basic tools of advanced study and to acquaint them with the kinds of research being done in the department of faculty and graduate students. There will also be workshops on topics such as drafting and submitting proposals, applying for grants, presenting papers, publishing, choosing graduate schools, and employment possibilities, including interview situations. The second component consists of six two-hour workshops for new teaching assistants which will focus on the teaching of writing in literature courses. Required. Satisfactory/unsatisfactory.

ENGL 811-5 Graduate Professional Development Seminar Part II
Conclusion of 810 consisting of research workshops for students near completion of their research projects. Required. Satisfactory/unsatisfactory.

ENGL 841-5 Directed Readings A
ENGL 842-5 Directed Readings B
ENGL 843-5 Directed Readings C
ENGL 898-0 MA Thesis
ENGL 899-0 PhD Thesis
ENGL 999-0 MA Field Exam

Department of French
Chair
G. Poirier BA (Laval), MA, PhD (McG)
Graduate Program Chair
(to be announced)
Faculty and Areas of Research
See “Department of French” on page 136 for a complete list of faculty.

R. Canac-Marquis – transformational syntax, morphosyntax, formal semantics, anaphora, second language acquisition
R. Davison – 18th century French literature, correspondence and pedagogy, women writers, enigmatrices
M.C. Fauquenoy – French linguistics, sociolinguistics, Creole French dialects
G. Merler – modern French and Quebec literatures, methods of discourse analysis, Stendhal, individual psychology and literary analysis, poetry
G. Poirier – Renaissance French literature, 17th century French literature, Quebec literature and paraliterature, gender studies
S. Steele – Chrétien de Troyes, Medievalism and the Third Republic, French war writing, modern French poetry
J. Viswanathan – modern French and French Canadian novel, narrative theory, film and fiction
P. Wrenn – text linguistics, experimental phonetics, Canadian French, phonostylistics, phonology

The department offers graduate research leading to an MA, with a concentration in either French linguistics or French literature. Students interested in French as a second language (FSL) should contact the graduate program chair. (The FSL option will be of particular interest to candidates contemplating a career in the teaching of French.) Students seeking PhD program admission may apply under the special arrangements provisions of graduate general regulation 1.3.4.

The major areas of study are as follows:

Linguistics: Linguistic analysis of French, varieties of French (social, regional and stylistic variations), French Creoles, French linguistic theories, French applied linguistics, theoretical approaches to the acquisition of French as a second language. A variety of practical applications of linguistic theory may be envisaged: pedagogy, translation, stylistic analysis, etc.

Literature: This option offers a unique curriculum based on theoretical and interdisciplinary approaches to literature and para-literature: textual, discourse, genre analysis; cultural and gender studies; theory of literary criticism; psychological, sociological criticism, new trends in the history of movements and historical periods, topics in French Canadian literature.

MA Program
Conditions of Admission
Candidates for admission must satisfy the general admission requirements for graduate studies (1.3.2 and 1.3.8 of the Graduate General Regulations).

Program admission requires a sound background in French literature or French linguistics, as well as a good command of both oral and written French. Candidates lacking these must remedy the deficiency before admission is granted. This may be accomplished through one or two semesters as a qualifying student (Graduate General Regulation 1.3.5).

Upon admission, each student will be assigned a temporary supervisor.

The program’s degree requirements may be completed with thesis or without thesis. In either case, the student works under a supervisory committee’s direction (Graduate General Regulation 1.6) that has been appointed by the end of the second semester.

Students are normally admitted initially to the MA without thesis option. Those wishing to transfer to the MA with thesis option may do so after completion of their second semester in the program, on the recommendation of their supervisory committee, and subject to the approval of the graduate studies committee. Program requirements: course work, thesis topic or area of field examination, as well as any additional requirements, must be approved by the supervisory committee and the graduate studies committee.

Degree Requirements
The MA program has the following minimum requirements. During the first semester, students must successfully complete one of
FREN 800-2 Readings in French Linguistics
FREN 801-2 Readings in Literary Theory

plus, during the first or second semester, students must successfully complete
FREN 802-2 Basic Research Methods

Concentration Requirements
Students must successfully complete an additional 20 credit hours, selected from core and specialized courses for each concentration (either linguistics or literature).

Students may be required to complete additional courses to remedy deficiencies or to ensure suitable preparation for the thesis research proposed.

MA with Thesis
For this option, students complete a thesis of about 100 pages that is defended at an oral examination as described in section 1.9 and 1.10 of the Graduate General Regulations. Students must submit a written thesis proposal no later than one semester following the completion of course work. Substantive work on the thesis may proceed only after approval of the thesis proposal by the supervisory committee and the graduate studies committee.

MA without Thesis
This option requires successful completion of a further 10 credit hours of graduate work within the Department of French and a field examination based on three completed courses. These additional
courses may be selected from either concentration. Preparation for the field examination will be undertaken on the advice of the supervisory committee.

**Language Requirement**
Students must demonstrate to the graduate program committee an acceptable level of competence in written and oral French and must show at least a reading knowledge of one language other than English or French that is acceptable to the supervisory committee. This requirement can be fulfilled by successfully completing two courses in that language or by passing an exam consisting of the translation of a 250 word text into English.

**Graduate Courses**

**Core Courses**
The following courses concern fundamental aspects (in literature and linguistics) of the field specialization. These are offered at least once every six semesters. Selection of and need to take any specific course(s) is made in consultation with the student’s supervisor.

**Linguistics**
FREN 807-5 Problems in French Phonology
FREN 808-5 Problems in French Grammar
FREN 809-5 Problems in French Semantics and Lexicology

**Literature**
FREN 820-5 Types of Discourse
FREN 821-5 Theories and Methods of Literary Analysis
FREN 822-5 Socio-cultural Approaches to French Literature

**Specialized Courses**
The courses listed below treat specialized areas with respect to the student’s particular interests or thesis topic. These courses are offered as needed to complete or enhance a student’s program. Depending upon content and enrolment, they may be offered as directed readings or as seminars rather than lecture courses.

**Linguistics/Applied Linguistics**
FREN 811-5 Problems in French Dialectology
FREN 812-5 Problems in French Linguistic Theory
FREN 813-5 Problems in the History of French
FREN 814-5 Contrastive Structures of French and English
FREN 815-5 French Creoles
FREN 816-5 Sociolinguistic Approaches to French Studies
FREN 817-5 French Applied Linguistics
FREN 818-5 Phonostylistics of French
FREN 830-5 Canadian French
FREN 831-5 Studies of Bilingualism in the French-Speaking World
FREN 832-5 Theoretical Approaches to the Acquisition of French as a Second Language

**Literature**
Topics in the following literature courses will vary to meet the interests of both students and faculty.

FREN 823-5 Interdisciplinary Approaches to French Literature
FREN 824-5 Topics in French Canadian Literature
FREN 825-5 Topics in French Literature
FREN 826-5 Monographic Studies

**Note:** With the supervisory committee’s approval, one course from the other concentration may substitute, or one may be taken outside the department. For a linguistics concentration, those demonstrating adequate preparation in general linguistics may take a Department of Linguistics course. For a literature concentration, consider a course in the Department of English. For a French as a second language (FSL) concentration, course selection is subject to the graduate program committee’s approval.

**Joint Master in English and French Literatures**
This joint master’s program allows students who have already been trained in both literatures to continue studies beyond the undergraduate level.

Students register in and, if successful, receive a degree from one of two departments, known as the home department. The other department is designated the associate department.

**Application for Admission**
Students may apply to either department or to both, indicating a preference. Both departments must agree on the student’s admission or on conditions for admission. A home department will be assigned in consultation with the student and with the agreement of both departments. A minimum of 15 upper division undergraduate credit hours in each discipline is required for admission. The student, after admission and two semesters of course work, will have the option of completing an MA either with thesis or without, subject to the agreement of both departments.

**Supervision**
The home department selects a joint supervisory committee of two faculty from the home department and one from the associate department.

**Home Department Requirements**
either both of
ENGL 810-5 Graduate Professional Development Seminar Part I
ENGL 811-5 Graduate Professional Development Seminar Part II
or both of
FREN 801-2 Readings in French Literature
FREN 802-2 Basic Research Methods

**Concentration Requirements**
In addition to the home department requirements shown above, students must also complete either the MA with thesis or without thesis option.

**MA with Thesis**
For this option, students successfully complete another 20 credit hours selected from literature courses in the Departments of French and English, including at least one course from each department (one course from one department and three from the other, or two from each department) and complete a thesis of about 100 pages on a topic acceptable to the supervisory committee, defended at an oral examination as described in Graduate General Regulations 1.9 and 1.10.

**MA without Thesis**
For this option, students successfully complete another 30 credit hours selected from literature courses in the Departments of French and English, including at least two courses from each department (two courses from one department and four from the other, or three from each department) and a written field exam based on three completed courses. Field exam preparation is undertaken on the advice of the supervisory committee.

**Graduate Courses**

FREN 800-2 Readings in French Linguistics
A semester of required readings in French linguistic theory. This course, which culminates in an oral examination, will be graded satisfactory/unsatisfactory.

FREN 801-2 Readings in French Literature
A semester of required readings in French literary theory. This course, which culminates in an oral examination, will be graded satisfactory/unsatisfactory.

FREN 802-2 Basic Research Methods
The study of research methods and tools used in French linguistics or French literature. Planning a long term research project.

FREN 807-5 Problems in French Phonology
Explores a selection of classic problems of French phonology from different theoretical viewpoints.

FREN 808-5 Problems in French Grammar
Explores a selection of classic problems of French morphology, morpho-syntax and/or syntax from different theoretical viewpoints.

FREN 809-5 Problems in French Semantics and Lexicology
Theories, methods and major research trends in the diachronic and/synchronic analysis of the lexicon and structures of meaning in French.

FREN 811-5 Problems in French Dialectology
Methods in the study of social and geographical dialects (from fieldwork techniques to the analysis of data). Linguistic theory (traditional, structural, generative and sociolinguistic) as it applies to French dialectology.

FREN 812-5 Problems in French Linguistic Theory
Studies the contributions of a selection of twentieth century French language linguists to the evolution of various aspects of linguistics and linguistic theory.

FREN 813-5 Problems in the History of French
A diachronic study of a variety of phonological, grammatical or lexical aspects of French presenting descriptive/explanatory challenges.

FREN 814-5 Contrastive Structures of French and English
A contrastive study of the grammatical structures of French and English with emphasis on ‘rank-shift’ across discourse techniques. A variety of practical applications may be envisaged: pedagogy, translation, stylistic analysis, etc.

FREN 815-5 French Creoles
Development, diversity and sociality of French Creoles. Theoretical approaches to the study of the life cycle of creole languages, with special emphasis on French-based Creoles.

FREN 816-5 Sociolinguistic Approaches to French Studies
Language, society and identity in France. Study of social markers in speech, conversational rules, objective versus subjective norms, attitudes towards language variation and their implications among French speakers from an integrative perspective.

FREN 817-5 French Applied Linguistics
Study of the contribution of linguistic theory to the teaching and learning of French as a second language.

FREN 818-5 Phonostylistics of French
The linguistic analysis of paralinguistic features of French and their expressivity in various types of oral discourse.

FREN 820-5 Types of Discourse
A study of the language in use, discourse strategies, the enunciation devices of various types of texts, both traditional and non-traditional genres such as oral or para-literary texts.

FREN 821-5 Theories and Methods of Literary Analysis
A study of a selection of significant works by contemporary French critics (Barthes, Genette, Kristeva). The application of their theories and models to the analysis of specific works. May concentrate on one area, e.g. narratology, semiotics, etc.
**FREN 822-5 Socio-cultural Approaches to French Literature**
Provides a framework for a detailed study of French literature within its socio-cultural context.

**FREN 823-5 Interdisciplinary Approaches to French Literature**
Explores the relationships between French literature and other arts or applies concepts and models developed in other disciplines to the study of French literature.

**FREN 824-5 Topics in French Canadian Literature**
An in-depth study of a theme or an aspect of French Canadian Literature through different literary works.

**FREN 825-5 Topics in French Literature**
An in-depth study of a topic relating to a period or a movement in French literary history, such as: Middle Ages, Renaissance, Classical Period, Enlightenment, Romanticism, Realism, Naturalism, Existentialism.

**FREN 826-5 Monographic Studies**
An in-depth study of one writer from a specific theoretical perspective (psychological, historical, linguistic).

**FREN 830-5 Canadian French**
Advanced study of the linguistic structures and sociolinguistic rules of French in Canada.

**FREN 831-5 Studies of Bilingualism in the French-Speaking World**
Theories of bilingualism as they apply to French, and the place of French in the world.

**FREN 832-5 Theoretical Approaches to the Acquisition of French as a Second Language**
New trends and theoretical developments in the acquisition of French as a second language.

**FREN 898-0 MA Thesis**
**FREN 999-0 Field Examination**

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**Department of Geography**

**Chair**
A.M. Gill BA (Hull), MA (Alta), PhD (Manit)

**Graduate Program Chair**
M.V. Hayes BA, MA, PhD (McM)

**Faculty and Areas of Research**
See "Department of Geography" on page 139 for a complete list of faculty.

W.G. Bailey – physical climatology, ginseng research
N.K. Blomley – political and urban geography
B.E. Bradshaw – environmental economic geography, resource management
T.A. Brennand – glacial geomorphology, quaternary environments, regional paleohydrology
J.A.C. Brohman – third world development, economic geography, Latin America
R.A. Clapp – economic geography, resource conservation, forest policy
L.J. Evenden – urban geography, urban morphology, local government
A.M. Gill – tourism and community planning, resources management
W.G. Gill – urban and social geography
M.V. Hayes – social geography, population health
R. Hayter – regional development, manufacturing, BC’s forest economy, Japan
E.J. Hickin – fluvial geomorphology
R.B. Horstall – social geography, environmental psychology
I. Hutchinson – quaternary environments, coastal studies
P.M. Koroscil – historical geography, Canada
L.F.W. Lesack – ecosystem biogeochemistry, land and water interactions, limnology
J.T. Pierce – economic and rural geography, research methodology
B. Pitman – cultural and social geography, urban studies, regional development and planning
A.C.B. Roberts – cultural, historical, paleo environments, remote sensing, photogrammetry
M.C. Roberts – fluvial geomorphology, field methods
M.L. Rosefield – regional planning and sustainable communities
M.G. Schmidt – soil science, forestry, geographic information systems
I. Winton – cultural-historical geography

**Areas of Research**
The department takes a special interest in the development and evaluation of theoretical frameworks in the systematic aspects of geography. Emphasis is on this application to contemporary and historical geographical problems in western North America, with particular reference to British Columbia and the utilization of its resources.

**MA Program**

**Admission**
For admission requirements see Graduate General Regulations. MA/MSc admission is in the fall semester only, and for PhDs in either fall or spring semesters. Fall applications should be completed by February 1 of that year, and applications for spring admission by September 15 of the previous year. The MA candidate, once admitted, works under the guidance of a faculty advisor, pending the choice of a supervisory committee. The supervisory committee, normally consisting of two faculty members, one of whom may be from outside the department, will be chosen by the second semester.

**Degree Requirements**
The MA program offers a thesis option and an extended essay option. The former requires the submission of a high quality piece of research which will ordinarily involve the conceptualization of a problem and the collection, analysis and interpretation of empirical data. However, non-empirical research is possible. Extended essay option students submit two essays which are original because they make some distinctive contribution to research literature and ordinarily involve a critical review or synthesis of literature, concepts and/or techniques or the development of hypotheses, possibly to include pilot work. Neither the thesis nor the extended essays should be a modification of a paper completed for course work.

The minimum course requirements for an MA are 12 credit hours (three one-semester courses) or 20 hours for the extended essay option and GEOG 700 and 701. GEOG 700 and 701 grading is satisfactory/unsatisfactory and constitutes a (minimum) requirement in geographic methodology. GEOG 700 and 701 must be taken at the first available opportunity. As part of the 12/20 credit hours, students take either GEOG 704 or 706. With the advisor’s consent, the student can request this requirement be replaced by another course.

Students complete minimum Department of Geography requirements. Permission to complete a requirement outside the department must be obtained from the graduate studies committee. Those with course deficiencies may have to complete more courses including undergraduate courses and in other departments. At the supervisory committee’s discretion, students may need to acquire knowledge of a language relevant to their studies.

A written thesis prospectus is submitted to the supervisory committee by the end of the semester’s third week following completion of GEOG 700 and 701. The supervisory committee must approve the proposal prior to starting substantive research. In addition, the candidate must present the research proposal at a colloquium prior to the end of the third residence semester (or by the end of the semester following completion of GEOG 700 and 701).

**Master of Science Program**
The department offers a program leading to the MSc degree in the Faculty of Science. See “Geography Program” on page 382.

**PhD Program**
For admission requirements, refer to the Graduate General Regulations. Applicants must have completed MA or MSc requirements at Simon Fraser University or equivalent. Students admitted to the PhD program without this background may be required to make up specified courses.

**Supervisory Committee**
The student, upon admission, works under the guidance of a faculty advisor, pending the choice of a supervisory committee. By the beginning of the second semester, a Department of Geography faculty member is chosen as a senior supervisor of the supervisory committee plus two or more additional committee members, one of whom may be from outside the department.

**Degree Requirements**
The advisor, and subsequently the supervisory committee, and the student determine a program of study to suit the background and research objectives of the candidate. No formal course work is required of students. After consultation with the supervisory committee, however, students can elect to take courses in order to acquire knowledge and skills, including language skills, relevant to their research.

**Comprehensive Examination**
Written and oral qualifying exams establish competence to proceed with doctoral thesis research and are normally undertaken at the end of the second residence semester and no later than the end of the third semester. Students who fail the written or oral exam may retake each once, after a one semester lapse. Both parts of the qualifying exam must be successfully completed by the end of the fourth residence semester. The qualifying examination committee consists of at least three department faculty, (including the senior supervisor who is the committee chair), plus one faculty member from outside the department.

Written exams comprise four papers jointly agreed by the qualifying exam committee. If the supervisory committee agrees, a field problem may be chosen which substitutes for one of the four written papers. The oral is held by the qualifying exam committee within three weeks following completion of written examinations. The student is examined primarily in topics covered by the written examinations, but questions may range over the entire discipline.

**Thesis**
Candidates successfully completing qualifying exams will present a thesis proposal which is circulated to faculty and resident graduate students. The candidate presents this proposal at a department colloquium no later than the end of the fifth residence semester. The completed thesis will be judged by the candidate’s examining committee at an oral defence. If the thesis defence fails, the candidate is ineligible for further
degree candidacy. See "Graduate General Regulations" on page 283 for further information.

Geography Graduate Courses

GEOG 700-0 Introduction to Graduate Studies: Part I
A required course designed to acquaint new graduate students with the research strengths of the department, research facilities in the University and its vicinity and with the methodologies of the main fields of geography. In addition, problems of both a philosophical and practical nature involved in the design and operationalization of geographic research will be examined.

GEOG 701-0 Introduction to Graduate Studies: Part II
Completion of GEOG 700. Grading of GEOG 700 and 701 will be on a satisfactory/unsatisfactory (S/U) basis.

GEOG 704-4 Analytical Techniques for Human Geographers
An examination of qualitative and quantitative techniques and associated software relevant to compilation of information for human geographic research.

GEOG 706-4 Quantitative Techniques in Physical Geography
An introduction to quantitative methods, statistical and physical modelling, sensitivity and error analysis, research design and data collection, editing and analysis in physical geography.

GEOG 707-0 Introduction to Graduate Studies: Part III
Completion of GEOG 700 and 704. Grading of GEOG 700 and 707 will be on an S/U basis.

GEOG 708-4 Geographic Ideas and Methodology
This is an advanced course that critically examines the contemporary and historical modes of analysis in geography.

GEOG 710-4 Geography and Ideology
An attempt to define the concept 'ideology', to recognize its operation in geography and to demonstrate its relevance in historical geography, political geography, and in the study of the symbolic structuring of cultural landscapes.

GEOG 714-4 Computer Cartography
Theoretical, algorithmic and practical components in the application of the computer for mapping.

GEOG 715-4 Geographic Information Systems
Data bases, systems concepts, quantitative techniques, modelling and display in geography, on the basis of computer systems.

GEOG 716-4 Aerial Reconnaissance for Remote Sensing
Theoretical and practical training in the acquisition of airborne multispectral remote sensing data.

GEOG 717-4 Digital Processing of Remote Sensing Data
Theory and applications of analytical processing procedures used with multispectral remote sensing data.

GEOG 718-4 Soil Science
Discussion of special topics in soil science: soil physics, soil chemistry, soil biology and/or forest soils.

GEOG 720-4 Ecological Biogeography
Population, community and ecosystem ecology from a biogeographic perspective; island biogeography theory.

GEOG 723-4 Climatology
Recent theoretical developments in climatology.

GEOG 726-4 Fluvial Geomorphology
An examination of current conceptual and methodological issues in fluvial geomorphology based on analyses of the primary research literature.

GEOG 728-4 Advanced Glacial Geomorphology
Critical evaluation of glacial landform-process models focussing on current research problems; field study of glacial landforms and sediments.

GEOG 731-4 Hydrology
This course covers the conceptual and methodological bases of current hydrologic research.

GEOG 734-4 Resources Management
A study of the historical, cultural, economic, social and behavioral aspects of conservation and resource management from an interdisciplinary point of view.

GEOG 736-4 Resources and Environmental Issues in the Growth of Food Production
Concerned with identifying and analyzing constraints to expanding food production within a geographical context.

GEOG 738-4 Water Resources
An examination of various models and methods of water resource development based on case studies from both developed and developing countries.

GEOG 740-4 Geography and the Third World
An examination of the objective geographical conditions in the Third World today and a review of the wide range of theories and suggested solutions of a geographical nature.

GEOG 742-4 Regional Development
Regional development in theory and practice with particular reference to resource based hinterland regions.

GEOG 745-4 Multinational Corporations and Regional Development
An examination of the influence of the policies and structures of multinational corporations on regional economic change.

GEOG 752-4 Cultural Geography
Seminar discussion of selected topics in recent cultural geography, with emphasis on relationships with social theory, current philosophy and research findings in related fields.

GEOG 755-4 Law and the Geographies of Power
An exploration of the emergent literature on law, space and power; this class will consider the social and political construction of law and space, and then track their inter-relations through a number of case studies.

GEOG 756-4 Historical Geography
An examination of the role historical geography plays within the discipline of geography. The course will evaluate the evolution and practical applied aspects of the subject.

GEOG 760-4 Morphogenesis and the Built Environment
This course covers the evolution of built environments in urban contexts. It relates the impetus for morphological change to broad societal processes. Problems of evidence and method are discussed.

GEOG 770-4 Geography, Development Theory, and Latin America
An analysis of geographic aspects of theories of development as they have been applied in Latin America.

GEOG 780-4 Environmental Cognition
Examination of current issues in the study of human understanding and relationships within the (mostly built) environments.

GEOG 781-4 Tactual Mapping: Theory and Practice
An exploration of design principles, production methods, and user training procedures appropriate to thematic and mobility maps for the visually handicapped.

GEOG 791-4 Directed Readings
GEOG 795-4 Selected Topics in Geography
Specialised graduate course on faculty research related topics.

GEOG 797-0 MSc Thesis
GEOG 798-0 MA Thesis
GEOG 799-0 PhD Thesis

Urban Studies Graduate Courses

The following courses are offered by the Department of Geography and are open to any graduate student with the home department's approval and the graduate urban studies steering committee.

URB 600-4 Urban Transformations
This course studies the nature and function of cities from a variety of geographical, social, political and economic aspects. The focus is on North American cities but attention will be given to the historical context and to cities in other parts of the contemporary world. A holistic view of the contemporary metropolis is emphasized and the course aims to offer critical insights as well as practical examples. Special attention is given to the ethical, practical and intellectual dilemmas raised by the transformations in urban society, economy and politics. (0-4-0) Prerequisite: an undergraduate degree in one of the urban studies base disciplines (anthropology, economics, geography, planning, political science, sociology) or equivalent professional training and experience in an urban field.

URB 601-4 Urban Problems and Solutions
This is an applied course which will provide local applications of the themes developed in URB 600. It will be built around various applied urban courses in the Continuing Studies City Program. The exact format and focus will depend on programming in the City Program but typically will involve an integrative approach to a variety of urban issues and problems of interest in cities such as Vancouver. Prerequisite: an undergraduate degree in one of the urban studies base disciplines (anthropology, economics, geography, planning, political science, sociology) or equivalent professional training and experience in an urban field, and URB 600.

Gerontology Program

2800 Harbour Centre, (604) 291-5065 Tel, (604) 291-5066 Fax, gero@sfu.ca, www.harbour.sfu.ca/gero/

Graduate Program Chair
A.V. Wister BA, MA, PhD (WOMT)

Faculty and Areas of Research
Y. Carrière – demography, population health, health promotion and population aging, aging workforce and retirement
G.M. Gutman – seniors’ housing, long term care, dementia, health promotion and aging, program evaluation
B. Mitchell – families and aging, intergenerational relations, youth transitions, social policy

A.V. Wister – demography, living arrangements and social supports, health promotion and population health, program evaluation

*joint appointment with sociology and anthropology

Advisor
Ms. N. Holtby, 2800 Harbour Centre, (604) 291-5065
The Gerontology Program offers a master of arts degree. There are two concentrations offered within the program: aging and the built environment, and health promotion/population health and aging. The MA program prepares students for professional roles with a high level of current knowledge of the field, and substantial competence in the kinds of research tasks necessary to undertake those roles. It also provides focused, interdisciplinary training for individuals in occupations that provide services to older adults. Further, the program will develop an appreciation of the complex ethical issues that are faced by persons working in gerontology.

Each of the concentrations deals with specific problems and issues.

The aging and the built environment concentration trains students in the planning, design, research and evaluation of working, living and recreational environments for older persons. Students in this concentration will have backgrounds in architecture, interior design, urban and regional planning, social/human ecology, kinesiology, recreation and leisure studies, occupational therapy, physiotherapy, human factors, human geography, sociology or environmental or social psychology.

The health promotion/population health and aging concentration provides knowledge that can be used for research, evaluation and critical analysis of our health care system and of specific health promotion strategies. Students with degrees in psychology, sociology, demography, medical geography, social work, nursing, health education, physiotherapy, and physical education or kinesiology would be probable candidates for this concentration.

Students take an integrated core course sequence and courses specific to the selected concentration. The program builds upon the expertise, research activities and international reputation of the associated Gerontology Research Centre.

MA Program

Admission

Students interested in applying to this program should contact the student advisor. Candidates who have not completed the post baccalaureate diploma program in gerontology or a minimum of five upper level courses with substantial aging content may be advised to complete courses from the diploma program prior to applying to the MA program.

The following prerequisites, or their equivalent, are needed for each concentration.

Aging and the Built Environment
GERO 401-3 Aging and the Built Environment

Health Promotion and Aging
GERO 404-3 Health and Illness in Later Life and one of
GERO 302-3 Health Promotion and Aging*
GERO 402-3 Drug Issues in Gerontology
GERO 403-3 Counselling with Older Adults
GERO 407-3 Nutrition and Aging

*formerly offered as GERO 411 Special Topics: Health Promotion and Aging

Curriculum and Description

There are five components to the program: core courses, required courses for each concentration, electives, project or thesis and internship.

Students must complete six courses: two core courses, two required courses from the chosen concentration, and two electives. They must also complete a project. Under special circumstances, students may complete a thesis in lieu of the project (see Project or Thesis Option below).

Core Courses

These courses will be required of all students.

GERO 801-4 Health Policy and Applied Issues in Gerontology
GERO 802-4 Development and Evaluation of Health Promotion Programs for Older Persons

Students who complete a thesis will also complete the following course or any other approved graduate research methods course (see Project or Thesis Option below).

GERO 803-4 Analytical Techniques for Gerontological Research

Areas of Concentration Requirements

These courses are required of students within each concentration.

Aging and the Built Environment
GERO 810-4 Community Based Housing for Older People
GERO 811-4 Institutional Living Environments

Health Promotion/Population Health and Aging
GERO 820-4 Principles and Practices of Health Promotion
GERO 821-4 Epidemiology of Aging

Elective Courses

Students may fulfills elective credit requirements by selecting from the following courses, completing required courses from another gerontology concentration, or from outside the program if approved by the student’s graduate advisory committee.

GERO 830-4 Human Factors, Technology and Safety
GERO 889-4 Directed Studies
GERO 898 MA Project
GERO 899 MA Thesis
SA 886-5 Selected Problems in Social Analysis*
when offered as Social Policy in a Changing Society

Project or Thesis Option

All students will be initially admitted into the project stream and will normally present a written project proposal to a faculty member, chosen as a supervisor. After consultation with the project supervisor, a second member is selected to complete the supervisory committee. Examples of projects include: evaluation of programs for older adults; design and implementation of environments or services for elderly persons; and analyses of secondary data. A project report will be evaluated by the supervisory committee and a qualified external reader. The project requirement must meet the guidelines set out in the Graduate General Regulations.

A small number of highly qualified students who wish to prepare for advanced graduate training may be permitted to elect a thesis option after one semester in the program. Students allowed to complete a thesis will replace the two elective courses with GERO 803. The thesis provides a focused research of high quality. Students will be encouraged to engage in original and innovative research to meet this requirement. Committee selection and approval of the thesis proposal will follow the same steps as the project. The thesis requirement must meet the guidelines in the Graduate General Regulations.

Internship

Students lacking relevant work experience will be required to supplement their program of study with an internship. The student will work for an agency or organization in a position of responsibility normally for a maximum of one semester.

Graduate Courses

GERO 801-4 Health Policy and Applied Issues in Gerontology

The aim of this course is to examine linkages between long term care and other service sectors as well as to compare programs and services across community, provincial and national boundaries. A number of key policy issues will be discussed that pertain to the provision of health related services to older adults.

GERO 802-4 Development and Evaluation of Health Promotion Programs for the Elderly

This course deals with the design, implementation and evaluation of health promotion programs and services for older persons. Students will participate in the development and critical analysis of a variety of health initiatives aimed at healthful aging.

GERO 803-4 Analytical Techniques for Gerontological Research

This course has been specifically designed to provide training in quantitative data analysis using SPSSx Programming Language with a focus on behavioural research problems in gerontology.

GERO 810-4 Community Based Housing for Older People

This course presents an indepth examination of theory, research and policy related to planning, designing, developing and managing housing for independent and semi-independent older adults.

GERO 811-4 Institutional Living Environments

This course focuses on design issues, theory, research and policy relevant to planning, developing and managing institutional living environments for dependent adults.

GERO 820-4 Principles and Practices of Health Promotion

This course is designed to cover and critically evaluate concepts, models and theories of health promotion and wellness in the aging population. These methods of implementation will be discussed in relation to individual and structural health system issues facing the aged.

GERO 821-4 Epidemiology of Aging

This course is required for students in the health promotion and aging concentration. It examines epidemiological methods and approaches to the study of aging and the care of the aged. Students will survey and critically evaluate current epidemiological literature addressing health and health care issues associated with individual and population aging.

GERO 830-4 Human Factors, Technology and Safety

This course covers theoretical, research and industry literature pertaining to designing home, work, institutional and public environments that are ergonomically functional, safe, and satisfying to the older adult.

GERO 850-0 Co-op Internship

The internship consists of one full-time work semester. Arrangements for the work semesters are made through the Faculty of Arts Co-op Co-ordinator at least one semester in advance. For further details, students should refer to the Co-operative Education section of the Calendar. Prerequisite: MA students in good standing with a minimum GPA of 3.0 may apply to enter the co-op internship after satisfactory completion of 16 semester hours credit.

GERO 889-4 Directed Studies

This course consists of supervised readings in a particular field of specialization relevant to the selected area of concentration.

GERO 888-0 MA Project
GERO 899-0 MA Thesis
Department of History

6022 Academic Quadrangle, (604) 291-4467 Tel, (604) 291-5837 Fax, www.sfu.ca/history

Chair
H.J.M. Johnston BA (Tor), MA (WOnt), PhD (Lond)

Graduate Program Chair
C.R. Day BA (Stam), MA, PhD (Harv)

Faculty and Areas of Research
See “Department of History” on page 143 for a complete list of faculty.

L. Armstrong – Italian Renaissance
R.E. Boyer – Latin America
W.L. Cleveland – Middle East
J.S. Craig – 16th and 17th century British
C.R. Day – social, France
R.K. Debo – Russia
R.E. Dutton – ancient and Medieval
C.I. Dyck – modern Britain
M.D. Fellman – United States
K. Ferguson – 20th century United States
D. Gagan – hospitals, health care, social classes
H. Gay – history, philosophy of science
A. Gerosmatos – Greece and Balkans
J.F. Hutchinson – social, Russia
E.R. Ingram – diplomatic, British India
H.J.M. Johnston – Canada
J.M. Kitchen – Germany, Socialism
M. Leier – Canada, labor
J.I. Little – Canada, French Canada
T.M. Loo – Canada, law
D. MacLean – Middle East, Islam, India
J. Matsumura – East Asia
H. Pabel – early modern Europe
J. Parr – Canada
M. Prokopow – Anglo-Atlantic colonial world
P. Raibmon – First Nations history
D. Ross – Africa
A. Seager – Canada, labor
L. Shin – modern China
M.L. Stewart – Europe, social, women's studies
J. Stubbs – modern Britain

Areas of Study
The Department of History offers graduate research leading to an MA and PhD. The major study areas are Canada, Europe, colonialism and imperialism, the Middle East, the Americas, and Africa. Only those who wish to specialize in one of the specific fields covered by the list of MA courses in the case of MA applicants, or PhD areas of specialization in the case of PhD applicants, will be considered for admission.

The department reserves the right to accept candidates only when a qualified supervisor is available and the University resources (including library facilities) are deemed adequate for the student’s stated research priority.

Admission of Graduate Students

Admission for MA students will be in the fall semester only, and for PhD and part time MA students in either fall or spring semesters. Applications for fall should be completed by February 15, and applications for spring admission by October 15 of the previous year.

Applicants must submit a sample of their written work.

MA Program

Conditions of Admission

MA candidates must satisfy the minimum University entrance requirements: at least a 3.0 average or its equivalent. In addition, the department requires a 3.33 (B+) average in history courses taken during the last two years of the undergraduate program. A degree in a discipline related to history may be accepted in some cases.

Programs of Study

Upon graduate program admission, students are assigned a provisional supervisor. See “1.6.4 Supervisory Committee” on page 286 for supervisory committee information. All MA degree candidates must satisfy the following minimum requirements, totalling 30 credit hours.

The department offers two options. The thesis option requires 20 credit hours (four courses of five credit hours each), of which at least 15 must be in graduate courses in the department. The project option requires 30 credit hours, (six courses of five credit hours each) of which 20 must be in graduate courses in the department.

Normally, three seminars are offered each fall and spring semester, including one in conjunction with the University of British Columbia’s Department of History, at the Harbour Centre campus.

All Canadian history students must take Hist 806, another seminar of their choice, and the research seminar Hist 814. All European history students must take Hist 810, another seminar of their choice, and the research seminar Hist 814. Other students must take one seminar and Hist 814. Remaining course requirements may be taken as readings courses.

In Hist 814, each thesis option student writes a paper which becomes the thesis prospectus basis. It should present a coherent thesis topic. This is the framework of existing work in the area. Each project option student is required to write a short research paper which becomes the basis of the required research project.

Full time MA thesis option students complete degree requirements in a maximum of five semesters, and project option students in a maximum of three semesters. Part time thesis option students complete degree requirements in a maximum of eight semesters and part time project option students in a maximum of six semesters.

Students with significant financial support from fellowships, scholarships or teaching assistantships are expected to take a full semester course load. Those with no financial aid from fellowships, teaching assistantships, etc. may be considered part time students and may take only one course per semester. Students complete a thesis of 10 credit hours with a maximum length of 100 pages, or a research project of approximately 35 pages. The student’s thesis/ research project must demonstrate capability in scholarly research and procedures as well as independent critical thought. Before the beginning of the third semester, thesis option students defend the thesis prospectus before an examining committee. The project option student will defend his/her research project in the same time frame.

Full time thesis option students complete their degree requirements in a maximum of five semesters, and project option students in three. Part time students may take one additional year for completion.

Language Requirements

Students must demonstrate a reading ability in a language other than English that is acceptable to the supervisory committee. Students proposing to study Canadian history must demonstrate an ability to read French. Ability is determined by a time limited examination consisting of the translation of a passage of history in the particular language. A dictionary is permitted. The Department of French offers courses to help students meet the language requirements.

PhD Program

General

Prospective PhD candidates are advised that the degree is granted in recognition of the student’s general grasp of the subject matter of a broad area of study; for the ability to think critically; and for the power to analyse and co-ordinate problems and data from allied fields of study.

A student ordinarily is admitted to the PhD program after completion of an MA or its equivalent. BA applicants applying directly to the PhD program must have at least a 3.5 GPA or its equivalent. Candidates for the MA may, under exceptional circumstances, be admitted to the PhD program without completing the MA requirements if they have 20 credit hours of course work. Admission from the MA program is contingent upon a distinguished level of performance, recommendation of directing faculty, scholarly potential, and available department resources.

Programs of Study

Upon program admission, each student is assigned a faculty supervisor. See “1.6 Supervision” on page 286 for information on supervisory committees. The supervisory committee and the student determine three fields of study, at least two of which are chosen from the list below. A third field may be chosen within or outside the Department of History with permission of the graduate studies committee.

The student and each field supervisor will agree as soon as possible on a general readings list of approximately 45 books (or the equivalent) in each field. Reading list copies must be submitted to the chair of the graduate program committee by the beginning of the second semester. The graduate program committee approves these lists and places them in the student’s files. Students are expected to cover the material on these lists, preferably by means of a structured reading and writing program with their supervisors.

The comprehensive examinations, based on the reading lists, are offered twice a year, in the first half of the fall and spring semesters. Written examinations are administered in weeks five and six of the semester. Oral examinations are scheduled in weeks six through seven of the same semester. Students who miss the first round of examinations in their fourth semester due to extenuating circumstances must take the examinations the following semester.

For details on the nature of the comprehensive examinations, see the Department of History’s graduate brochure. All written examinations must be passed before the oral comprehensive exam takes place. A student who fails one of the written examinations, and one only, will have one additional chance for re-examination before sitting the oral examination. A ‘fail,’ ‘pass,’ or ‘pass with distinction’ will be assigned by the examining committee after completion of the oral exam. Students failing at this stage are not allowed to continue in the program.

PhD Fields

Canadian social and cultural history
Canadian political and economic history
European social history
European cultural history
European intellectual history
European international relations since the early 19th century
gender and history
rural history
Mediaeval Europe
France since 1789
Germany since the 18th century
Russia since Peter the Great the British Isles since 1485
Great Britain as a great power since 1763
state and society in the nineteenth century Ottoman empire
state and society in the twentieth century Middle East
the Middle East in the international system
the geopolitics of the Indian empire
Islamic India
sub-Saharan Africa since 1800
European settlement in Africa
United States to 1890
United States since 1890
United States cultural history 1830-1890
colonial Latin America
Latin America since Independence

**Thesis**

Within one semester of successful completion of comprehensive exams and formal candidacy admission, students submit a thesis prospectus on a topic selected from the specialization areas listed above. The same procedure is followed for MA candidates but the thesis committee may seek the participation of another who has particular expertise in the area of the proposed thesis topic. Through the thesis, the student must demonstrate an original contribution to knowledge. When the thesis is complete and the student is ready to offer himself/herself for the degree, a thesis examining committee will be formed, composed of the chair of the departmental graduate program committee or designate; the student’s supervisory committee; a member of faculty or a person otherwise suitably qualified who is not a member of the supervisory committee; and an external examiner who is not a University employee. This committee examines the student on the thesis and in the student’s major field of study. See “Graduate General Regulations” on page 283 for further information and regulations.

**Language Requirements**

Students must demonstrate a reading ability in one language other than English that is acceptable to the supervisory committee. Students proposing to study Canadian history must demonstrate an ability to read French, determined by a time limited examination consisting of the translation of a passage of history in the particular language. A dictionary will be permitted.

The Department of French offers courses to help graduate students meet these requirements.

**Graduate Courses**

HIST 814 is a compulsory MA seminar offered each spring semester. HIST 806 and 810 are also offered as seminars each year. At least two other seminars will normally be offered, the choice depending on the research interests of the majority of the students.

HIST 805-5 Western Canada
HIST 806-5 Themes in Canadian History
HIST 810-5 Themes in European History: Part I
HIST 812-5 Comparative History
HIST 814-5 Research Seminar
HIST 819-5 Medieval Europe
HIST 820-5 Tudor and Stuart England
HIST 821-5 Early Modern Europe
HIST 822-5 Modern Great Britain
HIST 823-5 Modern Russia
HIST 824-5 Modern France
HIST 825-5 Modern Germany
HIST 826-5 International Relations
HIST 828-5 European Cultural and Intellectual History
HIST 843-5 United States to 1890
HIST 844-5 United States since 1890
HIST 845-5 Latin America to 1825
HIST 846-5 Latin America since 1825
HIST 851-5 State and Society in 19th Century Middle East
HIST 852-5 State and Society in the Modern Middle East
HIST 854-5 Imperialism in the Middle East
HIST 864-5 Tropical Africa
HIST 870-5 Culture and Society in China
HIST 871-5 Culture and Society in India
HIST 881-5 Great Britain as a Great Power Since 1763
HIST 884-5 Health and Society
HIST 885-5 Law and Society
HIST 886-5 Migration and Settlement
HIST 887-5 Comparative Labour History
HIST 888-5 Native-European Contact
HIST 890-5 Gender and History
HIST 891-5 The French Experience in North America
HIST 892-5 Religion and Society
HIST 893-5 State and Society
HIST 894-5 War and Society
HIST 895-5 Rural History
HIST 896-5 Culture and Identity
HIST 897-5 Supervised Readings
HIST 898-0 MA Thesis
HIST 899-0 PhD Thesis
HIST 900-0 Research Project

**Latin American Studies Program**

5053 Academic Quadrangle, (604) 291-3518 Tel, (604) 291-5799 Fax, www.sfu.ca/las
Graduate Program Director
G. Otero BA (Monterrey), MA (Tex), PhD (Wis)

**Faculty and Areas of Research**

M. Escudero – Spanish literature, 17th century
colonial literature, Latin American modern theatre
G. Otero – economic and political sociology, Mexico, North America
G. Spurling – ethnohistory, Andean region, Canada

**Associated Faculty**

R.E. Boyer, History
J.A.C. Brohman, Geography
A. Cirić
R. Clapp, Geography
M. Gates, Sociology and Anthropology
J. Garcia*  
P. Landolt, Sociology
R. Newton*  
*emeritus

This program offers an interdisciplinary course of study and research leading to a master of arts degree in Latin American studies. It draws from approaches associated with both the social sciences and the humanities, exploring the interrelationships between cultural, socioeconomic, and political dimensions in the Latin American development process. It places a particular emphasis on contemporary Latin America as well as current trends toward globalization while recognizing the importance of understanding colonialism and the origins of the nation-state.

Although most students will focus on the 20th century, the program welcomes students whose research interests encompass earlier historical periods.

**Areas of Study**

Latin American Economy and Society

Topics will be drawn from the following themes:

- national and world economic structures, processes, and policies; development theories and strategies;
- agrarian structures and environmental sustainability; labor markets, the informal economy and poverty;
- macroeconomics; the fiscal crisis and trans-national finance; neo-liberalism, free trade areas, and trans-national investment.

Latin American History and Culture

The historical genesis and transformation of Latin American cultures; ethnicity, race, class, and identity;
- gender and sexuality; Latin American literature and visual arts; and popular culture.

Latin American Politics and the State

Political regimes, state structures and processes;
- policy formation and political conflict; political parties, social movements and ideologies; democracy and human rights; global versus local influences in national political processes.

**Admission Requirements**

Admissions will be conducted on a biennial basis. Applicants must satisfy the Latin American studies graduate program committee that they are well prepared academically to undertake graduate level work in Latin American studies. See “Graduate General Regulations” on page 283 for additional University requirements. As well as these, the program requires:

- a sample of the candidate’s scholarly work, preferably with a Latin American focus (i.e. an undergraduate paper previously submitted as part of a course requirement)
- a short statement of purpose detailing interests and goals in Latin American studies
- proof of reading and speaking competence in Spanish or Portuguese equivalent to the successful completion of three college level courses (i.e., SPAN 102, 103, 201). At the discretion of the Latin American studies graduate program committee, proof of competence in another language of Latin America and the Caribbean may be accepted in exceptional circumstances.

- If applicable, a resume of previous relevant course work and/or employment will be considered. Background may include specialized training, exposure to interdisciplinary studies of Latin America, and/or first hand field experience.

Acceptance into the MA program is conditional on the availability of a senior supervisor who may be selected only from Latin American studies and/or associated faculty.

**MA Requirements**

The student must complete the following minimum requirements.

- The following four courses; LAS 800 (offered biennially); SA 857 (or equivalent with approval of the supervisory committee) and two courses, one of which must be an LAS course (LAS 815, 825 or 835). The other can be an LAS directed readings course (only one directed readings course allowed) or one graduate course in another department or university that is designated by the program with full Latin American content, or more broad graduate courses in related disciplines that focus on Latin America. Credit for the latter is subject to supervisory committee approval. Students with deficiencies may be asked to complete more courses.

- Prior to commencing thesis work, students defend a written thesis prospectus in an oral examination. The prospectus will normally be defended at the end of the third semester in the graduate program.

- Students complete a thesis giving evidence of independent research and critical abilities. It will be judged by the candidate’s examining committee at an oral defence. The thesis may be written in English or Spanish.
Other Graduate Latin American Content Courses
The following may be acceptable in the MA program. Permission may be required from the departments in which these courses are offered and some courses may require prerequisites.
GEOG 770-4 Geography, Development Theory and Latin America
HIST 845-5 Latin America to 1825
HIST 846-5 Latin America since 1825
In addition, more broadly listed courses may be acceptable if focused on Latin America. However, credit is subject to their designation as full content Latin American courses by the Latin American studies graduate program committee. Some are:
CMNS 845-5 Communication Knowledge Systems and Development
ECON 855-4 Theories of Economic Development
GEOG 740-4 Geography and the Third World
POL 839-5 Government and Politics of Developing Countries
SA 850-5 Advanced Sociological Theory
SA 870-5 Advanced Anthropological Theory

Special Arrangements
Students seeking admission to a Latin American studies doctoral program may apply under the Special Arrangements provisions of the Graduate General Regulations section 1.3.4.

Graduate Courses
LAS 800-5 Approaches to Latin American Studies
An interdisciplinary seminar taught by selected Latin American studies faculty examining core theoretical and substantive themes in Latin America.
LAS 815-5 Latin American Economy and Society
(0-5-0)
LAS 825-5 Latin American History and Culture
(0-5-0)
LAS 835-5 Latin American Politics and the State
(0-5-0)
LAS 851-5 Directed Readings in Latin American Studies
Directed readings in a selected field of study under the direction of a single faculty member. An annotated bibliography and a term paper is required.
LAS 898-0 MA Thesis

Liberal Studies Program
2100 Harbour Centre, (604) 291-5152/5104 Tel, (604) 291-5159 Fax, www.sfu.ca/gls, glsp@sfu.ca
Director
M. Fellman AB (Mich), PhD (Northwestern)
Graduate Program Chair
R.L. Koepke BA (Iowa), MA, PhD (Stan)
Steering Committee
E. Alderson, Contemporary Arts
J.L. Berggren, Mathematics and Statistics
S. Duguid, Humanities
H. Gay, History
R.L. Koepke, History
G. Merler, French
A.C. Paranjpe, Psychology
M. Selman, Continuing Studies, Humanities
S. Wendell, Women’s Studies

This program, which leads to the degree of master of arts, liberal studies, is designed for adults returning to study on a part time basis. The program, which is affiliated with the Department of Humanities, is offered at the University’s Harbour Centre campus during evening and weekend hours.
In the best tradition of liberal education, the program addresses some of the great works of our intellectual and artistic heritage, studies the perennial concerns that have shaped our culture, and explores contemporary perspectives on traditional ideas and values. Small, interdisciplinary seminars provide the opportunity for wide reading, careful reflection, and intense discussion. They are taught by Simon Fraser University faculty chosen for their expertise and teaching excellence, and for their interest in interdisciplinary studies.

Admission
Applicants must satisfy the liberal studies graduate program committee of academic suitability for the program. In addition to fulfilling the normal graduate admission requirements, prospective students must demonstrate readiness through reference letters, samples of written work, and normally an interview. Exceptionally, the graduate program committee may recommend for admission applicants who do not meet normal requirements but who, by reason of prior experience, strong interest and demonstrated competence, are particularly suited.

Degree Requirements
Students complete six seminar courses and submit:
• two extended essays for oral examination or
• one project for oral examination or
• complete two additional courses and write a field examination based on material covered in three completed courses.
Two of the six required courses are core courses, which normally must be completed in the first two semesters of attendance (LS 800 and 801). The remaining four may be selected from among those offered within the program.
Students may enrol for one or two courses per semester. Exceptionally, and by agreement of the graduate program committee and the department involved, a student may take one graduate course in another department toward this degree.
The extended essays are developed from course work papers. The project, which may make significant use of non-written media, will also be developed from course work and will be examined as for the examination of a master’s thesis under 1.10.1 of the Graduate General Regulations. One of the two additional courses (see above) must be LS 898 and the other may be any LS course other than LS 998 or 999. Field examination preparation is on the supervisory committee's advice.
The program, for students seeking educational breadth at the graduate level, emphasizes a community of inquiry and discussion over independent research. For this reason, it entails several special expectations within the general regulations for graduate study.
Newly admitted students must attend an introductory short course prior to the beginning of the first core course in the fall semester.
Supervisory committees will be arranged by the chair of the graduate program committee. By approval of the dean of graduate studies, the supervisory and examination process for the extended essays or project requirement may be modified to emphasize collegial exchange.
Students should expect to participate in out-of-class activities, such as pre-class dinners, that encourage interchange among the participants, and to enhance a sense of intellectual community.
Because the program is designed for individuals having other obligations, and who may for that reason require greater or lesser amounts of time to complete the program, the program has been approved for part-time study. See "1.4.5 Part Time Study" on page 285.

Liberal Studies Courses
LS 800-5 Thinking about Human Passion
The first of two core courses that constitute an extended examination of the tension between reason and passion in human experience. This course will emphasize close reading and discussion of works, drawn from different cultures and epochs, that reflect on human passion.
LS 801-5 The Capacity and Limits of Reason
The second of two core courses that constitute an extended examination of the tension between reason and passion in human experience. This course will examine writings by some who have insisted on the indispensability of reasoning as a guide to action and the source of truth, as well as writings by some of those who on various grounds have cast doubt on this faith in human reason.
LS 810-5 Self and Society
This course will examine some aspects of the relationship between selfhood, as idea and experience, and social organization. Approaches to the topic will vary, but may involve scientific, social scientific, philosophical and aesthetic perspectives.
LS 811-5 Tradition and Modernity
This course will examine ways in which ideas of tradition and traditional societies conflicted with forces of modernization and ideas of modernity.
LS 812-5 Science and Human Values
This course will deal with issues surrounding the nature of the scientific attitude, the growth of scientific knowledge and the impact of scientific and technological change. Specific attention will be given to the value implications of science and technology in relation to other forms of human understanding and experience.
LS 813-5 Religious and Secular World Views
This course will deal with the conflicts and continuities of secular and religious approaches to such fundamental issues as the origins of the universe and of the human species, human virtue, and human destiny.
LS 814-5 Liberty and Authority
This course will examine the tension between liberty and authority as expressed in some of the following: political and judicial ideas and systems; conflicting economic ideologies; personal relationships.
LS 815-5 Organizing Social Realities: Gender, Class, Race, Nation
This course will examine how distinctions among people create pattern and conflict, by studying some of the fundamental organizing concepts of society which both unite and divide people.
LS 819-5 Selected Topics
This course provides an opportunity for the occasional offering of a seminar course appropriate to the program but on a topic outside the regular courses.

LS 829-5 Directed Study
This course provides an opportunity for individual study on a topic of the student's choice, under the guidance of one or more faculty. Arrangements for this course must be approved by the graduate program committee in advance of registration.

LS 898-5 Graduating Seminar
The final seminar for those students in the graduate liberal studies program pursuing the course option MA. The seminar will revisit the themes raised in the two opening core seminars (LS 800 and 801).

LS 998-0 MA Extended Essays
Students will present two of their essays for formal examination in order to satisfy the Simon Fraser University requirements for a master's degree.

LS 999-0 MA Project
This course is for students choosing to satisfy part of the requirements for an MA in liberal studies by presenting a project for formal examination.

Department of Linguistics

Graduate Program Chair
Z. McRobbie PhD (Budapest), PhD (Manit)

Faculty and Areas of Research
See "Department of Linguistics" on page 149 for a complete faculty list.

R.C. DeArmond – Slavic linguistics, syntactic theory
D.B. Gerds – syntax
N. Hedberg – syntax, semantics, pragmatics, cognitive science
T. Helt – computer assisted language learning and computational linguistics
P. McFetridge – computational linguistics
Z. McRobbie – experimental phonetics, phonology, Finno-Ugric linguistics, sociolinguistics
J.D. Mellow – second language acquisition and teaching
M. Munro – applied linguistics, experimental phonetics, second language acquisition
T.A. Perry – phonology, German linguistics, linguistic theory
E.W. Roberts – linguistics, theory
R. Saunders – Amerindian linguistics
J.M. Sosa – Hispanic linguistics, dialectology, language methodology, Caribbean area sociolinguistics

Associate Members
M. Boelsher-Ignace, First Nations Studies/Sociology and Anthropology
F. Popovich, Computing Science
W. Turnbull, Psychology
J.W. Walls, Communication

Degrees Offered
The program offers graduate work leading to the degrees of MA and PhD in linguistics.

Applicants are considered by how their proposed programs of study coincide with the research and teaching interests of the department's faculty. Where a student's interests span more than one field of study, a program of course work and supervised research in more than one field may be arranged. Individual programs may also be set up in cooperation with other departments under the special arrangements provisions of the Graduate General Regulations (section 1.3.4.)

Time Required for the Program
Although University regulation allows a five year time limit for completion of the MA degree and eight years for the PhD, (including the work of the MA degree), an MA student is normally expected to complete the degree in two years; a PhD student in three years after the MA. See "Graduate General Regulations" on page 283 for further information.

MA Program
Admission
Students must demonstrate adequate preparation in linguistics. It is not possible for students having little or no academic preparation in linguistics to gain clear admission to the program or admission as a qualifying student. See "1.3.5 Admission Under Special Arrangements" on page 284. See "1.3 Admission" on page 283 for general admission requirements.

Areas of Specialization

Credit and Research Requirements
Course Work
Students must complete at least 20 credit hours in linguistics, including LING 800 and 801.

Thesis
All students must complete an MA thesis based on original research, and must comply with University regulations on completing and defending the thesis.

Language Requirements
Candidates must show a high competence in at least one language other than English.

PhD Program
Admission
Students will have to demonstrate a substantial background in linguistics. It is normally not possible to gain direct admission to the PhD program without an MA in linguistics, or the equivalent.

For general admission requirements, refer to the Graduate General Regulations section (1.).

Areas of Specialization

Credit and Research Requirements
These requirements are beyond those of the MA requirements. Students may need to take specified courses from the MA program requirements as a condition of admission to the PhD program.

Course Work
Students complete at least 16 linguistics credit hours, approved by the supervisory committee.

Thesis Proposal
Each candidate develops a research proposal for a thesis based on original research. The proposal defines intended research and the relationship between it and existing scholarship. The proposal will be presented to the supervisory committee for approval and presented as a colloquium.

PhD Thesis
Students must complete the thesis in accordance with regulations.

Language Requirements
Candidates must show a high degree of competence in two languages besides English. They should have some knowledge of the structure of at least one non-Indo-European language. The student's supervisory committee determines how the student demonstrates this competence.

Graduate Courses
LING 800-4 Phonology
LING 801-4 Syntax
LING 802-4 Semantics
LING 803-4 Theory
LING 804-4 Field Methods
LING 805-4 Historical and Comparative Linguistics
LING 806-4 Sociolinguistics
LING 807-4 Computational Linguistics
LING 809-4 Morphology
LING 810-4 Topics in Linguistics I
LING 811-4 Topics in Linguistics II
LING 812-4 Topics in Linguistics III
LING 813-4 Topics in Linguistics IV
LING 820-4 Formal Linguistics
LING 821-4 Phonetics
LING 850-4 Psycholinguistic Aspects of Language Learning
LING 851-4 Research Techniques and Experimental Design
LING 855-4 Applied Linguistics
LING 896-4 Directed Research
LING 897-4 Research Seminar
LING 898-0 MA Thesis
LING 899-0 PhD Thesis

Department of Philosophy
4604 Diamond Building, (604) 291-3343 Tel, (604) 291-4443 Fax, www.sfu.ca/philosophy

Chair
(to be announced)

Graduate Program Chair
R.E. Jennings BA, MA (Qu), PhD (Lond)

Faculty and Areas of Research
See "Department of Philosophy" on page 153 for a complete list of faculty.

K. Akins – philosophy of mind, philosophy of perception, philosophy of the cognitive sciences
S. Black – social and political philosophy, ethics, history of 17th century philosophy
S. Davis – philosophy of language, philosophy of mind
M. Hahn – philosophy of mind, philosophy of language, history of early analytic and continental philosophy
P.P. Hanson – epistemology, philosophy of language, philosophy of science, philosophy of mathematics, philosophy of mind
P.T. Horban – philosophy of religion
R.E. Jennings – modal logic, conditional logic, philosophy of language
J.H. Tietz – metaphysics, history of modern philosophy, history of 19th century German philosophy
D. Zimmerman – ethics, social and political philosophy, philosophy of mind, medical ethics

The philosophy departments of Simon Fraser University and the University of British Columbia cooperate in the administration of their graduate
programs. A student enrolled in a graduate program at Simon Fraser is supervised by a member of the SFU department, but may count graduate courses at UBC toward degree requirements and have members of the UBC department as other members of a supervisory committee. Since Simon Fraser University operates on a trimester system, and the University of B.C. on a sessional system, the language adopted for descriptions of course requirements is intended to be neutral as between the two systems. Thus, in what follows, 'course' means 'semester course' or 'one term course.'

**Application Procedures**
The philosophy departments of Simon Fraser University and the University of British Columbia cooperate in the administration of graduate applications. Prospective applicants are sent application forms for both universities and may submit to one or both departments. Those who apply to both may indicate a preference to enroll at one of them. Those who wish to be considered by both departments must submit applications and supporting documents to each department.

**Application Fee**
An application fee of $55 is charged.

**MA Program**

**Admission**
See “1.3 Admission” on page 283 for additional minimum university admission requirements. In addition, an applicant must hold, from a recognized university, an honors bachelor’s degree with a 3.33 cumulative GPA or a bachelor’s degree with a 3.5 GPA in third and fourth year philosophy courses, and must submit references from qualified referees.

A student whose undergraduate work does not satisfy the above conditions may complete additional undergraduate courses as a part of a graduate program, or to register as a qualifying student before consideration for admission to the MA program.

**Degree Requirements**
A candidate for the MA degree in philosophy must
- complete six courses, one of which may, with permission of the graduate studies committee, be a 300 or 400 level undergraduate course, and the rest graduate courses
- show competence in such foreign languages as the graduate studies committee determines to be required for the proposed research
- have or acquire competence in formal logic at the level of PHIL 214, or higher when relevant to his or her research

plus either
- submit and successfully defend a thesis, normally no more than 100 pages in length, giving evidence of independent critical ability
- or
- complete two additional courses, one of which is an individual directed studies course with the senior supervisor in which the student reviews and revises a paper from a previously completed graduate course to a standard suitable in form and content for submission to a professional journal. The resulting paper normally shall not exceed 30 pages.

The student must also
- normally attain a cumulative GPA of 3.5
- pass a final examination in which the individual studies course paper is evaluated and approved by the supervisory committee as conforming to the standard set out above. The student will present the paper in a public forum directed by the supervisory committee and at least one other faculty member in the field. After the public presentation and discussion, the expanded committee will evaluate of the paper and the student's performance at the examination.

The department reserves the right to require any student to take undergraduate courses in addition to the required graduate courses.

**PhD Program**

**Admission**
PhD applications must have completed
- a bachelor’s degree with first class honors (and a CGPA of 3.67 or equivalent in philosophy courses), or
- a master’s degree (or equivalent), or
- a bachelor’s degree with one year of study in a master's program, four graduate courses with a 3.67 CGPA and clear evidence of research ability.

(Transfer directly into a doctoral program is not normally permitted beyond the first year of study and will not be permitted after the completion of the second year in a master's program.)

**Courses**

**Student Requirements**

- a bachelor’s degree with first class honors (and a CGPA of 3.5 or equivalent in philosophy courses), or
- a master’s degree (or equivalent), or
- a bachelor’s degree with one year of study in a master's program, four graduate courses with a 3.67 CGPA and clear evidence of research ability.

- have or acquire competence in formal logic at the level of PHIL 214, or higher when relevant to their research.

**Language Requirements**
Students are required to demonstrate such competence in foreign languages as the graduate studies committee deems essential to the successful completion of their proposed research.

**Formal Logic Requirement**
In addition to other course requirements, students are required to either have or acquire competence in formal logic at the level of PHIL 214, or higher when considered relevant to their research.

**Thesis Proposal and Seminar**
Before the end of the first semester of the third year, a PhD candidate must submit a thesis proposal for approval of an examining committee consisting of the student’s supervisory committee and one further member of the combined graduate department. The proposal show an acquaintance with the literature in the area of the proposed research and must represent a well defined program of investigation.

Before the end of the second semester of the third year, the candidate must make a presentation to a colloquium of faculty and graduate students of the combined department on the subject of the proposed research.

**Thesis**
PhD program students write and defend a thesis embodying original philosophical research.

**Graduate Courses**

Courses in the 700 range are offered at the University of British Columbia. The UBC number is given in parentheses. Simon Fraser University students register in the course at SFU under the 700 number and enrol in the course at UBC under the UBC number. Registration must be approved by the department’s graduate studies committee.

**PHIL 710-3 [510 (3-12)dp] Ancient Philosophy**
**PHIL 712-3 [512 (3-12)dp] Medieval Philosophy**
**PHIL 714-3 [514 (3-12)dp] Early Modern Philosophy**
**PHIL 716-3 [516 (3-12)dp] Modern Philosophy**
**PHIL 718-3 [518 (3-12)dp] 20th Century Philosophy**
**PHIL 720-3 [520 (3-12)dp] Logic**
**PHIL 725-3 [525 (3-12)dp] Philosophy of Language**
**PHIL 727-3 [527 (3-12)dp] Philosophy of Mathematics**
**PHIL 728-3 [528 (3-12)dp] Foundations of Mathematics**
**PHIL 730-3 [530 (3-12)dp] Moral Philosophy**
**PHIL 731-3 [531 (3-12)dp] Political Philosophy**
**PHIL 732-3 [532 (3-12)dp] Ethical Theory and Practice**
**PHIL 733-3 [533 (3-12)dp] Issues in Biomedical Ethics**
**PHIL 734-3 [534 (3-12)dp] Issues in Business and Professional Ethics**
**PHIL 735-3 [535 (3-12)dp] Issues in Environmental Ethics**
**PHIL 736-3 [536 (3-12)dp] Ethical Issues in Social and Professional Ethics**
**PHIL 739-3 [539 (3-12)dp] Aesthetics**
**PHIL 740-3 [549 (3-12)dp] Epistemology**
**PHIL 750-3 [550 (3-12)dp] Metaphysics**
**PHIL 751-3 [551 (3-12)dp] Philosophy of Mind**
**PHIL 760-3 [560 (3-12)dp] Philosophy of Science**
**PHIL 781-3 [581-589 (3-12)dp] Problems**
**PHIL 782-3 [581-589 (3-12)dp] Problems**
**PHIL 783-3 [581-589 (3-12)dp] Problems**
**PHIL 784-3 [581-589 (3-12)dp] Problems**
**PHIL 785-3 [581-589 (3-12)dp] Problems**
**PHIL 786-3 [581-589 (3-12)dp] Problems**
**PHIL 787-3 [581-589 (3-12)dp] Problems**
**PHIL 788-3 [581-589 (3-12)dp] Problems**
**PHIL 789-3 [581-589 (3-12)dp] Problems**
**PHIL 800-5 Graduate Seminar in Epistemology I**
**PHIL 801-5 Graduate Seminar in Epistemology II**
**PHIL 805-5 Directed Studies I**
**PHIL 810-5 Graduate Seminar in Ethics I**
**PHIL 811-5 Graduate Seminar in Ethics II**
**PHIL 815-5 Directed Studies II**
**PHIL 820-5 Graduate Seminar in Philosophy of Mind I**
**PHIL 821-5 Graduate Seminar in Philosophy of Mind II**
**PHIL 825-5 Directed Studies III**
**PHIL 830-5 Graduate Seminar in Aesthetics**
**PHIL 840-5 Graduate Seminar in Logic**
**PHIL 845-5 Directed Studies IV**
**PHIL 850-5 Graduate Seminar in Philosophy of Language**
**PHIL 855-5 Directed Studies V**
**PHIL 860-5 Graduate Seminar in Philosophy of Science**
Department of Political Science

6067 Academic Quadrangle, (604) 291-5487 Tel, (604) 291-4786 Fax, www.sfu.ca/politics
Chair
S. McBride BSc(Econ) (Lond), MA, PhD (McM)
 Graduate Program Chair
D. Ross BA, MA, PhD (Tor)
Faculty and Areas of Research
See “Department of Political Science” on page 154 for a complete list of faculty.
J. Busumtwi-Sam – international organization and law, conflict management, political economy
L.J. Cohen – comparative government and politics – Soviet Union and Eastern Europe
M.G. Cohen – public policy, women’s studies, economics
T.H. Cohn – international relations, Canadian foreign policy
M.A. Covell – comparative ethnic conflicts, African politics, comparative federalism
L. Dobuzinskis – public policy/administration, political philosophy and political economy (rational choice)
L.J. Erickson – Canadian politics, political behavior, women and politics, parties
A. Heard – Canadian judicial and constitutional issues, comparative human rights
M. Howlett – public administration and policy, Canadian government and politics
T. Kawasaki – Japanese politics and foreign policy, international relations, theory and international relations in the Asia-Pacific region
D. Laycock – political philosophy and public administration/policy, Canadian government
S. McBride – political economy, Canadian politics, globalization
P. Meyer – East Asian international relations, Society and Russian foreign policy, comparative foreign policy
A. Moens – international relations, comparative politics, US politics
D.A. Ross – Canadian foreign policy and defence policies, international conflict
P.J. Smith – public policy/administration, Canadian and comparative local government, Canadian government and politics, federalism
P.V. Warwick – research methods, comparative government – Western Europe
Areas of Study
political theory
Canadian government and politics
comparative government and politics
international relations
public administration and public policy

Admission
For general admission requirements refer to the Graduate General Regulations section.
In addition, the department requires students to submit written statements of their current interests and proposed areas of research.
Applications for graduate work will be considered, by and large, with reference to the manner in which the proposed area of the candidate’s research coincides with the teaching and research interests of the faculty.
See the list of faculty for general research interests.
Should additional course work be deemed necessary, the graduate studies committee will indicate the same as a prerequisite.

Degree Requirements
MA Program
The program may be completed through an essay or project option, a thesis option, or a field exam option.
Students are admitted to the essay or project option and require approval of the graduate program chair to transfer to another stream. Except in extenuating circumstances, students may only transfer once during the MA program.
Upon enrolment, students are assigned a two member supervisory committee which has the responsibility for determining, in consultation with the student, the projected program of study and for ensuring that the student fulfills all degree requirements. The supervisory committee must approve all courses and program choices.
The essay or project option requires the completion of either extended essays in two fields of study offered by the department or one research project. Students in the essay or project option must complete five courses: POL 801 plus four additional courses from at least two of the department’s five fields of study. A research project is to be a maximum of 12,500 words in length (plus bibliography) and to have substantial original content. Each extended essay is expected to elaborate upon research undertaken in course work and is not to exceed 12,500 words in length (plus bibliography). Extended essays and research projects must be defended in an oral defence.

To be admitted to the thesis stream, students must submit, first to the thesis supervisory committee and then to the appropriate department field committee, a thesis proposal outlining a brief topic summary, its relevance, the methodology to be followed in the investigation, and a chapter-by-chapter outline, a timetable for thesis completion and a select bibliography. The thesis proposal must be approved by the thesis supervisory committee and by the appropriate field committee.

Students in the thesis stream complete four courses: POL 801 plus three additional courses from at least two of the five fields of study offered by the department. Students also must write a thesis, normally 19,750 to 25,000 words in length (plus bibliography) and defend it in an oral defence.

To be admitted to the field exam stream, students must submit, first to the supervisory committee and then to the appropriate department field committee, a field exam proposal outlining major and minor fields of study, a draft reading list in each field, and a timetable for field exam completion. The field exam proposal must be approved by the student’s supervisory committee and by the appropriate department field committee. To fulfil the requirements, students complete six courses: POL 801 plus five additional courses from at least two of the five department fields of study. Students also must pass two written field examinations: one in their major and one in their minor field of study. The supervisory committee will serve as the nucleus of the field examination committee. With the student’s consultation, the supervisory committee will be expanded to include additional examiners if necessary. Any student who fails one of the field examinations, and one only, may retake the failed field examination.

PhD Program
The department offers specialized research resources in Canadian politics and public policy, comparative politics, and international relations with a focus on issues of political economy, public policy and governance. However, the department may offer advanced study in other political science fields, subject to the availability of faculty research expertise.

Admission
In addition to the minimum admission requirements (Graduate General Regulations 1.3.3), the department requires a completed political science MA normally with a minimum 3.67 GPA in graduate courses taken towards the MA degree. A written statement of current research interests indicating two areas of proposed specialization, three letters of reference from qualified referees, and a sample of the candidate’s written work are also required. How well the applicant’s proposed research coincides with the department’s focus on political economy, public policy and governance is an important admission consideration. Background deficiencies must be met by taking appropriate courses in addition to normal PhD work.
Admission applications are reviewed once each year by the department graduate studies committee. The program begins in September.

Supervisory Committee
In accordance with Graduate General Regulation 1.6, upon program admission, the departmental graduate studies committee assigns a senior supervisor and two second supervisors to each student. This committee is responsible for monitoring, aiding and evaluating the student’s progress. Each supervisory committee will be structured to reflect the department’s focus on issues of political economy, public policy and governance and to ensure that these constitute an integral part of each program.

Program Requirements
The PhD program consists of 30 credit hours of graduate work beyond the requirements of the MA plus a second language requirement, two comprehensive exams and a thesis.

Course Work
Students must successfully complete 30 credit hours of graduate level course work, of which at least 20 credit hours will be from courses offered by the department.
All courses must be approved by the student’s supervisory committee and reflect the areas of specialization within the fields of political economy, public policy and governance as identified in the student’s letter of intent. Students must complete POL 801 or equivalent. All courses must be completed prior to completion of any other component of the program.

Language Requirement
Students must demonstrate a reading ability in one language other than English that is acceptable to the supervisory committee. Students studying subjects related to Canadian politics must demonstrate an ability to read French which is determined by successful completion of a time limited examination consisting of a dictionary aided translation of a passage from the political science literature written in the language selected.

Comprehensive Examinations
Upon course work completion and prior to thesis research, students must successfully complete a comprehensive examination in two selected fields. By the end of the second semester, the student’s senior supervisor notifies the departmental graduate studies committee of the two political science fields of study which will serve as comprehensive examinations subjects. Each exam consists of a three hour written exam and a one hour oral exam, held one week after the written exam. Each is established, conducted and
evaluated by a comprehensive examination committee selected by the department graduate studies committee. Each comprehensive examination committee is composed of two members of the student’s supervisory committee and one additional faculty member who is not on that supervisory committee. The comprehensive examination committee is chaired by the department graduate studies chair.

Students receive a grade of satisfactory or unsatisfactory from the comprehensive examination committee following completion of the written and oral component of each field. Students who receive a failing grade are permitted one retake of that exam following a one-semester lapse.

**Thesis**

Candidates successfully completing both comprehensive examinations are required to complete POL 890. The PhD seminar assists students with formal thesis preparation and to relate it to issues of political economy, public policy and governance. POL 890 culminates with the student’s presentation as a seminar to the department outlining his/her research interests. This is done prior to submission of a formal thesis proposal to the graduate studies committee.

Following the departmental seminar and after consultations with the student’s supervisory committee, the student prepares a thesis proposal for graduate studies committee approval. The proposal will state the thesis title, topic, general intent, methodology and selected bibliography and will be accompanied by a detailed research plan and timetable for the completion of each thesis chapter. The thesis proposal should not exceed 25 pages in length, excluding bibliographic references.

The thesis should not be more than 300 pages and must represent an original contribution to the development of the discipline. The completed thesis must be successfully defended at an oral defense established in accordance with the *Graduate General Regulations* 1.9 and 1.10.

**Performance Evaluation**

In accordance with *Graduate General Regulation* 1.8 the progress of each student is reviewed periodically by the graduate studies committee. At least once each year, the student’s supervisory committee submits a written report on the student’s progress to the graduate studies committee to aid its deliberations. Students judged to have maintained unsatisfactory progress may be asked to withdraw from the program.

**Time Limits**

Although *Graduate General Regulation* 1.12 establishes an eight-year time limit for PhD completion, the department expects that the PhD program will be completed within three to five years.

**Graduate Courses**

POL 801-5 The Scope and Methods of Political Science

Students with credit for POL 813 may not take this course for further credit.

POL 812-5 Political Theory

POL 814-5 Normative Political Theory

POL 821-5 Canadian Government and Politics

POL 825-5 Canadian Political Economy

POL 826-5 Parties and Ideologies in Canada

POL 827-5 Issues in Canadian Government and Politics

POL 829-5 Internship

POL 830-5 Comparative Government and Politics

POL 832-5 Government and Politics of Communist and Post-Communist Countries

POL 837-5 Issues in Comparative Politics

Issues to be examined may be drawn from one of the major subfields in Comparative Politics. The course will be principally concerned with aspects of the relationship between national politics and a global economic and information environment and will address issues of governance, public policy or political economy. The specific focus of the material covered by this course will vary from semester to semester, depending upon the expertise of the instructor available.

C.B. Crawford – evolutionary psychology of anorexic behavior and sex biased parental investment in humans and animals

R.J. Freeman – neuropsychology, experimental psychology, psychosomatics

J. Gilley – infant development, speech perception, mother-infant interactions, infants and children with disabilities and their families

S.D. Hart – psychology and law, psychopathy, mentally disordered offenders, violence predictions, wife assault, psychological assessment; models of personality and psychology disorder

G. Iarocci – developmental psychopathology, autism, development of visual attention and perception, risk and protective factors and cultural identity in the development of first nations children

M. Kimball – women and achievement, women and aging, women’s friendships, theories of gender

R.F. Koopman – measurement, multivariate methodology, numerical methods

W.R. Krane – multivariate statistics, psychological scaling, measurement theory, experimental design

D.L. Krebs – moral developmental, altruism, self-serving cognitive biases

R.G. Ley – forensic psychology (criminal) PTSD adolescent psychopathology and delinquency, psychodynamic psychotherapy

M.D. Maraun – personality measurement, statistics, philosophical underpinnings of empirical investigation

J.E. Marcia – psychosocial developmental theory, ego identity, psychotherapy

J.J. McDonald – cognitive neuroscience, human electrophysiology, event-related potentials, attention and cross-modal processing

C.G. McFarland – social cognition, social memory, mood and social judgment, social comparison processes

R. Mistibeger – biological rhythms, sleep, feeding, physiological psychology

V. Modigliani – memory and cognition, evolution and development of language, learning, experimental

M.M. Moretti – self, depression, developmental psychopathology

J.P. Ogloff – psychology and law, including ethics, jury decision-making, forensic psychology, the insanity defense, jail mental health, and the impact of law on people

A.C. Paranjpe – theoretical psychology, theories of person, self and identity, indigenous contributions to psychology from Eastern intellectual traditions, theories of prejudice and intergroup relations

G.D. Poole – psychological consequences of medical procedures and hospital stays, nonverbal behavior, social cognition, introductory psychology, social psychology, health psychology

R.M. Rao – psychology and law, including forensic assessment, jail mental health, and competency to stand trial

J.N. Strayer – emotional and social-cognitive development, child psychopathology, empathy, developmental issues in childhood and adulthood

A.E. Thornton – adult clinical neuropsychology, neurocognitive models of memory and executive functions, encoding and retrieval processes in cognitively impaired patients

W. Turnbull – social psychological pragmatics, conversation analysis, social cognition

N.V. Watson – neural control of reproductive behavior, sexual differentiation, serotonin psychopharmacology, human neuropsychology, neuroethology and animal behavior, psychobiology

B.W.A. Whittlesea – cognition, memory, perception, concept formation, attention

R.D. Wright – visual attention, visual perception and motion perception

**Associate Members**

R.R. Corrado, Criminology

B.M.F. Galdikas, Archaeology
The department offers graduate work leading to MA and PhD degrees in experimental psychology, clinical psychology, and law and forensic psychology. Within the experimental and clinical programs, specialization is available in cognitive and biological psychology, developmental psychology, law and forensic psychology, social and personality psychology, and theory and methods. The clinical program also offers specialization certificates in child clinical psychology and clinical forensic psychology. The law and forensic psychology program offers PhD or combined LLB and PhD degrees and is administered jointly with the University of British Columbia.

Application and Admission Requirements
Applicants, admitted only in the fall semester, must submit all supporting documentation in one complete package (completed application form, statement of purpose, one copy of official transcripts of all post secondary course work, three academic letters of reference, and the $55 application fee). Graduate Record Examinations (general and subject sections) and TOEFL scores can be submitted separately. Incomplete application packages will not be accepted. The department reserves the right to admit only those for whom research space and appropriate faculty supervisors are available. Applicants to the Simon Fraser University/University of British Columbia program in law and forensic psychology should refer to that description for application information.

Application as Special Student
Admission requirements for special students are outlined in the Graduate General Regulations. Special student applications must be submitted to the department's graduate program assistant. Students seeking admission as a special student must obtain written permission from the instructor of each course they wish to take, and submit it, along with transcripts of previous university work, no later than ONE month prior to the semester in which they plan to undertake the proposed course of study. Special students taking psychology graduate courses must obtain a minimum B- grade in each course taken in order to be admitted as a special student in subsequent semesters.

Satisfactory Performance
The progress of each student is assessed at least once a year. A course grade of less than B is considered unsatisfactory. Any student who obtains a grade of less than B in two or more courses may be required to withdraw from the program.

MA Thesis
Students are required to present a written thesis proposal to their supervisory committee before the end of their fourth semester in the program. After the thesis has been submitted, an oral defence will be scheduled. Students are expected to have completed their MA thesis by the end of their second year in the program. For further information and regulations, refer to the Graduate General Regulations.

PhD Dissertation
Before starting dissertation research, the candidate presents a formal evaluation proposal. The candidate must present a dissertation proposal before the end of the third program year, and is expected to complete the PhD dissertation within four years of program entrance. The completed dissertation will be defended in oral examination. Judgment will be made by an examining committee. For further information and regulations, refer to the Graduate General Regulations.

Supervisory Committees
For the MA thesis, students establish a supervisory committee before the end of their first program semester. The MA supervisory committee will consist of at least two Department of Psychology faculty, one of whom will be the senior supervisor and committee chair. Other faculty outside the department who are considered necessary by the student and senior supervisor may serve on the committee. The PhD supervisory committee should be established by the end of the first semester following PhD program admission. Students choose a Department of Psychology faculty member as the senior supervisor and chair of the PhD supervisory committee and two or more additional members. At least one of the additional members must be from the Department of Psychology. One committee member must act as advisor to measurement and design aspects of the dissertation research.

Program in Experimental Psychology
This program provides specialized training in: cognitive and biological psychology, developmental psychology, law and forensic psychology, social and personality psychology, and theory and methods.

Degree Requirements
Experimental program requirements are summarized in Table 1. Students admitted to the MA program must achieve satisfactory performance in PSYC 824, 910, 911, two breadth courses, and a minimum of two area courses, and to complete an MA thesis (PSYC 898). PhD program students must complete two offerings of PSYC 715, a minimum of two area courses, comprehensive examinations, and a doctoral dissertation. The required courses and comprehensive exams must be completed within two years of PhD program entrance. In addition, students must participate in area research seminars (PSYC 913, 914, 916, 917 or 918) during their MA and PhD programs and to complete the requirements of their area of specialization, as outlined in Table 2.

Table 1 Experimental Graduate Program

<table>
<thead>
<tr>
<th>Year One</th>
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<tbody>
<tr>
<td>fall</td>
<td>PSYC 910</td>
<td>area course 1</td>
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<tr>
<td>spring</td>
<td>PSYC 911</td>
<td>breadth course 1</td>
<td>area research seminar</td>
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<tr>
<td>summer</td>
<td>PSYC 824</td>
<td>MA proposal</td>
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<tr>
<th>Year Two</th>
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<tbody>
<tr>
<td>fall</td>
<td>area course 2</td>
<td>area research seminar</td>
<td></td>
</tr>
<tr>
<td>spring</td>
<td>breadth course 2</td>
<td>area research seminar</td>
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<tr>
<td>summer</td>
<td>MA Thesis</td>
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<tr>
<th>Year Three</th>
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<tbody>
<tr>
<td>fall</td>
<td>area course 3</td>
<td>area research seminar</td>
<td></td>
</tr>
<tr>
<td>spring</td>
<td>area course 4</td>
<td>area research seminar</td>
<td></td>
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<tr>
<td>summer</td>
<td>PhD proposal</td>
<td>PSYC 999</td>
<td></td>
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<th>Year Four</th>
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<tbody>
<tr>
<td>fall</td>
<td>PSYC 715</td>
<td>area research seminar</td>
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Table 2 Experimental Area Requirements

<table>
<thead>
<tr>
<th>Cognitive and Biological Area</th>
<th>area course 1*</th>
<th>area course 2*</th>
<th>area course 3*</th>
<th>area course 4*</th>
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</thead>
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Additional Requirements
PSYC 913-1.5 Research Seminar

*area courses are determined for each student individually and may include courses both from within and outside the department.

Developmental Area
PSYC 750-5 Proseminar in Developmental Psychology (area course 1)
PSYC 950-5 Seminar in Developmental Psychology (II) (area course 2)
PSYC 994-5 Seminar in Psychopathology (area course 3)
PSYC 950-5 Seminar in Developmental Psychology (III) (area course 4)

Additional Requirements
PSYC 990-3 Seminar in Law and Psychology (I) (area course 4)

Social and Personality Area
PSYC 790-5 Proseminar in Law and Psychology (area course 1)
PSYC 815-3 Mental Health Law and Policy (area course 2)
PSYC 810-3 Seminar in Social Psychology and Law (area course 3)
PSYC 990-3 Seminar in Law and Psychology (I) (area course 4)

Additional Requirements
PSYC 990-3 Seminar in Law and Psychology (II)
PSYC 897-3 Research Project in Law and Psychology/Forensic Psychology
PSYC 892-3 Research/Policy Practicum in Law and Psychology
PSYC 916-1.5 Research Seminar

Theory and Methods Area
PSYC 760-5 Proseminar in Social Psychology (I) (area course 1)
PSYC 760-5 Proseminar in Social Psychology (II) (area course 2)
PSYC 960-5 Seminar in Social Psychology (I) (area course 3)
PSYC 960-5 Seminar in Social Psychology (II) (area course 4)

Additional Requirements
PSYC 819-3 Ethics and Professional Issues
PSYC 917-1.5 Research Seminar

As well, students must complete an additional PSYC 950 in each year past year four.

*to be taken in year four

Table 3 Area Course Descriptions

<table>
<thead>
<tr>
<th>Area Course 1</th>
<th>Area Course 2</th>
<th>Area Course 3</th>
<th>Area Course 4</th>
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<tbody>
<tr>
<td>Title</td>
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Note:
breadth courses are content courses offered outside a given area.
Students must successfully defend their dissertation requirements. The requirements for obtaining programs and to complete their area of specialization (914, 916, 917 or 918) during their MA and PhD participate in area research seminars (PSYC 913, Psychology Centre. In addition, students must training) at least two out of three semesters or any courses. Students will not be permitted to register in PhD students must complete two PSYC 715 courses, (Practicum), 910, 911, 898 and two area courses. Students must complete satisfactorily the following: Degree Requirements specialization certificates in child clinical psychology and clinical forensic psychology. **Program in Clinical Psychology** This PhD program, accredited by the Canadian Psychological Association, is based on clinical training and provides specialized training in the same areas as the experimental program and offers specialization certificates in child clinical psychology and clinical forensic psychology. **Degree Requirements** Requirements are summarized in Table 3, MA students must complete satisfactorily the following: PSYC 744, 819, 820/821, 822/823, 824, 880 (Practicum), 910, 911, 898 and two area courses. PhD students must complete two PSYC 715 courses, two breadth courses, and a minimum of two area courses. Students will not be permitted to register in PhD course work beyond the fall semester of the third program year until the MA thesis is complete. Students must enroll in PSYC 825 (ongoing clinical training) at least two out of three semesters or any semester in which they are involved in the Clinical Psychology Centre. In addition, students must participate in area research seminars (PSYC 913, 914, 916, 917 or 918) during their MA and PhD programs and to complete their area of specialization requirements. The requirements for obtaining specialization certificates are given in Table 4. Students must successfully defend their dissertation proposals before applying for internship.

**Table 3 Clinical Psychology Program**

| Year One | fall | PSYC 744 |
| | | PSYC 820/821 |
| | | PSYC 825 |
| | | PSYC 910 |
| | spring | area research seminar |
| | | PSYC 820/821 |
| | | PSYC 824 |
| | | PSYC 825 |
| | | PSYC 911 |
| | summer | area research seminar |
| | | PSYC 880 |
| | | PSYC 825 |
| Year Two | fall | MA proposal |
| | | area course 1 |
| | | PSYC 819 |
| | | PSYC 822/823 |
| | | PSYC 825 |
| | spring | area research seminar |
| | | area course 2 |
| | | PSYC 822/823 |
| | | PSYC 825 |
| | summer | area research seminar |
| | | PSYC 825 |
| Year Three | fall | PSYC 898 MA Thesis |
| | | area course 3 PSYC 806, 807, 808, 809 |
| | | PSYC 715 |
| | | PSYC 825 |
| | spring | area research seminar |
| | | PSYC 715 |
| | | PSYC 825 |
| | summer | area research seminar |
| | | PSYC 825 |
| Year Four | fall | PSYC 999 – comprehensives |
| | | PhD proposal |

**Table 3 Clinical Psychology Program**

| Year Five | fall | PSYC 886 – Internship |
| | spring | PSYC 886 – Internship |
| | summer | PSYC 886 – Internship |

**Table 4 Clinical Specialization Certificate Requirements**

**Developmental Area: Child Clinical Stream**

| PSYC 750-5 Proseminar in Developmental Psychology (area course 1) |
| PSYC 830/831-3/2 Practicum in Child Evaluation and Treatment Formulation (area course 2) |
| PSYC 944-5 Seminar in Psychopathology (area course 3) |
| PSYC 807-5 Advanced Topics in Intervention (Child Therapy) (area course 4) |

**Additional Requirements**

| PSYC 807-5 Advanced Topics in Intervention (Systemic Therapy) |
| PSYC 914-1.5 Research Seminar |

**Law and Forensic Psychology Area: Clinical Forensic Stream**

| PSYC 790-3 Proseminar in Law and Psychology (area course 1) |
| PSYC 815-3 Mental Health Law and Policy (area course 2) |
| PSYC 835-3 Special Topics in Civil Forensic Psychology (area course 3) |
| PSYC 838-3 Special Topics in Criminal Forensic Psychology (area course 4) |

**Additional Requirements**

| PSYC 897-3 Research Project in Law and Psychology/Forensic Psychology |
| PSYC 890-3 Practicum in Clinical Forensic Psychology |
| PSYC 916-1.5 Research Seminar |

**SFU/UBC Program in Law and Forensic Psychology**

The Simon Fraser University/University of British Columbia (SFU/UBC) Program in Law and Forensic Psychology offers the option of completing either a PhD or a joint LLB/PhD degree. Students in both the PhD and LLB/PhD streams specialize in either experimental psychology and law, or in clinical forensic psychology. The program is offered co-operatively between Simon Fraser University and University of British Columbia.

All regular MA and PhD requirements of the graduate studies faculties and the psychology departments must be met. See Tables 1, 2, 3 and 4 for the SFU psychology program requirements. Students admitted to the LLB/PhD stream complete the requirements for both an LLB in law and a PhD in law and forensic psychology.

The PhD is awarded by the university in which the student is registered for the PhD, although students may take courses from either department. The LLB is awarded by UBS’s Faculty of Law, and students must satisfy all requirements for that degree.

Applications, regardless of whether applying to the PhD option or to the LLB/PhD option, are made directly to the director, SFU/UBC Program in Law and Forensic Psychology, Department of Psychology, 8888 University Drive, Simon Fraser University, Burnaby, BC, V5A 1S6. Students must submit all supporting documentation in one complete package (completed application form, statement of purpose, one copy of official transcripts of all post secondary course work, three academic letters of reference, and the application fee), GREs (general and subject sections) and LSAT scores can be submitted separately. The application fee for the PhD option is $75. The fee for LLB/PhD option applicants whose transcripts are exclusively from BC post secondary institutions is $110. Applicants, any or all of whose transcripts are from institutions outside of BC, must submit a $130 fee. Students indicate to which psychology department they wish to apply, and with which faculty member they prefer. Admission to the clinical forensic stream must be approved by the respective clinical program to which the student has applied. To be admitted into the LLB/PhD joint degree program, applicants also must be deemed acceptable by the Faculty of Law at UBC.

Program continuance is conditional upon a high performance standard as determined by an annual review of students. A student may be permitted to complete either an LLB, MA, or PhD alone.

**Program Faculty**

J.R.P. Ogloff, JD, PhD – Director, SFU/UBC Program in Law and Forensic Psychology, Professor of Psychology, SFU; Adjunct Professor of Law, UBC

E.M. Coles, PhD – Associate Professor of Psychology, SFU

D. Cox, PhD – Associate Professor of Psychology, SFU

D.G. Dutton, PhD – Professor of Psychology, UBC

I. Grant, BA, LLB, LLM – Associate Professor of Law, UBC

R.D. Hare, PhD – Professor Emeritus of Psychology, UBC

S.D. Hart, PhD – Associate Professor of Psychology, SFU

M. MacCrimmon, BSc, LLB, Dip Law – Professor of Law, UBC

J. Mosoff, BA, MA, LLB, LLM – Assistant Professor of Law, UBC

R.M. Roesch, PhD – Professor of Psychology, SFU

A. Sheppard, BA, LLB, LLM, Professor of Law, UBC

J.C. Yuille, PhD – Professor of Psychology, UBC

**Graduate Courses**

| PSYC 600-5 Biological Bases of Behavior |
| PSYC 601-5 Cognitive and Affective Bases of Behavior |
| PSYC 602-5 Developmental and Social Bases of Behavior |
| PSYC 603-5 Individual Differences |
| PSYC 700-5 Professional Issues in Psychology |
| PSYC 705-5 Proseminar in History and Systems |
| PSYC 715-1.5 Proseminar in Measurement |
| PSYC 720-5 Proseminar in Learning |
| PSYC 725-5 Proseminar in Cognition |
| PSYC 730-5 Proseminar in Perception |
| PSYC 740-5 Proseminar in Motivation |
| PSYC 744-5 Proseminar in Psychopathology |
| PSYC 750-5 Proseminar in Developmental Psychology |
| PSYC 760-5 Proseminar in Social Psychology |
| PSYC 770-5 Proseminar in Personality |
| PSYC 780-5 Proseminar in Physiological Psychology |
| PSYC 785-5 Proseminar in Animal Behavior |
PSYC 790-3 Proseminar in Law and Psychology
Prerequisite: PSYC 790, 835 or 836.

PSYC 806-5 Advanced Topics in Assessment
Prerequisite: PSYC 820, 821, 822, 823, 824, or permission of the instructor.

PSYC 807-5 Advanced Topics in Intervention
Prerequisite: PSYC 820, 821, 822, 823, 824, or permission of the instructor.

PSYC 808-5 Advanced Topics in Evaluation
Prerequisite: PSYC 820, 821, 822, 823, 824, or permission of the instructor.

PSYC 809-5 Advanced Topics in Applied Psychology
Prerequisite: PSYC 820, 821, 822, 823, 824, or permission of the instructor.

PSYC 810-3 Seminar in Social Psychology and Law
Prerequisite: PSYC 790.

PSYC 815-3 Mental Health Law and Policy
Prerequisite: PSYC 790.

PSYC 819-3 Ethics and Professional Issues
Prerequisite: graduate program standing. Graded on a satisfactory/unsatisfactory basis.

PSYC 820-6 Seminar in Individual Assessment
PSYC 821-4 Practicum in Individual Assessment
Prerequisite: PSYC 880 (Practicum); registration in PSYC 820, graduate standing in the clinical program, or permission of the instructor.

PSYC 822-6 Seminar in Intervention
PSYC 823-4 Practicum in Intervention
Prerequisite: PSYC 880 (Practicum), registration in PSYC 822, graduate standing in the clinical program, or permission of the instructor.

PSYC 824-3 Research Issues in Psychology
Prerequisite: PSYC 910, 911 or permission of the instructor.

PSYC 825-2 Intervention
Clinical practicum course. Prerequisite: admission to the clinical program. PSYC 820, 821, 822, 823 and 880. Graded on a satisfactory/unsatisfactory basis.

PSYC 830-3 Seminar in Child Evaluation and Treatment Formulation
Prerequisite: PSYC 750, 820.

PSYC 831-2 Practicum in Child Evaluation and Treatment Formulation
Prerequisite: PSYC 750, 820. Corequisite: PSYC 830.

PSYC 835-3 Special Topics in Civil Forensic Psychology
Prerequisite: PSYC 790, 815.

PSYC 836-3 Special Topics in Criminal Forensic Psychology
Prerequisite: PSYC 790, 815.

PSYC 880-3 Practicum
Full-time clinical work for four months in an approved setting. Prerequisite: PSYC 744, 770, 820, 821, 910, 911. Graded on a satisfactory/unsatisfactory basis.

PSYC 886-9 Internship
Full-time clinical work for 12 months in an approved setting. Prerequisite: equivalent of the MA clinical program, three level two courses, successful completion of the PhD comprehensive examinations, and successful defence of the PhD research proposal. Graded on a satisfactory/unsatisfactory basis. Registration in PSYC 886 must be continued for a total of three consecutive semesters.

PSYC 890-3 Practicum in Clinical Forensic Psychology
Prerequisite: PSYC 790, 835 or 836.

PSYC 892-3 Research/Policy Practicum in Law and Psychology
Prerequisite: PSYC 790.

PSYC 893-3 Research Project in Law and Psychology/Forensic Psychology
Prerequisite: PSYC 790.

PSYC 897-3 Directed Studies
PSYC 999-0 PhD Comprehensive Examination

Publishing Program

Director
R.M. Lorimer BA, MA (Manit), PhD (Tor)
Teaching Faculty
V. Frith BA, MA, PhD (Tor) – editing, history of the book
R.M. Lorimer BA, MA (Manit), PhD (Tor) – publishing policy
R. Woodward BA (Miami, Ohio), MA (Oregon) – design and production

Associate Members
A.C.M. Beale, Communication – history of communication
T. Bose, English – editing

P. Budra, English – sixteenth century book production, editing Shakespeare
R.M. Coe, English – rhetoric and composition
A. Cowan, Continuing Studies – publishing, education, editing and production
C. Gerson, English – history of Canadian publishing
M.A. Gillies, English – Victorian publishing
P. Heyer, Communication – history of communication and print production
C.M. Mamchur, Education – composition
G.A. Mauser, Business Administration – marketing
M. Page, English – definitive and fluid drama texts
P.M. St. Pierre, English – publication and authorship
R. Smith, Communication – information technology

Adjunct Professors
R. Barnes, MA (Camb) – economics, marketing consultant
R. Bringhurst, BA (Indiana), MFA (Br Col) – Author
J.J. Douglas, LL.B (S Fraser) – retired publisher, Douglas and McIntyre
D. Gibson, MA (St. Andrews), MA (Yale) – publisher, McClelland and Stewart
C. Good, BA, MA (Tor) – publisher, Penguin Canada
R. Hancox, Dip. (Regent St Polytechnic, London), PMD, Neiman Fellow (Harv), Professional Fellow
P. Milroy, BA (Ont) – Publisher, Canadian Medical Association
S. Osborne, BA (Br Col) – publisher, Geist Magazine
K. Siegler, BA, MA (S Fraser) – publisher, Talon Books
P. Whitney, BA (Sask), MLS (Br Col) – chief librarian, Burnaby Public Library

The publishing curriculum offers a program of study leading to a master of publishing (MPub). The MPub is a professional program designed for persons in, or intending to enter, the publishing industry. It comprises a set of courses, an internship, and a project report. The program encompasses a full range of publishing activities including business, design, editing and multimedia.

Admission Requirements
The normal admission requirement is a bachelor’s degree with a minimum 3.0 grade point average from a recognized university or the equivalent. In addition, applicants will be required to:
• have some demonstrated familiarity with the publishing industry
• be familiar with the operation of both Apple and IBM compatible microcomputers
• demonstrate a suitable level of competence in editing and proofreading
• be familiar with the major concepts of marketing and accounting
• demonstrate a suitable level of competence in English composition

Entering students are expected to have a minimum knowledge of publishing which will be assessed through an evaluation of documents and experience, and in some areas, interviews and examinations. Should candidates be found not to have the knowledge, understanding and skills necessary for entry, they will be advised that they may gain those skills by successfully completing the following courses or their equivalents.

BUS 251-3 Financial Accounting I
BUS 254-3 Managerial Accounting I
BUS 343-3 Introduction to Marketing
CMNS 371-4 The Structure of the Publishing Industry
CMNS 372-4 The Publishing Process

The following courses are valuable background as a foundation for editing.

• demonstrate a suitable level of competence in
ENGL 370-4 Studies in Language
ENGL 375-4 History and Principles of Rhetoric
ENGL 430-4 Writing and Response in the Research Genres
ENGL 431-4 Technical and Professional Literacies: Theory and Practice

Degree Requirements
Course Work
MPub candidates complete 33 credit hours of course work in addition to both an internship and project report. The curriculum is comprised of courses offered exclusively within the program. The director may recommend that some students substitute courses from Simon Fraser University or other institutions, and/or experience and demonstrated expertise for courses in the program.

Internship and Project Report
A key component of the MPub program is an internship and project which integrates the knowledge gained during the student's graduate studies with the demands of an applied setting. This internship is in the workplace, typically in industry, public institutions or government. An appropriate level of documentation and reporting is required. Internships generally last four months.

During the internship the student receives academic supervision as required from the student's University senior supervisor. Day to day supervision will be the responsibility of designated industry supervisors. These professionals will have appropriate qualifications and will be appointed by the University. In very small companies, alternative arrangements may be made for supervision.

The internship will focus on a specific project that is initiated by the student, by one or more members of the student's supervisory committee or by the industry supervisor's employer. The student submits an outline that defines the project scope, plans for documentation and reporting, anticipated activities, schedule and conclusion. The outline is approved by the supervisory committee and the program director. Commitment of the company or institution, the industry supervisor and the University will be formalized by a letter exchange.

The student must produce two reports; the first, a work report which is an appraisal of the student's work experience, and the second, a project report which will be an investigation and analysis of a particular problem or case. The latter will serve as a record and interpretation of the project.

The supervisory committee and director will assess the student's project on the basis of the conduct of the project, quality of work, and quality of reports. There is no oral examination, however, a project report will be submitted in accordance with 1.10.6 of the Graduate General Regulations.

Graduate Courses
PUB 602-4 Design and Production Control in Publishing
A consideration of the theory, principles, traditions and current trends in publication design as applied to print and electronic publishing. Students will undertake design exercises in addition to learning the relationship between design, costing and print production. (2-0-3) Prerequisite: admittance to the program.

PUB 605-3 Book Publishing Project
Students are assigned to groups (simulated book publishing companies) and are given a company profile for which they develop a season's titles. They form a team based on industry roles; publisher, editor, production manager, art director, promotion and marketing manager. Each team produces the editorial profile, costing and marketing plans for the list, designs the covers and makes a final presentation to an industry panel. (0-0-3)

PUB 606-3 Magazine Publishing Project
Students are assigned to groups and form a team based on common roles in the industry: publisher, comptroller, editor, production manager, art director, advertising director, marketing and distribution manager. In consultation with faculty and industry speakers the team develops a magazine concept, creates a business plan including cost projections, and identifies the readership demographics and potential. Design mock-ups are produced and a final presentation made to an industry panel. (0-0-3)

PUB 607-3 Multimedia and Other Publishing Projects
Students participate in the administration of the CCSP web site, create their own home pages and produce the concept and prototype for a multimedia publishing project in a team environment. Students may also participate in the production of actual publications of the Canadian Centre for Studies in Publishing and the master of publishing program, e.g. the CCSP newsletter. (0-0-3)

PUB 600-4 Text and Context
An examination of the contemporary state and developing trends in the Canadian publishing industry. Emphasis is placed on book publishing, business dynamics, government policy, and international trade. Attention is also given to magazine and multimedia publishing and comparisons with other countries are drawn. (3-0-0) Prerequisite: admittance to the program.

PUB 801-4 History of Publishing
A consideration of publishing from the time of Gutenberg to the present day including discussion of the medium of print and its influence on human expression and thought. Emphasis will be placed on the role of publishing and publishing policies in society. (3-0-0) Prerequisite: admittance to the program.

PUB 802-4 Technology and the Evolving Form of Publishing
An examination of the nature of technology and the social, cultural, legal, economic and political implications of evolving publishing business forms, publication formats, markets, policies and especially technology. Opportunities for Canadian publishing in domestic and global markets will be emphasized. (3-0-0) Prerequisite: admittance to the program.

PUB 898-5 Internship Project Report
Supervision and Evaluation
Students complete their internship project report and work with their supervisory committee to bring it to a final acceptable form.

PUB 899-5 Publishing Internship or Project
Students are placed in an applied setting. The work they undertake must be of sufficient depth and breadth to allow the student the opportunity to demonstrate his or her acquired knowledge and skills. Students will be required to produce two reports; the first, a work report which will be an appraisal of the student's work experience, and the second, a project report which will be an investigation and analysis of a particular problem or case. Prerequisite: admittance to the program.

Department of Sociology and Anthropology
5053 Academic Quadrangle, (604) 291-3518 Tel, (604) 291-3579 Fax, www.sfu.ca/sociology
Chair
E. Gee BA, PhD (Br Col)

Faculty and Areas of Research
See “Department of Sociology and Anthropology” on page 158 for a complete list of faculty.

H. Adam – political sociology, critical theory, nationalism, migration, Germany, southern Africa
I. Angus – contemporary social theory (especially phenomenology and neo-Marxism), history of social and political thought, ecological thought
M. Boelscher Ignace – practice theory, language and culture, aboriginal resource management, aboriginal peoples of northern North America
D. Culhane – critical anthropology, anthropology of/ and colonialism, anthropology of/and law, First Nations, contemporary ethnography, visual anthropology
P. Dossa – critical anthropology, anthropology of health, anthropology of diaspora and migration, Muslim minorities: gender, disability, aging
N. Dyck – social anthropology, sport and childhood, aboriginal peoples and governments, Canadian society
K. Froschauer – Canadian social issues, political economy, sociology of development, immigration, East Asia
M. Gates – development studies, agricultural policy and practice, environmental anthropology, urban anthropology, NAFTA, Latin America, Mexico
E. Gee – demography, sociology of aging, sociology of the family, social policy, gender
M. Howard – development studies, ethnicity, natural resources management, textiles and art, southwest Pacific, southeast Asia
M. Kenny – anthropology and medicine, anthropology and psychiatry (memory as a political issue in child abuse, amnesia and multiple personality), religion and society, 19th century American social history, history of eugenics
D. Lacombe – contemporary social theory, sexuality and moral panic, deviance and social problems
P. Landolt – economic sociology, international migration, comparative development
A.T. McLaren – sociology of gender, education and the family
B. Mitchell – families and aging, youth transitions, intergenerational relations, quantitative methods, social policy, health promotion
G. Nicholas – North American prehistory, prehistory and contemporary human ecology, ecology of wetlands, cultural resource management
G. Otero – political sociology, political economy of development, sociology of agriculture, science and technology, social movements, NAFTA, Mexico and Latin America
S. Pigg – contemporary anthropological theory, transnational cultures and postcolonial social relations, anthropology of medicine, anthropology of development, Nepal
J. Pulkingham – social policy, feminist political economy, gender, sociology of the family (especially family law)
G.B. Teeple – political economy of Canada, Hegelian and Marxist philosophy, sociology of art, neoliberalism and the global division of labor
J. Whitworth – sociology of religion (especially sects, cults and new religions), sociological theory, 19th century British and North American intellectual history

Admission
The Department of Sociology and Anthropology offers programs of advanced learning and research leading to MA and PhD degrees. The MA program is available on both a part time and a full time basis. See “1.3 Admission” on page 283 for general admission requirements. The department also requires a written statement about the student’s current interests and prospective research. How well the applicant’s proposed research coincides with the research and teaching interests of the faculty is an important admission consideration. PhD applicants must submit a sample of their work from earlier or ongoing graduate studies. Admission applications are normally considered once each year at the end of January. The program commences in September.

Contact the department’s graduate program chair or secretary for further program information.

Areas of Study
- anthropology and sociology of medicine, health and society (particularly politics of knowledge production, disability, mental health, AIDS)
- Canadian society (ethnic relations, demographic issues, social inequality, political economy)
- development studies (especially the Third World, including studies of tourism, tourism and international health)
- environmental issues
- minority indigenous peoples (particularly Canadian Native peoples)
- political sociology (with emphasis on political economy, ethnic relations and social movements)
- religion and society
- social and cultural anthropology (with emphasis on the anthropology of contemporary life)
- social policy issues (gender relations, aging, government administration of native peoples)
- sociological and anthropological studies of law and legal systems
- sociological theory, anthropological theory, and the philosophy of the social sciences (European intellectual history, holistic, comparative, historical and postcolonial perspectives)
- sociology of sexuality and moral panic, and social problems and deviance
- sociology of agriculture, and science, technology and society

MA Program Degree Requirements
The MA program may be completed through course work and either an essay or research project option or a thesis option.

All students are admitted to the essay or project option and require the recommendation of their supervisory committee and the approval of the department graduate program committee to transfer to the thesis option. Except under extenuating circumstances, students may transfer only once during their time in the MA program.

Option 1: Courses and Extended Essays or Research Project Report
The minimum requirements for completion of the degree program include four one-semester courses, and two extended essays or one research project report.

Courses
Students must complete four one-semester courses, two of which must be SA 850 or 870; and SA 857. The remaining two courses will be chosen from SA 886, SA readings courses, a course in another department or university. (The option of the readings courses and the extra-departmental courses must be approved by the student’s supervisory committee and the departmental graduate program committee. Any student with deficiencies may be asked to complete more courses.)

Extended Essays or Research Project Report
The extended essays or research project option requires the completion of either:
- two extended essays that will normally consist of no more than 35 pages each, inclusive of bibliographies, appendices and tables. At the discretion of the supervisory committee, the maximum number of pages may be increased. This will normally be done only to facilitate the inclusion of large appendices and/or tables. Each extended essay will normally elaborate upon research undertaken in course work.
- one research project report that will normally consist of no more than 70 pages, inclusive of bibliographies, appendices and tables. At the discretion of the supervisory committee, the maximum number of pages may be increased. This will normally be done only to facilitate the inclusion of large appendices and/or tables. Each research project will normally be designed by the supervisory committee in consultation with the student. The extended essays and the research project reports should demonstrate capability in scholarly research as well as independent critical thought. The extended essays and research project reports will be examined by the student’s supervisory committee and a qualified external examiner. Extended essays and research project reports will be bound and placed in the library.

Option 2: Courses and Thesis
The minimum degree completion requirements under this option include three one-semester courses and one thesis. Students who wish to transfer to this option must submit a thesis proposal to their supervisory committee at the end of the first semester of enrollment in the program. Supervisory committees may then recommend to the department graduate program committee that the student be permitted to transfer to the thesis option. See the department handbook for guidelines.

Courses
Students complete three one-semester courses, two of which must be SA 850 or 870 and 857. The remaining course will be chosen from SA 886, SA readings course, a course in another department or university. The option of the readings course and the extra-departmental course must be approved by the student’s supervisory committee and the departmental graduate program committee. Any student with deficiencies may be asked to complete more courses.

Thesis
The thesis option provides an opportunity for a focused research study of high quality. The thesis will normally consist of no more than 75-100 pages, inclusive of bibliographies, appendices and tables. At the discretion of the supervisory committee, the maximum number of pages may be increased. This will normally be done only to facilitate the inclusion of large appendices and tables. The thesis will be examined by the student’s supervisory committee and a qualified external examiner. Theses are bound and placed in the library.

PhD Program Degree Requirements
Students complete four one-semester courses, two of which must be SA 850 or 870 and SA 857.

In the event that a doctoral student has completed an MA in the department, course requirements remain the same as for other doctoral students, but special arrangements will be made by the department’s graduate program committee to ensure that SA 850 or 870 is not repeated.

The remaining two courses will be chosen from SA 886, SA readings courses, or a course in another department or university. The option of the readings courses and the extra-departmental courses must be approved by the student’s supervisory committee and the departmental graduate program committee. Any student with deficiencies may be asked to complete more courses.

Students must also complete a written qualifying examination in theory and methodology. Prior to commencing work on the thesis, the student will defend a written prospectus on the thesis in an oral examination.

Students must prepare a thesis. See the departmental handbook for guidelines. An oral examination on the thesis is also required.

Graduate Seminar
All full-time graduate students must attend and actively participate in the graduate seminar during the first two semesters of their program. In subsequent semesters, attendance and registration is voluntary. Special arrangements will be made for part-time students to fulfill this requirement.

Language Requirement
Although the department recognizes that a knowledge of French or foreign languages is desirable for advanced degree studies, it does not have prescribed language requirements. However, where a language other than English is necessary for the candidate’s field work or reading, the student will be required to attain the necessary proficiency.

Graduate Courses
SA 840-2 Graduate Seminar
SA 841-0 Graduate Seminar
SA 850-5 Advanced Sociological Theory
SA 853-5 Readings in Sociology I
SA 854-5 Readings in Sociology II
SA 857-5 Research Design Seminar
SA 870-5 Advanced Anthropological Theory
SA 871-5 Readings in Anthropology I
SA 872-5 Readings in Anthropology II
SA 886-5 Selected Problems in Social Analysis
SA 896-0 MA Extended Essays
SA 897-0 MA Research Project
SA 898-0 MA Thesis
SA 899-0 PhD Thesis

Department of Women’s Studies

5102A Academic Quadrangle. (604) 291-3333 Tel, (604) 291-5518 Fax, www.sfu.ca/womens-studies

Chair
M. Kimball BA (Macalester), PhD (Mich)

Graduate Program Chair
S. Wendell BA (NY State), PhD (Br Col)

Faculty and Areas of Research
M. Griffin Cohen, Political Science – feminist economics, public policy
A. Lebowitz – 19th and 20th century British literature, feminist literary criticism, nature writing
M. Kimball, Psychology – feminist theories of gender, feminist critiques of science, feminist psychoanalytic theories, women and achievement
J. Levitin, Contemporary Arts – women and film; theory and production, women and popular culture, women and comedy, Third World film and women
M. MacDonald, Women’s Studies — feminist critiques of gender equity in science and technology; ecofeminist analyses of the professionalization of environmental caring
M.L. Stewart, History – women in Europe, French fashion and beauty industry
S. Wendell, Women’s Studies – feminist social and political theory, feminist ethics, feminist epistemology, disability studies
H. Zaman, Women’s Studies – women and work in comparative perspective, gender and development, feminist research methods, women of colour and Canadian feminism, Third World

Associate Members
B. Burch, Criminology
H. Dawkins, Contemporary Arts
P. Dossa, Sociology and Anthropology
K. Faith, Criminology
H. Gay, History
A.T. McLaren, Sociology/Anthropology
K. Mezei, English
B. Pitman, Geography

The master's program in women’s studies is an interdisciplinary program and it is possible, therefore, for the master's student, in co-operation with the women’s studies graduate committee, to create an individualized program of studies to suit the student’s scholarly interests and goals.

The program is designed to lead to a strong academic research degree. Students will be expected to develop and demonstrate intellectual and analytical skills within a specific area of study.

The program recognizes the special needs of those already working who may wish to improve their qualifications. Some graduate courses may be offered at night, and part time students are permitted.

Admission Requirements
Applicants must satisfy the women's studies graduate program committee that they are prepared academically to undertake graduate level work in women's studies.

In addition to University requirements, listed in the Graduate General Regulations section, the program requires
- a sample of scholarly work in the form of a substantial essay which is scholarly in format and approach. The paper submitted may be an undergraduate essay previously prepared, or one specially written for this purpose.
- a short statement of interests and goals in women’s studies; normally students will be expected to present a definite proposal for their research.
- a short description of previous relevant course work and/or employment. Previous work should include both specialized disciplinary training and broader interdisciplinary work concerned with women.

A student will be admitted into a specific option (thesis, two extended essays or course intensive) and should apply to that option.

Qualified students will be accepted into the MA thesis option only if a suitable senior supervisor is available and willing to supervise the student. Senior supervisors will be selected from joint appointees in women’s studies and continuing faculty members on the co-ordinating committee of the Department of Women’s Studies including associate members.

A student can switch from one option to another only with the approval of the graduate program committee. A student can transfer to the thesis option only if there is a suitable supervisor available. A student with incomplete academic preparation for the MA program may be required to take up to 12 hours of additional work in either women’s studies or another relevant program.

The graduate committee, which will deal with admissions and all matters pertaining to individual students, will consist of all continuing faculty members on the co-ordinating committee.

Degree Requirements
The student normally will complete the following requirements.
- A minimum of 20 credit hours of graduate seminar, including at least one of WS 800 or 822, maintaining at least a 3.0 CGPA, and
- Submit a thesis or two extended essays giving evidence of independent research and critical abilities. An MA thesis is expected to be an in-depth empirical or theoretical study. The normal length of the thesis is 60-120 pages. Extended essays are defined as scholarly papers that meet the same standards of excellence as a thesis; they will be examined in the same way as a thesis, prepared in the same format, bound, and placed in the Library. Normally, the length of each essay is 30-60 pages. The extended essays are expected to demonstrate a breadth of knowledge and competence over several areas of study.

The student will be required to take an oral examination on her or his thesis or papers at the end of the MA program. See “1.9 Preparation for Examinations” on page 287.

or
- The student must complete six graduate courses, one of which must be WS 822, and maintain at least a 3.0 CGPA.
- The student is also required to write two examinations based upon the subject areas of two of the completed Women’s Studies courses.

Upon admission, the student will be assigned a two member advisory committee which has the responsibility for ensuring that the student fulfills all degree requirements. For further information concerning requirements, consult the departmental graduate handbook.

Supervisory Committee
Following the student’s enrolment, a supervisory committee will be formed which has responsibility for determining, in consultation with the student, the projected program of study, selecting appropriate research topics, and ensuring that the candidate fulfills all degree requirements. The senior supervisor will be selected from joint appointees in women’s studies and continuing faculty members on the co-ordinating committee. Other faculty outside the department who are considered necessary by the student and her/his supervisors may also be added to the committee.

Graduate Courses

WS 800-5 Methodology in Women’s Studies Research
An interdisciplinary seminar in methods of research in women’s studies. Students will examine theoretical issues in women’s studies methodology and study examples of research and criticism from women’s studies in history, art/literary criticism, philosophy, psychology and social and natural sciences. Emphasis will be placed on developing a rigorous and creative interdisciplinary approach to problems. Students will apply methods studied in the course to their own areas of concentration.

WS 820-5 Graduate Seminar in Women’s History
This course will examine one or two critical issues in the history of women. Canada, England and France are of special interest in this course, but students, with the permission of the instructor, may focus their work on North America and/or Europe generally.

WS 821-5 Graduate Seminar in Psychology of Women
This course will consist of an in depth exploration of both traditional and feminist theories of the development of female personality. Special consideration will be given to the impact of social and economic factors on women’s psychology and the extent to which such factors are or are not taken into account.

WS 822-5 Graduate Seminar in Feminist Theory
This course will analyse and compare major feminist social and political theories, including those that have emerged from liberal, socialist and radical feminist traditions. The relationship among theories of sexism and political goals and practices will be discussed.

WS 823-5 Graduate Seminar in Feminist Art/Literary Criticism
This course will examine the development of feminist aesthetic theories with particular reference to literary, cinematic and/or art forms. The fundamental assumptions of feminist literary and/or art criticism as well as the principles of art forms will be discussed.

WS 824-5 Graduate Seminar on Women and Social Policy
This course will focus on one or more social issues and policies in such fields as law, health, economics, social welfare, and science and technology.

WS 825-5 Graduate Seminar in Women, Technology and Social Change
This course will focus on relationships between changes in the technological and scientific bases of a society and changes in other major aspects of that society, particularly as they affect women’s roles and ideas about women. Emphasis will be on Europe and North America.

WS 830-5 Selected Topics Graduate Seminar I
WS 831-5 Selected Topics Graduate Seminar II
WS 840-5 Directed Studies
WS 898-0 MA Thesis
WS 999-0 MA Field Exam
Prerequisite: completion of six graduate courses.
Faculty of Business Administration

Dean (until August 31, 2000)
J.H. Waterhouse BSc, MBA (Alta), PhD (Wash)

Associate Deans
L.N. Meredith BA, MA, PhD (S Fraser)
D.M. Shapiro BA (Calg), MA, PhD (O’neill)

Faculty and Areas of Research
See “Faculty of Business Administration” on page 166 for a complete list of faculty.

M.A. Aboulafia – accounting
M. Abdel Magid – marketing
N.A. Abramson – international business, comparative management
A. Bick – investments and asset pricing
G.W. Blazenko – business finance
M.J. Brydon – management information systems
G.R. Bush – organizational development, strategic human resource management
E.W. Bukszars, Jr. – business strategy, business, government and society
J.C.W. Chang – marketing
E.U. Choo – management science
P.M. Clarkson – accounting
C.M. Collins-Dodd – retailer decision-making, price expectations
K.T. Dirks – organizational behavior
A. Duncan – accounting
B.J. Edwards – accounting
C.P. Egri – organizational power and politics, innovation, leadership
C.E.N. Emby – accounting
M. Favere-Marchesi – accounting
D.R. Finley – accounting
M.R. Fizzell – accounting
J.N.P. Francis – international and strategic marketing, negotiations, advertising
A.M.G. Gelardi – accounting
A.C. Gemino – management information systems
I.M. Gordon – accounting
R.R. Grauer – business finance
J.W. Heaney – business finance
P.C. Klein – business finance
R. Krider – marketing
B.A. Lautsch – industrial relations, human resource management
C.E. Love – management science
G.A. Mauser – marketing
N. MacKay – management information systems
H. Merchant – international business
L.N. Meredith – business marketing, marketing strategy
D.C. Parker – decision support systems
D.L. Patient – business communication
L.T. Pinfield – organization behavior, organization policy
G. Poitras – international finance, econometrics, financial Institutions
B.H. Reich – management of the information technology function, strategic information systems, qualitative research
J.G. Richards – business, government and society
R.W. Schwindt – industrial organization; international trade; business, government and society
D.M. Shapiro – organizational, managerial economics, business and public policy
J.P. Sheppard – business policy, corporate failure and survival
C.F. Smart – business policy, organizational behaviour
K.G. Stewart – business communication
D.C. Thomas – international business
R.L. Tung – international business
K.E. Vandezande – business finance
A.R. Vining – business policy, business government and society
A.R. Warburton – management science
J.H. Waterhouse – accounting
W.C. Wedley – international business, operations management
M.N. Wexler – business, government and society, organizational behavior and theory
R.G. Wyckham – marketing
R.A. Yates – commercial law
J.L. Zicklowsky – marketing
C.E. Zietsma – business strategy, entrepreneurship
*joint appointment with economics

Graduate Diploma Offered
Business Administration

Graduate Degree Offered
Master of Business Administration

Graduate Programs Offered
The Faculty of Business Administration offers three programs leading to the MBA degree: the executive MBA program, the MBA program and the management of technology MBA program.

The executive MBA program is a weekend or weeknight program for mid-career managers or executives who want to continue working while studying in a collegial environment. The program takes a general management perspective; it focuses on organizational and decision-making processes that cut across functional divisions.

The MBA program is a daytime program designed primarily for recent graduates who desire more concentrated exposure to a specific field of business study and development of applied research skills. Recent graduates with a business degree move directly to study an area of concentration.

For the 2000 and 2001 calendar years, the management of technology program will be offered as a masters cohort program by special arrangement.

Graduate Diploma in Business Administration


Academic Director
C.E. Love BEng, MBA (McM), PhD (Lond)

Executive Director
T. Brown, 7200 Harbour Centre, (604) 291-5255

The graduate diploma in business administration (GDBA) provides core business skills to the working professional who has earned an undergraduate degree in a discipline other than business. Delivered by the Internet over three semesters, the GDBA is a convenient and practical alternative for those who are unable to attend a traditional classroom-based program.

The GDBA is shorter and more concentrated than an MBA, covering the core of most MBA programs. The GDBA provides the firm foundation of business skills necessary to successfully compete in today’s job market.

Although completion of the GDBA will satisfy the business degree requirement necessary for the Simon Fraser University MBA application, please be advised that satisfactory completion of the GDBA will not guarantee admission to the MBA program.

Admission
The basic entry qualification is a degree from a recognized university in an area other than business administration, commerce or the equivalent. We also require three letters of reference preferably from supervisors or former professors. Candidates are expected to be reasonably computer literate, and familiar with the Internet. Many of the courses require students to be comfortable with mathematics to the pre-calculus level. Previous course work in statistics is highly recommended. The Simon Fraser University GDBA requires a strong command of the English language. Applications are processed as they arrive. Early submission of all required materials will enable the admissions committee to assess the student’s file expeditiously. Highly qualified applicants may be admitted early into the program.

Application
Candidates must submit the following documentation when applying to the program.

• Simon Fraser University’s Application for Admission to the Graduate Diploma Program in Business Administration
• official copy of transcript of undergraduate grades (mailed directly from the granting institution)
• three confidential letters of reference (mailed directly from the referees)
• TOEFL and TWE test scores, if applicable. Applicants must take the Test of English as a Foreign Language (TOEFL) and the Test of Written English (TWE) if their first language is not English and/or their national language is other than English. Scores must be above 570 on the TOEFL test and 5.0 on the TWE
• a recent passport style photo is required

Financial Assistance
The Bank of Montreal offers a student line of credit for Canadian citizens and landed immigrants. Loan information and application packages are available from the GDBA office. Eligible students may also apply to the Canada Student Loan program in their province of residents. (The GDBA is considered a full time program by the Canada Student Loan program.)

Diploma Requirements
To qualify for the graduate diploma in business administration, students must complete a total of 24 credit hours drawn from the following courses.

BUS 550-2 Financial Accounting
BUS 551-2 Managerial Accounting
BUS 552-2 Managerial Economics
BUS 553-2 Quantitative Business Methods
BUS 554-2 Management Information Systems
BUS 555-4 Managerial Finance
BUS 556-4 Marketing Management
BUS 557-4 Human Resource Management/ Organizational Behavior
BUS 558-3 Special Topics*
BUS 559-4 Special Topics*

*requires prior permission of the academic director

Graduate Diploma Courses
BUS 550-2 Financial Accounting
Concepts and principles in financial accounting from the user perspective.

BUS 551-2 Managerial Accounting
The use of accounting information for managerial decisions. Prerequisite: BUS 550 or equivalent.
BUS 552-4 Managerial Economics
Applications of economic theory to business problems.

BUS 553-2 Quantitative Business Methods
The use of quantitative or statistical techniques in managerial decision making.

BUS 554-2 Management Information Systems
The design and implementation of information systems to provide appropriate and timely information to management.

BUS 555-4 Managerial Finance
An overview of investment and financing decisions of the firm, including valuation, capital expenditures, financial markets, dividend and financial policy. Prerequisite: BUS 550 and 553 or equivalent.

BUS 556-4 Marketing Management
An introduction to the application of pricing, promotion, channel selection and product planning to marketing decisions.

BUS 557-4 Human Relations Management/ Organization Behavior
Issues in the behaviour of people in organizations, and human resource management practices that influence employee behaviour.

BUS 558-3 Special Topics
BUS 559-4 Special Topics

Joint Master in Business Administration and Natural Resource Management
See “Joint Master in Natural Resource Management and Business Administration” on page 313 for information about this program.

Admission of students into this program is suspended pending determination of the program’s future status.

MBA Program
Director
J.L. Zaichkowsky BHE (Br Col), MSc (Guelph), PhD (Calif)
The MBA program has a subject specialization focus in the following fields of concentration:

accounting*
finance
human resource management
International business
management science/information systems
marketing
policy analysis*
*not available in 2001

Additional fields of concentration are available with the approval of the student’s supervisory committee. For example, students can take supporting courses in such disciplines as resource management, economics, computing science, criminology, and engineering science.

Admission
For admission, a student must have a bachelor’s degree from a recognized university with a concentration in business administration (or its equivalent). The student should have normally completed course work in differential calculus,* statistics, managerial economics (or micro economics), accounting, management science (or operations research), finance, marketing, human resource management, and business policy (or business and society). Students admitted without all of these courses may be required to make up the deficiency without graduate credit.

The maximum number of students directly admitted in any one year to an area of concentration is expected to be 30. The minimum undergraduate grade point average required for admission is 3.0 (or equivalent). Criteria for admission, in addition to undergraduate grades, include acceptable scores on the GMAT test (see Application below), strong letters of reference, and for whose native language is not English, acceptable TOEFL scores (570 minimum) and a score of 5 or above on the test of written English.

The program is designed for students with an undergraduate business/commerce degree. Students may begin in September, January or May. Courses are sequenced through the three semesters: fall, spring and summer. The normal course load is three courses per semester. In this manner, it is possible to complete the program in one year; although many students require four semesters to finish their research project. Students choosing the thesis option may expect to take one additional semester in order to complete BUS 900. The completion time for a student holding a teaching assistantship over their whole program is typically five semesters.

*Integral calculus is also required for specializations in finance, management science and information systems, and marketing. It is recommended for specialization in accounting.

Application
Students must submit the following documentation when applying.

• Simon Fraser University graduate application form
• Faculty of Business Administration supplementary application form
• official transcript of undergraduate grades (mailed directly from the granting institution)
• three confidential letters of reference (mailed directly by the referees), at least two of which come from faculty members at universities. (Forms are supplied for references.)
• score on the graduate management admissions test (GMAT minimum score 550)
• Students whose first language is not English and whose undergraduate degrees have not been obtained at an institution in Canada, the United States, the United Kingdom, Australia or New Zealand where English is the language of instruction, require scores on the test of English as a foreign language (TOEFL) and the test of written English.

Financial Assistance
The Faculty can offer most qualified graduate students a teaching assistantship in business administration. Remuneration is normally $3,800 per semester. In addition to teaching assistantships, members of faculty, from time to time, have funding available to hire research assistants. A number of graduate fellowships are available to students who demonstrate high academic performance. See “Financial Aid for Graduate Students” on page 292 for information on other university scholarships and awards available to graduate students.

Degree Requirements
To qualify for the MBA degree, the candidate must complete the requirements under one of the two available options: project option or thesis option.

For the project option, students complete a minimum of three courses in a field of concentration, a minimum of one course in a supporting field, and one course in research techniques. Eight courses are required for the project option. Of these, four must be supporting or research courses. In addition, students must complete a written research project equivalent to one course. A project will generally represent successful original research regarding some practical problem. While students are expected to conduct a literature search regarding the problem, it will generally be less exhaustive in comparison with that of the thesis. The scope of a project is regarded as equivalent to one graduate course.

For the thesis option, students complete a minimum of three courses in a field of concentration as well as at least one course in research techniques and BUS 900, Research Methodology. Six courses are required in the thesis option. In addition, students must complete a written research thesis equivalent to three courses. In general, a thesis represents a major research effort in which the student, working closely with the supervisory committee, demonstrates a comprehensive knowledge of the literature on some aspect of a discipline and successfully completes original research which represents a contribution to knowledge in the area.

The requirements and options for each of the areas are detailed below.

Fields of Concentration: three course minimum
Accounting
BUS 871-4 Seminar in Financial Accounting
BUS 872-4 Seminar in Managerial Accounting
BUS 874-4 Advanced Topics in Accounting
Finance
BUEC 815-4 Portfolio Theory
BUEC 817-4 Theory of Capital Markets
BUEC 818-4 Advanced Topics in Business Finance
Human Resource Management
BUS 831-4 Industrial Relations
BUS 836-4 Human Resource Management I
BUS 837-4 Human Resource Management II
BUS 839-4 Organizational Assessment and Planned Change
International Business
BUS 862-4 Contemporary Topics in International Business
BUS 868-4 Doing Business with the Pacific Rim Countries
BUS 883-4 International Business and Multinational Enterprises
BUS 884-4 Comparative Management
BUS 885-4 International Human Resource Management
BUS 886-4 Management of International Firms
BUS 887-4 Entry Strategies for International Markets
Management Science and Information Systems
BUEC 819-4 Mathematical Programming for Economics and Business
BUEC 829-4 Analysis of Dynamic Processes
BUEC 823-4 Business and Economic Forecasting
BUS 822-4 Decision Theory
BUS 876-4 Decision Support Systems
Marketing
BUS 845-4 Marketing Measurement
BUS 846-4 Marketing Theory and Models
BUS 847-4 Advanced Consumer Behavior
BUS 848-4 Research in Marketing Strategy
Policy Analysis
BUS 850-4 Theoretical Issues in Strategic Management
BUS 852-4 Researching the Corporation in Canadian Society
BUS 854-4 Business and Government Regulation
BUS 855-4 Business and the Public Interest
BUS 860-4 Administration of Public Enterprises
Supporting Courses
The academic supervisor, in consultation with the student, selects supporting courses, either from business administration or from other fields of study (e.g., economics, resource management, computing science, psychology).
Research Courses
Project option students take at least one course in research techniques (BUS 801 or equivalent). Thesis option students take BUS 900 in addition to a minimum of one course in research techniques. The academic supervisor, in consultation with the student, selects research courses. Students taking BUS 900 should complete their other research courses first.

Co-operative Education Program
This option is available to qualified MBA students at the Burnaby campus. The goal of the co-op component is to give students applied experience so that they can link concepts with practice, and advance their career opportunities.

Admission
Students must be admitted to the MBA program before applying for the co-op option and must have a CGPA and previous semester GPA of at least 3.0. Students must maintain these grade levels to continue in the MBA co-op option.

Students entering the MBA program with a business/commerce degree must complete a minimum of one semester with at least two courses at the 800 level before beginning a co-op practicum.

Course Requirements
To qualify for an MBA with a co-operative education designation, students must complete two co-op practicum semesters (BUS 725 and 726) and satisfy other MBA graduation requirements. These work terms are normally interlaced with study semesters. Students complete the MBA co-op option with a study semester.

A pass/fail evaluation is assigned for each co-op practicum course. The grade is based on an evaluation of a work term report and assessment of the student’s work by both the supervisor and co-op co-ordinator.

MBA Courses
BUS 725-0 MBA Co-op Practicum I
First semester of work experience. This course is open only to MBA students. The co-op education program co-ordinators must be contacted prior to registration for this course. Prerequisite: students must be enrolled as a graduate student in the MBA program, and must have a CGPA and previous SGPA of at least 3.0. Students entering the MBA program with a degree other than in business normally must complete all 500 level courses before beginning a co-op practicum. Students entering the MBA program with a business/commerce degree must complete a minimum of one semester with at least two courses at the 800 level before beginning a co-op practicum.

BUS 726-0 MBA Co-op Practicum II
This is the second semester of work experience. This course is open only to MBA students. The co-op education program co-ordinators must be contacted prior to registration for this course. Prerequisite: BUS 725. Students must be enrolled as a graduate student in the MBA program, and must have a CGPA and previous SGPA of at least 3.0.

BUS 801-4 Research Techniques
The design, conduct, and analysis of business research including both field and laboratory research methods. Prerequisite: BUEC 333, or permission of the instructor.

BUS 822-4 Decision Theory
An examination of prescriptive (Bayesian) theory of decision making under uncertainty and critical investigation of the theory. Prerequisite: BUEC 333, MATH 157, or permission of the instructor.

BUS 831-4 Industrial Relations
Negotiation, arbitration, collective agreements, work stoppages, labor-management co-operation.

BUS 836-4 Human Resource Management I
Topics covered include human resource planning, recruiting, selection, organizational entry, and training. Prerequisite: permission of the instructor.

BUS 837-4 Human Resource Management II
Topics covered include performance evaluation, pay equity, and compensation/reward systems. Prerequisite: BUS 839 or permission of the instructor.

BUS 839-4 Organizational Assessment and Planned Change
Current theory, research and practice in organizational diagnosis and planned change. Prerequisite: advanced undergraduate course work in micro and macro organizational behavior.

BUS 845-4 Marketing Measurement
The generation and analysis of non-accounting information from sources both internal and external to the firm, with the purpose of understanding the use of such measurements in marketing segmentation. Prerequisite: BUS 801.

BUS 846-4 Marketing Theory and Models
The construction, analysis and application of models of marketing phenomena. Prerequisite: BUS 801.

BUS 847-4 Advanced Consumer Behavior
A study of the results of consumer interactions with the forces affecting purchase decisions. The influence of environmental, corporate, and governmental factors on consumer behavior and the processes of consumer decision-making will be examined. Prerequisite: BUS 347, 801 or permission of the instructor.

BUS 848-4 Research in Marketing Strategy
Research in strategy integrates marketing models, competitive marketing theories, and marketing strategic analysis. Cases and computer simulations may be used to demonstrate competitive strategic decisions. Prerequisite: BUS 801.

BUS 850-4 Theoretical Issues in Strategic Management
This course investigates the theoretical basis of strategic management particularly in the areas of strategic decision making, formulation and implementation. Prerequisite: BUS 579 or equivalent.

BUS 852-4 Researching the Corporation in Canadian Society
Research in contemporary theory and methods of investigating and conducting scientific research in Canadian corporations.

BUS 854-4 Business and Government Regulation
The theory and practice of public policy in the area of industrial organization. Topics include anti-combines, utility regulation, patent policy, and other policies directed at market failure. Prerequisite: ECON 200, or permission of the instructor.

BUS 858-4 Business and the Public Interest
Society requires business to act in the 'public interest' by means both of explicit (legislated) rules and implicit social contracts. This course deals with these social contracts and will include discussions of employment policies, investment policies, charitable donations, environmental concerns and community service.

BUS 860-4 Administration of Public Enterprises
History, models of organizations of public corporations and their divergence from private counterparts. Public accountability decision-making, cost-benefit theories.

BUS 862-4 Contemporary Topics in International Business
The analysis of specific issues in international business/multinational firms, Canada's regulations, international financial management, international marketing, international operations, foreign investment and the international environment.

BUS 871-4 Seminar in Financial Accounting
An in-depth analysis of current literature in financial accounting theory and practice. Emphasis will be placed on recent empirical research. Prerequisite: permission of the instructor.

BUS 872-4 Seminar in Managerial Accounting
An integrative course intended to develop an appreciation of the interrelationship of managerial accounting and analytical, behavioral and technological considerations in analysis and design of control systems. Emphasis will be placed on empirical research. Prerequisite: permission of the instructor.

BUS 874-4 Advanced Topics in Accounting
Selected advanced topics in accounting. A continuation of BUS 871 and 872 with emphasis on the interrelation between financial and managerial accounting. Particular attention will be devoted to present and developing problem areas and the research related to those problems. Prerequisite: BUS 871 and 872, or permission of the instructor.

BUS 876-4 Decision Support Systems
Design and application of computer-based information systems to support managerial decision making in organizations.

BUS 882-4 Doing Business with the Pacific Rim Countries
The course seeks to examine the opportunities and challenges of doing business with the Pacific Rim countries. Topics include the analysis of foreign investment climate, business negotiations and marketing strategies. Prerequisite: permission of the instructor.

BUS 883-4 International Business and Multinational Enterprises
The course identifies theories, information and research findings which are useful in understanding different aspects of managing multinational operations, such as foreign investment, organization and control. Prerequisite: permission of the instructor.

BUS 884-4 Comparative Management
The course compares and contrasts similarities and differences in management styles and practices across countries. It seeks to develop an appreciation of what it is like to work with people from other cultures. Prerequisite: permission of the instructor.

BUS 885-4 International Human Resource Management
The course seeks to identify how cultural differences affect the practice of international human resource management, and to understand the linkage between international human resource strategy, organizational structure and corporate strategy. Prerequisite: permission of the instructor.

BUS 886-4 Management of International Firms
This course deals with strategic requirements for the management of multinational corporations. Firm-specific and institutional challenges facing global managers in formulating and implementing profitable strategies are also discussed. Prerequisite: BUS 883.

BUS 887-4 Entry Strategies for International Markets
Product-market entry decisions as well as choices on foreign market entry mode (exports, licensing, direct investment, etc.) are discussed. This course also deals with co-operate alliances in international business. Prerequisite: BUS 883.
Executive MBA Program

2400 Harbour Centre, (604) 291-5013 Tel, 1-888-SFU-EMBA Toll Free Tel, (604) 291-5122 Fax, www.harbour.sfu.ca/EMBA, emba_program@sfu.ca

Academic Director
Dr. D. Shapiro, 2400 Harbour Centre, (604) 291-5013

Executive Director
Ms. S. Burns, 2400 Harbour Centre, (604) 291-5013

This program offers the skills, insights and frameworks that experienced, high potential managers need to prepare for their next career phase. The program takes a general management perspective, focusing on organizational and decision-making processes that cut across functional divisions. It is designed to expand potential and develop the strategic and global perspective required of tomorrow’s senior managers. Using a cohort model where students take courses in the same sequence, the program encourages student interaction and cooperation; study groups and project teams are an important aspect of the learning experience.

Because executive MBA students pursue full time careers, classes meet either two nights a week (weeknight program) or alternate weekends all day Friday and Saturday (weekend residential program). Classes are held at Simon Fraser University at Harbour Centre, located in downtown Vancouver. Students in the weekend residential program have Friday night accommodation provided as part of tuition for the fall and spring semesters. Students take two courses per semester, completing the course work in two years. Both programs begin in September. There is a three week semester break except for the summer when the break is at least one month. Immediately following acceptance in May, all students participate in a preparatory skills module that includes Numeracy and the Electronic Toolkit. At the same time, students with no microeconomics training should review our recommended self study guide.

Admission

Applicants will be considered for admission to the program based on the following criteria:
- current business experience, with four to five years in management positions
- GMAT (graduate management admission test) results
- academic qualifications, including an undergraduate degree (B average) or a professional designation (i.e. CA, CMA, CGA, PEng)*
- letters of reference

*While priority will be given to applicants with a university degree or a professional designation, a limited number of applicants may be admitted who do not hold a formal degree but possess exceptional business management qualifications.

The application deadline is April 15 for September enrolment in the same year. In order to have your application reviewed for the September enrolment, you must have written the GMAT by April 1.

All students must demonstrate proficiency in mathematics and analytical writing. Students may prepare for the program by developing the following proficiencies: computer skills, using a PC in a Windows environment with Microsoft Word and Excel applications; reading and comprehension skills; and business and report writing.

For more information, phone (604) 291-5013 or toll-free 1-888-SFU-EMBA, fax (604) 291-5122, e-mail emba_program@sfu.ca or see our website at www.harbour.sfu.ca/EMBA.

Degree Requirements

Students must complete 13 courses, one of which is an elective, with a minimum B (3.0 GPA) average grade, and should expect to spend 25-30 hours a week on their studies.

Electives in the past two years have included: negotiation/conflict resolution; managing new ventures; international business; global operations and the impact of E-commerce; managing corporate change; and leadership and group development.

In place of the 600 level MBA courses listed below, students may substitute, with the prior consent of the executive MBA graduate program committee, equivalent graduate course work from any Simon Fraser department. Prior approval is not required to substitute 800 level BUS or BUEC courses as electives. In extraordinary circumstances, and with prior executive MBA graduate program committee permission, students may alter the course load of two courses per semester.

Weeknight and Weekend Residential Program Schedule

Year I
Semester 1 Fall
Fall Residential
Course codes and descriptions
Semester 2 Spring
Spring Residential
Course codes and descriptions
Semester 3 Summer
Course codes and descriptions
Year II
Semester 4 Fall
Fall Residential
Course codes and descriptions

Executive MBA Courses

MBA 603-5 Structure and Change in Organizations
This course applies contemporary organizational theory to the managerial challenge of entrepreneurial, corporate, public sector and not-for-profit organizations in the areas of organizational structure and change, adapting the organizations to their changing environment, and articulating alternate plans for organizational survival (and where possible, growth).

MBA 604-5 Organizational Change and Development
An examination of the concepts, principles and assumptions of organization development.

MBA 605-5 Financial Management
Finance is the study of investments; these investments are made by firms in their operative activities and by persons in their financial portfolios.

MBA 607-5 Business Strategy
Analysis of strategic issues affecting the success of the total enterprise and business units. The course includes industry analysis, internal analysis of the firms’ skills, resources and capabilities, corporate and business level strategies, the process of doing strategic analysis, the relationship between strategy and management, and the basic design of a plan of implementation for a strategic plan.

MBA 610-5 Directed Studies in Business Administration
Individual study with a faculty member. The course outline must be approved by the graduate program committee.

MBA 611-5 Directed Studies in Business Administration
Individual study with a faculty member. The course outline must be approved by the graduate program committee.

MBA 612-5 Directed Studies in Business Administration
Individual study with a faculty member. The course outline must be approved by the graduate program committee.

MBA 615-5 Marketing Management
An analysis of the strategic consideration of marketing management and their impact on the firm and its competitors.
MBA 621-5 Information Technology and Organizational Transformation
A seminar format will be used to discuss the concepts and frameworks essential to the effective management of information technology. Our focus will be on the strategic role that information systems play in organizations, their structure and components, and various perspectives on how to plan and manage this technology.

MBA 632-5 Operations Research
Quantitative methods to cope with problems of complexity, uncertainty, and lack of information in organizational decision-making.

MBA 634-5 Business Forecasting
Modern forecasting methods applied to a variable of interest to the student and his employer. Students taking the course must have access to at least five years of monthly data or 12 years of quarterly data on the variable to be forecast. Generally, the paper written for this course will provide the basis for the MBA project.

MBA 651-5 Managerial Economics
The application of modern microeconomic theory to problems of managerial decision-making. The importance of both economic models and quantitative applications are explained. Topics include demand, cost and productivity analysis; the analysis of market structure and firm strategy; international competition and trade; organizational economics; and the analysis of risk, uncertainty and information.

MBA 660-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 661-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 662-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 663-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 670-5 Financial and Managerial Accounting
Analysis of financial statements and their role in evaluation of the firm, and of internal financial information and its function in planning, control and performance evaluation.

MBA 681-5 Organizational Leadership and Interpersonal Behaviour
Interpersonal relations and group dynamics in organizational life. Development of perceptual and communication skills in small groups. Leadership theory and work group behavior.

MBA 688-5 Industrial Relations
Collective bargaining, the collective agreement, work stoppages, arbitration and the legal environment.

MBA 689-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 690-5 The Canadian Economy
An investigation of Canadian economic issues and problems, with particular emphasis on their impact on business decisions.

MBA 691-5 Business and Government
This course provides a survey of the relationship between business and government. The course examines the rationale for and nature of government intervention, the impact of public policies on business and the interactions among government, business and society.

MBA 695-5 Methods of Research
Methods and aims of business research and how it contributes to effective management.

MBA 696-5 Applied Strategic Analysis
Students will undertake a strategic firm analysis or public policy analysis (public sector students). Students may undertake other types of projects with permission of the executive MBA director. The project is submitted to the library. Prerequisite: MBA 607, 691.

MBA 698-5 Directed Studies in Business Administration
Individual study with a faculty member. The course outline must be approved by the graduate program committee.

MBA 699-5 Research Project
Execution of research project under faculty supervision. No formal classes.

Management of Technology MBA Program
7200 Harbour Centre, 515 West Hastings Street, Vancouver, BC, V6B 5K3, (604) 291-5256 Tel, (604) 291-5153 Fax, motmba@sfu.ca E-mail, www.harbour.sfu.ca/mot

Academic Director
C.E. Love BEng, MBA (McM), PhD (Lond)

Executive Director
T. Brown, 7200 Harbour Centre, (604) 291-5255

The Management of Technology – Master of Business Administration is offered as a pilot program under Special Arrangements pending the completion of a full program review by the provincial government. The management of technology MBA addresses the needs of the high technology business sector and continues Simon Fraser University’s long tradition of industry collaboration. MOT MBA graduates will have a solid grounding in the theories and disciplines of management, particularly focused on topics relevant to an organization with technical core competencies. MOT MBA students work, or want to work, in enterprises that have products or services based on advanced technology. Most will have an undergraduate degree in a technical discipline; some students will have an undergraduate business degree complemented with technical work experience. The program consists of two semesters of full time study followed by an industry-based final project. Students who continue working while they complete the program have the option of completing the program over five semesters of study. Courses are delivered face-to-face in new facilities at Simon Fraser University’s Harbour Centre campus.

Admission
For admission, applicants to the MOT MBA must have either an undergraduate degree in business (BBA, BCom); or a non-business undergraduate degree combined with the graduate diploma in Business (GDBA); or a non-business undergraduate degree combined with an approved program of business courses. In addition to the academic requirements, applicants to the program will be considered based on the following criteria:

- a minimum of two years of relevant work experience
- graduate management admission test (GMAT) test results
- three letters of reference from colleagues, supervisors or significant clients

A limited number of exceptional candidates who lack some of the academic requirements but who have other outstanding qualifications may be admitted once they have completed specific preparatory courses.

The application deadline for all students is June 30. Late applicants who meet all the program prerequisites may be considered for admission at the discretion of the program director.

Application
Students must submit the following documentation when applying for the MOT MBA.

- Simon Fraser University’s Application for Admission to the MOT MBA
- copies of transcripts of undergraduate grades (mailed directly from the granting institution)
- three confidential letters of reference (mailed directly from the referees)
- GMAT (graduate management admission test) results
- TOEFL and TWE test scores, if applicable

Applicants must take the test of English as a Foreign Language (TOEFL) and the test of written English (TWE) if their first language is not English and/or their national language is other than English. Scores must be above 570 on the TOEFL test and 5.0 on the TWE

- a recent passport style photo

Financial Assistance
A number of teaching assistantships, valued at up to $3,800 each, are available to qualified graduate students. In addition to teaching assistantships, members of the faculty from time to time have funding available to hire research assistants. The Bank of Montreal offers a student line of credit for Canadian citizens and landed immigrants. Loan information and application packages are available from the MOT MBA office. eligible students may also apply to the Canada Student Loan program in their province of residence.

A number of graduate fellowships are available to students who demonstrate high academic performance.

Information on other university scholarships and awards that are available to graduate students is included in the Financial Assistance and Awards section of this Calendar.

Degree Requirements
To qualify for the MBA degree, students must maintain a minimum average grade of B (3.0 grade point average) and complete courses totalling 36 credit hours or more from the following list:

BUS 750-4 Managing Technological Innovation
BUS 752-4 Strategic Management of Technology-based Firms
BUS 754-4 Marketing Technology-based Products and Services
BUS 756-4 Strategic Use of Information and Knowledge
BUS 758-4 Supply Chain Management
BUS 760-4 Organizing, Motivating, and Leading the Technology-driven Enterprise
BUS 762-4 Project Management
BUS 764-2 Financing the Organization
BUS 766-2 Organizational Focus, and Control through Financial Management
**Management of Technology MBA Courses**

**BUS 750-4 Managing Technological Innovation**
This course examines successful product and process innovations in industry, as well as the effective organization and management of the technological change process in new ventures, multi-divisional and multinational enterprises.

**BUS 752-4 Strategic Management of Technology-based Firms**
This course deals with how technology-based firms develop and implement strategies to create competitive advantage. The module treats strategy at two levels of analysis: (a) the overall strategy of the firm and (b) the technology strategy of the firm.

**BUS 754-4 Marketing Technology-based Products and Services**
What differentiates high-tech markets from more traditional ones is the environment — shrinking product life cycles, rapid changes in information and knowledge and great uncertainty about competitors. This course is designed to teach strategies for developing and executing marketing strategies in technology-intensive markets.

**BUS 756-4 Strategic Use of Information and Knowledge**
This course will demonstrate, through cases and discussion, how information can be used to support decision-making, monitor operations and enable global communications. Topics will include knowledge management and information technology to support a learning organization.

**BUS 758-4 Supply Chain Management**
This course demonstrates how strategic competitive advantages can be gained through supply chain management — the processes of logistics, production, delivery and after sales service. Concepts such as flexible manufacturing, just in time inventories and service quality will be examined.

**BUS 760-4 Organizing, Motivating, and Leading the Technology-driven Enterprise**
Technology-driven organizations are particularly dependent upon human resources. Their employees are intelligent, highly skilled and very mobile. This course discusses the human resource structures and strategies that technology-based firms use to achieve growth of both the firm and the individual.

**BUS 762-4 Project Management**
In high technology firms, projects are a way of life. The introduction of a new product or service, the redesign of an information system, and the opening of a new warehouse are all examples of projects that the technology-driven manager may encounter. This course demonstrates how complexity can be managed in a manner that increases the probability of project success. As a course assignment, students develop their own plan for the project/internship phase of the program.

**BUS 764-2 Financing the Organization**
A basic understanding of the sources of capital, how to allocate it and how to regenerate it is necessary for technology managers. This course surveys the sources of venture capital, initial public offerings, mergers and debt capital. It also concentrates on net present values, internal rates of return, and other tools for capital budgeting and valuation.

**BUS 766-2 Organizational Focus, and Control through Financial Management**
Success is often tempered by the constraint of money. Project budgeting, cash flow projection, and contingency planning are tools that help keep the flow of funds in balance. This course looks at how the technology manager can influence the flow of funds through numerous measures such as leverage, equity injections, credit policies, dividends and taxes.

**BUS 774-4 Special Topics**
**BUS 776-4 Special Topics**
**BUS 778-4 Directed Studies in Management of Technology**
Individual study with a faculty member. A course outline must be approved by the graduate program committee.

**BUS 780-4 Applied Project**
Students will undertake a strategic business analysis and write an extended essay jointly supervised by a Simon Fraser University faculty member and an industry partner. The Management of Technology program director and a faculty member will negotiate the purpose, content and deliverables of each project with the student and the sponsoring organization.
Faculty of Education

Graduate Programs
8655 Education Building, (604) 291-4787 Tel, (604) 291-4320 Fax, www.educ.sfu.ca/gradprogs

Graduate Program Director
P.H. Winne BEd, MEd (Bucknell), PhD (Stanford)

Graduate Degrees Offered
Master of Arts
Master of Education
Master of Science
Doctor of Education
Doctor of Philosophy

The Faculty of Education offers graduate programs leading to MEd, MA, MSc, EdD and PhD degrees in select fields of scholarly and professional studies. The nature of and requirements for degrees vary by degree and by field of study.

The MEd is a professional degree signifying the acquisition of advanced knowledge and advanced training in educational practice. Minimal requirements for MEd course work/comprehensive exam programs is the completion of 35 credit hours in required and elective courses, plus a final comprehensive examination. The content of EDUC 893 MEd Comprehensive Examination varies by program.

In some programs, the MEd culminates in a project that materially and substantially relates theory to practice or that systematically examines a significant problem in education. Students enrolled in MEd programs that include a project must successfully complete a minimum of 33 credit hours divided between courses (at least 28 credit hours) and EDUC 881 Master’s Project (5 credit hours).

The MA, MSc, EdD and PhD degrees signify the acquisition of advanced knowledge in the student’s field of specialization and advanced competence in conducting significant and original research in education.

Minimal requirements for the MA and MSc degrees are successful completion of 33 credit hours of graduate work divided between required and elective courses (at least 23 credit hours) and EDUC 898 Master’s Thesis (10 credit hours).

Minimal requirements for the PhD degree are successful completion of 30 credit hours of graduate work beyond requirements for a MA or MSc, consisting of 20 credit hours divided among required and elective courses and EDUC 899 Doctoral Thesis (10 credit hours).

The EdD in Educational Leadership is a professional degree signifying the acquisition of advanced knowledge and expertise in educational leadership.

Minimal requirements for the EdD degree are successful completion of 44 credit hours of graduate work, consisting of 34 credit hours divided among required and elective courses and EDUC 899 Doctoral Thesis (10 credit hours).

Admission
See Graduate General Regulation 1.3 for University admission requirements. In exceptional circumstances, applicants who do not meet these requirements may be considered if superior scholarly or professional achievements is demonstrated.

Applications for master’s and doctoral programs in education are reviewed once each year. All parts of an application to the master’s program in counselling psychology must be complete and received by January 31. All parts of an application to all other master’s or doctoral programs must be complete and received by February 15. Applicants to an Individual master’s program (see below) are urged to begin the application process well in advance of this deadline. In some cases, an applicant to a program may be required to have an interview.
Admission is granted to a specific degree and to a particular program or program specialization. Decisions about admissions are available on April 15 or the first business day thereafter. Application packages, available after November 30, are available from the Office of Graduate Programs by post, telephone, fax or e-mail: Graduate Programs, Faculty of Education, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A 1S6.

MA, MEd, MSc, PhD and EdD program information
(604) 291-4787 tel, (604) 291-4320 fax, educgdpg@sfu.ca

Off-campus MEd program information
(604) 291-5897 tel, (604) 291-4320 fax; ida_clayton@sfu.ca

Internet information
www.educ.sfu.ca/gradprogs

Supervision
Upon admission to a program, a pro-tem advisor will be appointed by the director of graduate programs. The pro tem advisor offers counsel regarding elective courses and other matters and, in those programs requiring a project or thesis, about selecting a committee to supervise this work. For additional information on supervisory committees, refer to the Graduate General Regulations, section 1.6, and the Faculty of Education Graduate Programs Policies, Procedures, and Protocols Handbook.

Master's Programs
The MA and MSc degrees signify the acquisition of advanced knowledge in the student's field of specialization and competence in conducting significant and original research in education. Graduate programs leading to these degrees culminate with a master's thesis (EDUC 888). The MEd is a professional degree signifying advanced knowledge about and advanced training in educational practice. All MEd programs, except an Individual program, culminate with a comprehensive exam (EDUC 880). In an Individual program, a project (EDUC 881) is undertaken that materially and substantially relates theory to practice or that systematically examines a significant education problem.

MEd Off Campus Programs
Two year MEd programs in Educational Leadership and in Curriculum and Instruction, offered in communities through the province, focus on a theme that integrates scholarly inquiry with local interests and professional practice needs. During fall and spring semesters, classes normally are scheduled every second weekend in the community where the program is situated. In the summer semesters, students typically attend classes on the SFU campus. School districts, educational institutions, groups and individuals interested in an MEd off campus program should contact the assistant to the director for off-campus graduate programs.

Residence Requirements
See “1.7 Residence and Course Requirements” on page 286.

Research Competence Requirement
Master's students must demonstrate research competence that is appropriate to their program or program specialization to the supervisory committee's satisfaction. See “1.7.3 Course Requirements for the Master's Degree” on page 286.

Comprehensive Examinations for MEd Programs (except Individual Program)
All MEd candidates, except those in an Individual program, must take a comprehensive examination by enrolling in EDUC 883. Normally, this occurs in the semester in which course requirements are completed or in the immediately following semester. Students are advised to observe deadlines for adding courses in planning the semester in which they enrol in EDUC 883. The Faculty of Education Graduate Programs Policies, Procedures, and Protocols Handbook provides details about the comprehensive examination.

MEd Project
This option is available only to students in an Individual program. See Individual Program below.

MA and MSc Thesis
Normally, before the fifth program course, the student presents a research plan for a master's thesis to the pro-tem advisor or a tenured or tenure track member of the Faculty of Education whom the student proposes to be senior supervisor. Following approval of the plan by the senior supervisor and at least one other member of the University faculty chosen in consultation with the senior supervisor, the supervisory committee is formed and the student proceeds to the thesis. The master's thesis will be examined as prescribed in the Graduate General Regulations sections 1.9 and 1.10.

Programs of Study for a Master's Degree
Educational Leadership
This part time, cohort program leads to the MA or MEd degree and is intended for current or prospective leaders engaged in educational activities in a variety of societal workplaces (e.g. schools, colleges, community agencies, health agencies, justice agencies, arts agencies).

The MA consists of five required courses (25 credit hours) plus a thesis; the MEd consists of seven courses (35 credit hours) plus a comprehensive exam. Courses are offered in the late afternoon/evening and during the day in summer session. While the program is grounded both in research and in practice, it has a strong philosophical and conceptual orientation. All these features are reflected in the program as a whole and in each course. The program encourages students to view issues and problems encountered in the workplace in deeper, more complex and educative ways.

Students in both the MEd and MA programs must complete the following core courses.

Core Courses
EDUC 613-5 Organizational Theory and Analyses
EDUC 815-5 Administrative Processes
EDUC 817-5 Policy Processes
EDUC 818-5 Leadership Studies

MEd Requirements
Students will normally be admitted to the MEd course work/comprehensive exam program. In addition to the four core courses, students will complete this required course.

EDUC 811-5 Fieldwork I
plus two additional courses (10 credit hours) approved by the co-ordinator.

EDUC 883 follows completion of course work requirements. It is held once a year, during summer session.

MA Requirements
Students admitted to the MEd course work/comprehensive examination program may, on recommendation of the senior supervisor, transfer into the MA program. The MA program requires the four core courses above plus EDUC 884. Students in the MA degree program must demonstrate appropriate research competence which may necessitate taking one or both of:

EDUC 863-5 Quantitative Methods in Educational Research
EDUC 867-5 Qualitative Methods in Educational Research

Students may also take one or more electives as required or approved by the senior supervisor.

EDUC 898 follows completion of course work requirements.

Curriculum and Instruction
This program leads to the MA degree, which requires at least 25 credit hours of course work and a thesis (EDUC 898); or the MEd degree, which requires at least 35 credit hours of course work and a comprehensive examination (EDUC 883). It is offered to students who wish to study current literature and research in education, and use schools, classrooms, and other educational settings such as learning laboratories in which to apply and test this knowledge. Also, the program offers teachers and other educators the opportunity to update knowledge in their subject or field of specialization, as well as to critically examine their practices and underlying theories.

The Curriculum and Instruction program can be pursued as a general program or can focus on an area of specialization such as diversity in education, French education, second language education, learning disabilities and reading. Information about specializations is available from the Graduate Programs office or on the web site.

Required courses in the general program are at least three of the core courses from the list below. Each Curriculum and Instruction program specialization adds requirements for course work to the general program requirements.

Core Courses
EDUC 615-5 Development of Educational Programs
EDUC 820-5 Educational Objectives and Teaching Strategies
EDUC 822-5 Evaluation of Educational Programs
EDUC 823-5 Curriculum and Instruction in an Individual Teaching Specialty
EDUC 830-5 Implementation of Educational Programs
EDUC 833-5 Seminar in Social and Moral Philosophy and Education
EDUC 864-5 Research Designs in Education

Additional courses, which are core courses for specializations in curriculum and instruction, include some of the following:

EDUC 804-5 Selected Problems in Educational Technology
EDUC 811-5 Fieldwork I
EDUC 819-5 Studies In Teacher-Student Interaction
EDUC 826-5 The Reading Process
EDUC 827-5 Individual Differences in Learning
EDUC 828-5 Instructional Practices in Reading
EDUC 829-5 Contemporary Issues in Learning Disabilities
EDUC 832-5 Teaching Composition: Research and Practice
EDUC 851-5 Computer-based Learning
EDUC 857-5 Issues and Topics in Environmental Education
EDUC 886-5 Contemporary Research and Classroom Practices in French Immersion
Arts Education
This program leads to a master of education course/work/comprehensive exam (MEd) or MA degree. The MEd requires 35 credit hours and a final comprehensive examination including the following.

Foundational Studies
all of
EDUC 848-5 Ideas and Issues in Aesthetic Education
EDUC 849-5 Artists, Society and Arts Education
EDUC 850-5 Creativity and Education

Curriculum Areas
all of
EDUC 852-5 Education and Dramatic Art
EDUC 868-5 Curriculum Theory and Art Education
EDUC 869-5 Music Education as Thinking in Sound

Electives
Students must complete one course from the Faculty of Education or from the School for the Contemporary Arts. These include the following.
PFA 811-5 Interdisciplinary Graduate Seminar I
PFA 883-5 Studio in PFA I
PFA 887-5 Selected Topics in Fine and Performing Arts
PFA 889-5 Directed Study in Fine and Performing Arts

The course chosen must be justified by reference to the student’s educational background, goals and to the relevance and coherence of the electives in relation to the rest of the program. Students may move to the MA after completing four courses.

Comprehensive Examination/Thesis
A final comprehensive exam is required for MEd students. A thesis is required for MA students.

Secondary Mathematics Education
This cohort program, leading to the MSc (thesis) or MEd (course work/comprehensive exam) in the teaching of secondary school mathematics, is offered jointly by the Faculty of Education and the Department of Mathematics and Statistics.

For the MSc (thesis) degree, as well as writing a thesis which will be supervised by a member of the Faculty of Education or the Department of Mathematics and Statistics, students complete 25 credit hours (see below). Students pursuing the MEd (course work) option will, in addition to 25 credit hours, take a minimum of 10 hours of graduate electives in education and/or mathematics, and a comprehensive exam. Students will select a degree option in consultation with faculty members.

Core Courses
EDUC 844-5 The Research Basis of Mathematics Education
EDUC 846-4 Foundations of Mathematics Education
EDUC 847-4 Teaching and Learning Mathematics
MATH 601-4 Discovering Mathematics I
MATH 602-4 Discovering Mathematics II

Intermediate and Elementary Mathematics Education
This program leads to the MA or MEd course work/comprehensive exam degree and meets the needs of practising elementary and intermediate grade teachers. Students complete 25 credit hours in education and mathematics and a master’s thesis (10 credits). MEd students complete 35 credit hours, of which 25 are core courses with a minimum of 10 elective hours in education and/or mathematics and a comprehensive exam. After the first four courses are completed, the student, in consultation with faculty members, will choose either the MA or MEd option.

Core Courses
EDUC 844-5 The Research Basis of Mathematics Education
EDUC 845-4 Learning Mathematics with Computers
EDUC 846-4 Foundations of Mathematics Education
EDUC 847-4 Teaching and Learning Mathematics
MATH 601-4 Discovering Mathematics I
MATH 602-4 Discovering Mathematics II

Computing
All of
MATH 607-4 Introduction to Discrete Mathematics
MATH 608-4 Linear Algebra
MATH 609-4 Modern Algebra
MATH 610-4 Set Theory and Logic

Electives
The remaining courses are selected from graduate level courses in the Faculty of Education or in the Department of Mathematics and Statistics.

Counselling Psychology
This program leads to an MA or an MEd degree.
The MA program is for students interested in careers as counsellors in schools, colleges, and community agencies. Students pursue a general program with opportunities for specialization provided in course work and field work.

Students in the counselling MA program must complete a minimum of 35 hours of course work and a thesis. All MA students must complete the core requirements listed below.

MA Core
EDUC 811-5 Fieldwork I
EDUC 812-5 Fieldwork II
EDUC 862-3 Individual Assessment Procedures
EDUC 870-5 Theories of Counselling
EDUC 874-5 Counselling Skills and Strategies
EDUC 898-10 Masters Thesis

MA students must also complete one methodology research course selected from the list below in consultation with the senior supervisor.

EDUC 863-5 Quantitative Methods in Educational Research
EDUC 864-5 Research Design in Education
EDUC 865-5 Advanced Qualitative Research in Education
EDUC 867-5 Qualitative Methods in Educational Research
EDUC 975-5 Advanced Quantitative Methods in Educational Research

In addition, MA students must complete a minimum of two elective courses selected in consultation with the tenured or tenure track member of the faculty. Electives may be selected from the MA/MEd electives list.

Core (required courses)
EDUC 811-5 Fieldwork I
EDUC 812-5 Fieldwork II
EDUC 862-3 Individual Assessment Procedures
EDUC 864-5 Research Design in Education
EDUC 865-5 Advanced Qualitative Research in Education
EDUC 867-5 Qualitative Methods in Educational Research
EDUC 975-5 Advanced Quantitative Methods in Educational Research

In addition, MEd students must complete the core requirements listed below.

MEd Core Courses
EDUC 811-5 Fieldwork I
EDUC 812-5 Fieldwork II
EDUC 862-3 Individual Assessment Procedures
EDUC 864-5 Research Design in Education
EDUC 870-5 Theories of Counselling
EDUC 874-5 Counselling Skills and Strategies
EDUC 883-0 MEd Comprehensive Examination

MEd Comprehensive Examination (EDUC 883)
Students take a comprehensive examination after the completion of the course work and supervised field experiences. The examination will be set by the faculty members associated with the program, in association with the director, and will cover two areas: ethics and professional practice.

MA/MEd Electives
A course may not count as a core and an elective. Acceptable courses may include the following.

EDUC 833-5 Seminar in Social and Moral Philosophy and Education
EDUC 835-5 Western Perspectives on Childhood, Child-Rearing and Education
EDUC 860-5 Contemporary Psychology of Education and Instructional Applications
EDUC 863-5 Quantitative Methods in Educational Research
EDUC 864-5 Advanced Qualitative Research in Education
EDUC 867-5 Qualitative Methods in Educational Research
EDUC 871-5 Family Counselling
EDUC 873-4 Vocational Counselling
EDUC 875-5 Therapeutic Instruction
EDUC 876-5 Cognitive Intervention Research
EDUC 878-5 Group Counselling
EDUC 970-5 Systems and Paradigms in the Psychology of Education
EDUC 975-5 Advanced Quantitative Methods in Educational Research

Psychology of Education
This program, leading to the MA degree, is for students interested in studying theories, basic and applied research, and research methods in the psychology of education. Students admitted to the MA program may apply to transfer to the PhD program in Psychology of Education upon successfully completing MA course work as described below and apply course credits and residence accumulated in the MA program to the PhD program. See “1.7 Residence and Course Requirements” on page 286. Students may apply for transfer credit if graduate work completed at another institution duplicates courses in this program.

Core (required courses)
EDUC 805-5 Social Development in the Primary School Context
EDUC 827-5 Individual Differences in Learning
EDUC 840-0 Graduate Seminar
EDUC 860-3 Contemporary Psychology of Education and Instructional Applications
EDUC 864-5 Research Designs in Education
EDUC 867-5 Qualitative Methods in Educational Research

Electives
Students will select one additional graduate course relevant to their interests and the study of the Psychology of Education in consultation with and approved, in advance, by their pro-tem advisor.

Thesis
EDUC 889-10 Master’s Thesis

Individual Program
In exceptional cases, when no other of the faculty’s master’s programs can accommodate special interests, an applicant may propose a unique curriculum that is crafted in consultation with a sponsoring tenured or tenure track member of the Faculty of Education. The proposed curriculum must focus on a well defined area of professional or scholarly inquiry that will be presented in a master’s project leading to an MEd degree or a master’s thesis leading to an MA degree.

The curriculum of an Individual program must include either 30 credit hours of course work plus EDUC 881
or 25 credit hours of course work plus EDUC 898. Course work must differ significantly from any other the faculty’s master’s programs. If half or more of the course work proposed for an individual program is required courses in another program or program specialization, apply to that program or program specialization instead.

Applicants to an individual program also must file, as part of their application, a research plan that describes the inquiry that will be pursued for the master’s project or thesis, and that presents the rationale for how the proposed curriculum supports that inquiry. The research plan must be approved by the faculty member sponsoring the applicant. Upon admission, the faculty member sponsoring the student will become the student’s senior supervisor. The second person suitably qualified to join the project or thesis supervisory committee will join the supervisory committee normally before the fourth course in an Individual program. The Faculty of Education Graduate Programs Policies, Procedures, and Protocols Handbook provides details about the MA project and MA thesis. The MEd project will be examined as prescribed in the Graduate Programs Policies, Procedures, and Protocols Handbook.

The director of graduate programs will review the proposed curriculum to evaluate whether it is unique and can be completed in reasonable time.

**Doctoral Programs**

Doctoral degrees signify the acquisition of advanced knowledge in a field of specialization and advanced competence in conducting significant and original education research. The EdD program emphasizes leadership in education. The PhD programs accentuate theoretical and professional studies plus advanced scholarly inquiry in education. Both degrees culminate in a comprehensive examination (EDUC 983) and a doctoral thesis (EDUC 899).

Requirements for doctoral degrees vary by program.

**Residence Requirements**

See “1.7 Residence and Course Requirements” on page 286.

**Comprehensive Examination**

All doctoral candidates must take a comprehensive examination by enrolling in EDUC 983. This is a prerequisite to enrolling in EDUC 899. Normally, the comprehensive examination is taken in the semester in which course requirements are completed or the immediately following semester. Students are advised to observe deadlines for adding courses for the semester in which they enroll in EDUC 983. The Faculty of Education Graduate Programs Policies, Procedures, and Protocols Handbook provides details about the comprehensive examination.

**EdD and PhD Thesis**

Normally, before the fourth program course, the student presents a doctoral thesis research plan to the pro-tempor advisor or a tenured or tenure-track Faculty of Education member whom the student proposes to be senior supervisor. Following the senior supervisor’s approval and at least one other member of the University faculty chosen in consultation with the senior supervisor, the supervisory committee is formed and the student proceeds to the thesis. The thesis will be examined as in Graduate General Regulations 1.9 and 1.10.

For EdD students, the supervisory committee should include a third member who is a qualified professional educator from the world of practice.

Upon supervisory committee approval, the completed thesis is examined as in the Graduate General Regulations, sections 1.9 and 1.10.

**Programs of Study for a Doctoral Degree**

**Arts Education**

This program, leading to the PhD degree, is for persons interested in becoming scholars and leaders in art education. Students are required to complete the following courses.

- EDUC 901-5 Seminar in the History of Educational Theory
- EDUC 902-5 Interdisciplinary Seminar in Contemporary Educational Theory

**Curriculum Specialization**

EDUC 910-5 Directed Readings

**Thesis**

EDUC 899-10 PhD Thesis

Courses in research methodology may be required depending upon the student’s research interests.

**Curriculum Theory and Implementation**

This program leads to the PhD degree. It requires successful completion of the following course work, amounting to a total of 20 credit hours beyond the requirements for the MA, MSc or MEd.

- EDUC 901-5 Seminar in the History of Educational Theory
- EDUC 902-5 Interdisciplinary Seminar in Contemporary Educational Theory

The supervisory committee may require further work in the Faculty of Education or other faculties. Students are encouraged to draw additional courses from related departments outside the Faculty of Education.

**Mathematics Education**

Curriculum Theory and Implementation PhD program candidates who wish to specialize in mathematics education must have prior knowledge of issues related to mathematics teaching and learning. Students must complete the following.

- EDUC 901-5 Seminar in the History of Educational Theory
- EDUC 902-5 Interdisciplinary Seminar in Contemporary Educational Theory
- EDUC 910-5 Directed Readings
- EDUC 946-5 Doctoral Seminar in Mathematics Education

and one of

- EDUC 911-5 Colloquium in Curriculum Theory (I)
- EDUC 912-5 Colloquium in Curriculum Theory (II)

**Psychology of Education**

This PhD program studies theories, basic and applied research, and research methods in the psychology of education. The program does not prepare students for registration with the BC College of Psychologists. Students may apply for transfer credit if the course is deemed acceptable to the degree. Exact transfer credit equivalence is not required, providing the courses are assessed as such. Admitted students must satisfy all requirements for the MA program in the Psychology of Education. If EDUC 975 was taken in the MA program, it is waived from the core.

- EDUC 840-0 Graduate Seminar
- EDUC 970-5 Systems and Paradigms in the Psychology of Education
- EDUC 971-5 Advanced Topics in the Psychology of Education

**Education**

EDUC 972-5 Colloquium in the Psychology of Education

**Advanced Quantitative Methods in Educational Research**

Electives

Students will select two additional graduate courses relevant to their interests and the study of the psychology of education in consultation with and approved, in advance, by their pro-tempor advisor.

**Thesis**

EDUC 899-10 Thesis

**EdD in Educational Leadership**

This program, leading to an EdD degree, is for educational administrators who are working full time so classes are held on extended weekends and during the summer. This degree looks beyond educational leadership as the application of generic management techniques. Its curriculum seeks to prepare leaders for situations where technique is insufficient and prepares educational leaders to deal with currently pressing issues and to understand deeper ethical, political, socio-cultural, technological, and educational matters.

Courses are divided into four areas of required courses as follows.

**Intellectual Foundations (10 credit hours)**

- EDUC 901-5 Seminar in the History of Educational Theory
- EDUC 902-5 Interdisciplinary Seminar in Contemporary Education Theory

**Professional Foundations (18-20 credit hours)**

- EDUC 960-5 Doctoral Seminar: Ethics, Law and Professional Leadership
- EDUC 961-5 Doctoral Seminar: Educational Governance, Reform and Diversity
- EDUC 962-5 Organizational Leadership, Accountability, and the Public Interest
- EDUC 963-5 Critical Approaches to Problem Definition

and one or more electives as required or approved by the senior supervisor (3 or 5 credit hours)

**Research Methods Seminars (6 credit hours)**

- EDUC 950-3 Educational Research Paradigms A
- EDUC 951-3 Educational Research Paradigms B

**Thesis (10 credit hours)**

- Thesis Preparation Seminars (no credit)
- EDUC 840-0 Graduate Seminar

**Thesis**

EDUC 899-10 Thesis

**Graduate Courses**

- EDUC 702-2 Directed Readings
- EDUC 703-3 Directed Readings
- EDUC 704-4 Directed Readings
- EDUC 705-5 Directed Readings
- EDUC 710-3,4,5 Special Topics
- EDUC 711-3,4,5 Special Topics
- EDUC 712-3,4,5 Special Topics
- EDUC 713-3,4,5 Special Topics
- EDUC 714-3,4,5 Special Topics
- EDUC 720-3,4,5 Special Topics
- EDUC 721-3,4,5 Special Topics
- EDUC 722-3,4,5 Special Topics
- EDUC 723-3,4,5 Special Topics
- EDUC 724-3,4,5 Special Topics
- EDUC 803-5 Educational Program Supervision

The course systematically examines school-based variables amenable to administrative manipulation and associated with student achievement.

- EDUC 804-5 Selected Problems in Educational Technology

Faculty of Education 351
EDUC 805-5 Social Development in the Primary School Context
This course involves an examination of theoretical, empirical and practical literature on social and emotional development in young children and its application to education and school settings.

EDUC 806-5 Selected Problems in Higher Education
EDUC 809-5 Graduate Seminar
EDUC 811-5 Fieldwork I
EDUC 812-5 Fieldwork II
EDUC 813-5 Organizational Theory and Analyses
This course critically examines organizations in which educational leaders work from different theoretical perspectives and in light of research evidence. It also critiques several past and current reform initiatives, and explores specific topics in depth. A central and pervasive question of the course concerns organizational purposes, especially with respect to learning, and how these purposes are served by organizational structures and processes.

EDUC 815-5 Administrative Processes
This course examines the administrative world in which educational leadership occurs, including: administrative ideologies, theories of practice and institutional arrangements; values analysis; and technical fields such as financial, legal and human resources. This is complemented by an introduction to current research findings and to distinct theoretical traditions (e.g. structural-functional, interpretive and critical) in which research examining administrative processes is conducted. Topical issues and problems will be explored within the conceptual framework of the course.

EDUC 816-5 Development of Educational Programs
Theories and practices for planning and developing programs in educational institutions.

EDUC 817-5 Policy Processes
This course examines three interrelated aspects of policy studies as a critical function of the educational leadership role: conceptual and theoretical foundations concerning policy, policy actors, and policy processes; current research in the field; and topical issues and problems. It also considers social, economic and political contexts (e.g. technologization, corporatization, pluralism) and how they affect education.

EDUC 818-5 Leadership Studies
This course examines three interrelated aspects of educational leadership studies of conceptual and theoretical foundations, with a particular emphasis on ethics of leadership; current research in the field, including feminist and cultural critiques; and topical issues and problems of leadership practice. Considerations of leadership character and role, power and authority in organizational relationships, and organizational goal achievement are central to the course.

EDUC 819-5 Studies in Teacher-Student Interaction
Consideration of systems for analysing teacher interaction and their use in analysing the student's own classroom teaching. The course will also deal with models of instruction designed to achieve various categories of educational objectives.

EDUC 820-5 Educational Objectives and Teaching Strategies
Focuses on the development of appropriate teaching strategies to achieve particular educational objectives.

EDUC 821-5 Philosophical Issues in Classroom Practices
Philosophical examination of assumptions underlying practical problems in classroom teaching. Some of the main issues examined include: distinguishing teaching, indoctrination, and conditioning; the use of compulsion, manipulation, and discipline; student/teacher relationships; child-centered education; alternative education; punishment and behavior modification. It also focuses on assumptions underlying such practices as play, learning by discovery, individualized instruction, and open education.

EDUC 822-5 Evaluation of Educational Programs
Processes used in program evaluation; including test and other measurement devices; and political, social and philosophical issues relating to the evaluation of educational programs.

EDUC 823-5 Curriculum and Instruction in an Individual Teaching Specialty
An intensive examination of developments in a curriculum area selected by the student. In addition the course will deal with major philosophical and historical factors that influence the present state and future directions of curriculum and instruction.

EDUC 824-5 Seminar in English as a Second Language
Students examine the use of grammars in language teaching, linguistic influences on learner English, current models in English as a second language, and learning acquisition.

EDUC 825-5 Curriculum and Instruction in English as a Second Language
Students examine the principles underlying curriculum design and evaluation materials based on various teaching methods. Students will design curricula for non-native speakers of English.

EDUC 826-5 The Reading Process
This course has a decidedly theoretical emphasis. Topics for study include: reading as a physiological process; psychological models of word processing; models for language and reading comprehension. The literature for this course will draw heavily upon current educational, psychological and psychological writings. Prerequisite: EDUC 473 or equivalent.

EDUC 827-5 Individual Differences in Learning
Students will examine current conceptions of individual differences that characterize the heterogeneity of students' abilities in school. Educational implications will also be addressed.

EDUC 828-5 Instructional Practices in Reading
The history of reading materials and methods will be discussed, and past and present instructional practices in reading evaluated in terms of state-of-the-art knowledge of instructional research; methods of analysing reading materials will be critiqued. Prerequisite: EDUC 826 or consent of the instructor.

EDUC 829-5 Contemporary Issues in Learning Disabilities
Selective issues important and current in the learning disabilities field are examined in depth. The objective is to enable students to master a significant body of knowledge in the learning disabilities field, and to identify areas of interest for their eventual thesis research. Prerequisite: EDUC 422.

EDUC 830-5 Implementation of Educational Programs
Problems and practices associated with innovation and implementation including the nature of change in the educational context, the roles of teachers, administrators, change agents, and evaluators.

EDUC 831-5 Seminar in Philosophy and Educational Theory
Philosophical examination of issues related to the school as an educational institution with social and political connections. Issues examined include: the education/schooling/training distinction; the justification of education; compulsory curriculum; freedom and authority in education; equality of educational opportunity; legal-moral questions central to educational administration; teachers' (parents') student's rights and duties; accountability; and the logic of decision-making.

EDUC 832-5 Teaching Composition: Research and Practice
This course leads students to understand, examine, and evaluate research and practice in the teaching of English composition, stressing a writing process and the integration of literature and language study.

EDUC 833-5 Seminar in Social and Moral Philosophy and Education
An in-depth study of the ethical foundations of education. Areas in education where ethical questions arise are identified and elucidated. Classical and modern moral positions are examined for their adequacy as theories of moral justification. The topics include the value of education, freedom and equality, and moral and values education.

EDUC 836-5 Advanced Seminar in Epistemology and Education
An in-depth study of epistemological issues in education, including: concepts of perception, cognition, imagination, memory, understanding, learning and the assessment of learning. Other questions dealt with are: What are the various forms of knowledge? What are the implications for core curriculum? What epistemological assumptions underlie current educational practices? Is the relativity of knowledge thesis defensible? Are the claims of sociology of knowledge sound? What is meant by: objectivity/knowledge/belief/truth? In what sense can 'rationality' be defended as a central educational objective?

EDUC 837-5 Seminar in Education, Social Philosophy, and Sociological Theory
An in-depth study of selected topics in education and social philosophy and sociological theory.

EDUC 838-5 Judgment in Administrative Decision-Making
Students examine the exercise of judgment (discretion) as a key element in administrative decision-making, and investigate the various dimensions of the exercise of discretion: conceptual, empirical, normative and prescriptive using perspectives drawn from diverse administrative contexts.

EDUC 839-5 Studies in the History of Childhood and Education in the Western World
This course will consist of a study of origins of 20th century concepts of childhood and their relationship to child-rearing and education in Europe and North America.

EDUC 840-0 Graduate Seminar
EDUC 841-3 Graduate Seminar
EDUC 844-5 The Research Basis of Mathematics Education
An examination of critical issues, current research and research practices in mathematics education.

EDUC 845-5 Learning Mathematics with Computers
Experience in incorporating computers in mathematical problem solving, adaptation of materials for use in intermediate mathematics classroom.

EDUC 846-4 Foundations of Mathematics Education
An examination of historical, cultural, and psychological forces shaping the secondary school mathematics curriculum. Current developments in mathematics curriculum and in mathematics education research.
EDUC 847-4 Teaching and Learning Mathematics
The theory and practice of mathematics teaching at the secondary level. Emphasis on the nature of the learner and the function of the teacher.

EDUC 848-5 Ideas and Issues in Aesthetic Education
This course relates critical ideas in aesthetics to questions concerning the nature, purpose, and provision of the arts (visual art, music, drama, dance, literature) in education.

EDUC 849-5 Artists, Society and Arts Education
A major survey of the educational theories and practices of musicians and artists generally from medieval times to the present. The special focus will be on modern responses of musicians and artists to modern demands for mass arts education. Material will be drawn from Europe, North America, Asia, and other parts of the world where mass arts education provision occurs.

EDUC 850-5 Creativity and Education
This course involves an exploration of the concept of creativity used in educational theory and practice. Through an examination of philosophical writings, psychological studies, first hand accounts of creators, biographical and historical material, and works of art and science themselves, an attempt will be made to come to grips with some of the problems which surround this concept and thereby to evaluate views about creativity put forth in theoretical accounts and exhibited in educational practice.

EDUC 851-5 Computer-Based Learning
Examines the roles of computers in education with an emphasis on computer based learning using microcomputers.

EDUC 852-5 Education and Dramatic Art
This course involves an exploration of basic issues and questions which underlie the nature and provision of drama education in the schools. It includes a critical examination of the claims made in the theoretical literature regarding the nature and aims of drama education and an exploration of the implications for drama education curriculum and pedagogy.

EDUC 855-5 Multicultural and Race Relations Education: Policy Development and Program Implementation
Theory, research, policy development and program implementation in multicultural and race relations education encompass a wide spectrum of areas of educational inquiry.

EDUC 857-5 Issues and Topics in Environmental Education
Examines the origins of environmental education, the range of program offerings, and the educational concepts which appear to underlie them. Prerequisite: consent of the instructor.

EDUC 858-5 Contemporary Research and Classroom Practices in French Immersion
Students examine studies, reports and articles relating to French Immersion methodology, curriculum and program exploration. Students derive classroom applications and curriculum changes from these studies. Prerequisite: EDUC 481.

EDUC 859-5 Philosophy of Science and Perspectives on Education
An introductory examination of various philosophical positions about the nature of science, including logical positivism, instrumentalism, relativism and social constructionism, and their relation to curriculum and instruction in science.

EDUC 860-3 Contemporary Psychology of Education and Instructional Applications
A survey of theory and empirical research on psychology as it relates to education. Topics include motivation, learning models and family interactions in classrooms, and classroom environments. In design projects, students examine and create educational activities based on research, and investigate individually chosen topics. Prerequisite: EDUC 220 or permission of the instructor.

EDUC 862-3 Individual Assessment Procedures
Methods for gathering and validly interpreting assessments of individuals in educational settings. Intelligence and achievement testing, interview methods, observational procedures, case study methodology. Students who have taken EDUC 872 in previous semesters may not take this course for credit.

EDUC 863-5 Qualitative Methods in Educational Research
Focus on critical analysis of quantitative research in education. Research studies examined will be based on exploratory and confirmatory data analysis, including group comparisons and correlations. Students will use calculators and computers for data analysis and display. Prerequisite: EDUC 864.

EDUC 864-5 Research Designs in Education
Designing and interpreting research about education. Introduction to survey techniques, correlational designs, classic experimental and evaluation designs for investigating causal relations, case study methods, interpretive approaches to research. Students with credit for EDUC 814 may not take this course for further credit.

EDUC 866-5 Advanced Qualitative Research in Education
Students will study in depth various qualitative methodological approaches to educational research, will develop competence to contribute significantly to knowledge in their particular field of study, and will engage in intensive practice of various methodological approaches to qualitative research introduced in EDUC 867. Prerequisite: EDUC 864 and 867.

EDUC 867-5 Qualitative Methods in Educational Research
This course introduces students to qualitative research in education and examines topics such as identifying problems, using conceptual frameworks, coding, data analysis, drawing interpretations, and constructing arguments. Prerequisite: EDUC 864.

EDUC 868-5 Curriculum Theory and Art Education
The course examines and relates conceptions of creativity and response in the visual arts to the educational practices and techniques will be explicated through discussion and simulation. Prerequisite: EDUC 870.

EDUC 870-5 Theories of Counselling
Students examine analytic, phenomenological, existential, behavioral and cognitive approaches to counselling, and the philosophical and personality theories upon which they are based.

EDUC 871-5 Family Counselling
Students discuss models of family dynamics and instructional interventions applicable by school personnel in family counselling interactions. Concepts and techniques will be explicated through discussion and simulation. Prerequisite: EDUC 870.

EDUC 873-4 Vocational Counselling
Provides a sound theoretical basis for career counselling activities. Major vocational theorists will be discussed along with relevant assessment considerations. Skill will be developed in such areas as utilizing community resources, obtaining vocational information, building a career information centre, job search techniques, and procedures for enhancing occupational placement.

EDUC 874-5 Counselling Skills and Strategies
Counselling skills and strategies are analysed, practiced, and critically examined. Counsellor decision-making, counselling effectiveness, and professionalism in counselling are also considered. Prerequisite: consent of the instructor.

EDUC 876-5 Cognitive Intervention Research
This course examines issues in research designed to enhance learners’ cognitive processes. This research is subsumed under the broad term ‘cognitive interventions,’ which in turn, refers to research purported to increase learners’ success in learning. The issues examined include the historical context, problems and prospects of cognitive interventions. Prerequisite: EDUC 829.

EDUC 877-5 Contemporary School Counselling
This course is designed to examine the complex role of the school counsellor at various levels of the public school system. Responsibilities of school counsellors, as well as the knowledge and skills required to discharge these will be investigated. Topics will also include background knowledge such as legal and ethical issues, structure of the school and social services systems, and child development. Specific social and psychological issues of particular relevance to school counsellors will be covered (e.g. conflict resolution, conducting parent interviews, social skills training, helping teachers deal with children with a variety of behavioral challenges such as hyperactivity and aggressive behavior, the impact of divorce on children, etc.).

EDUC 878-5 Group Counselling
An examination of contemporary approaches to group counselling. Prerequisite: EDUC 874.

EDUC 881-5 Master’s Project
The project is a study that may take a variety of different forms including a survey, case study, extended essay, curriculum development project inter alia; central to its character is a concern with the application of relevant academic knowledge to professional practice. The project should normally be completed and approved in two semesters.

EDUC 883-0 MEd Comprehensive Examination
The examination is graded on a satisfactory/unsatisfactory basis.

EDUC 898-10 Masters Thesis
The thesis is a research investigation designed to generate and/or examine critically new knowledge in the theory and/or practice of education. The thesis should normally be completed and approved in three semesters.

EDUC 899-10 Doctoral Thesis
Prerequisite: EDUC 983.

EDUC 901-5 Seminar in the History of Educational Theory
The historical roots of educational thought are examined from a broad cultural perspective. Major works in disciplines such as philosophy, psychology and sociology which have had significant impact on education, naive realism, instrumentalism, and theory and educational practice.
EDUC 902-5 Interdisciplinary Seminar in Contemporary Educational Theory
Contemporary educational theories and theories from supporting disciplines (e.g., psychology, sociology, philosophy) will be examined and analysed. The relationships among contemporary theories, current practice and educational change will be focal.

EDUC 903-5 Research Apprenticeship
The apprenticeship is designed to provide the student with practical experience in scholarly inquiry in close co-operation with a faculty member in the student's area of specialization.

EDUC 904-5 Fieldwork III
EDUC 905-5 Fieldwork IV
EDUC 907-5 Selected Topics
EDUC 908-5 Selected Topics
EDUC 910-5 Directed Readings
EDUC 911-5 Colloquium in Curriculum Theory (I)
EDUC 912-5 Colloquium in Curriculum Theory (II)
EDUC 945-5 Doctoral Seminar in Arts Education
The course provides a broad theoretical overview of problems and ideas associated with the nature and provision of arts education in the schools.

EDUC 946-5 Doctoral Seminar in Mathematics Education
This seminar is designed to extend and deepen students' understanding of the discipline of mathematics education. It will examine international developments, research programs, special interest groups, recent theories in learning and teaching mathematics, and issues in mathematics teacher education. Prerequisite: EDUC 846 or equivalent, and EDUC 847 or equivalent.

EDUC 950-3 Educational Research Paradigms A
The broad paradigms encompassing much current educational research are examined, with emphasis on their philosophical and assumptional bases, as well as general ethical and methodological issues. Particular attention is paid to the critical reading of research and the implications for educational leadership. In addition, students begin to identify a research topic and to develop a defensible research orientation.

EDUC 951-3 Educational Research Paradigms B
Specific methodological and ethical issues of conducting a study within the traditions of current educational research are examined, through examination of published research and through a class project. Particular attention is paid to the critical reading of research and the implications for educational leadership. In addition, students are expected to complete a preliminary proposal for their own doctoral research. Prerequisite: EDUC 860.

EDUC 960-5 Ethics, Law and Professional Leadership
This seminar examines the ethical and legal environment of professional leadership. Specifically, the course addresses moral issues and dilemmas embedded in professional practice including occupational and ordinary morality, issues of deception and honesty, informed consent, privacy and confidentiality, conflict of interest, individual and collective responsibility, inter alia. The course will use cases and personal experience as heuristics for learning.

EDUC 961-5 Educational Governance, Reform and Diversity
The nature and impact of recent wide-ranging systemic educational reform in several different countries are critically examined, through two major themes. One theme is the politics and dynamics of governance, with a particular emphasis on participatory forms of political life in a heterogeneous society. The other theme is the politics and culture of difference, and the development of community which respects these differences.

EDUC 962-5 Leadership, Accountability, and the Public Interest
The special responsibilities of leaders in educational institutions for accountability both to learners and to the wider community with respect to policies, practices and programs are the focus of this seminar. Contemporary approaches to program assessment and to ensuring cost-effectiveness in educational management are applied to cases emerging from student experience.

EDUC 963-5 Critical Approaches to Problem Definition
This course examines how problems in practice are identified, defined and understood from a variety of different theoretical perspectives. Within the common framework of the course, students will investigate a problem or issue of significance to their individual workplaces or to their individual research endeavors.

EDUC 970-5 Systems and Paradigms in the Psychology of Education
A survey of major 20th century systems and paradigms that underlie research and theories in instructional psychology; addressing learning, cognition, motivation, methods of inquiry, and other cornerstones of the field. Prerequisite: one of EDUC 826, 828, 860, 870 or equivalent graduate course.

EDUC 971-5 Advanced Topics in the Psychology of Education
Critical analysis and synthesis of recent theoretical and empirical research in psychology of education and cognate areas. Students who have taken EDUC 865 in previous semesters may not take this course for further credit. Prerequisite: EDUC 860 or permission of the instructor.

EDUC 972-5 Colloquium in the Psychology of Education
Survey of methods for synthesizing knowledge gleaned from primary and secondary research, including meta-analysis and integrative reviewing. Assignments culminate in presenting a colloquium about a topic of the student's choice to the faculty.

EDUC 975-5 Advanced Quantitative Methods in Educational Research
Methods for analyzing multivariate data in educational research, meta-analytic methods, and applications and frailties of advanced quantitative analysis. Illustrations from educational research are used throughout. Prerequisite: EDUC 863 and 864 or permission of instructor.

EDUC 980-0 Doctoral Comprehensive Examination
The examination is graded on a satisfactory/unsatisfactory basis.

Field Programs
Director
T. O'Shea BEng (McG), BEd (Sask), MA (Manit), EdD (Br Col)

Graduate Diploma Offered
Advanced Professional Studies in Education

Graduate Diploma in Advanced Professional Studies in Education
This diploma program, administered through the Field Programs office, consists of 30 credit hours in 500 level EDPR courses. With the director of field programs' approval, up to eight credit hours of other acceptable course work may be used to complete the requirements for the diploma.

Graduate diploma programs are developed in co-operation with other educational partners (e.g. school districts and consortia, Ministry of Education regional offices) and all courses are offered at off-campus sites. Each program addresses a theme to the educational community. Students normally progress through as a cohort. Significant portions of the program may be supported via the Internet. Students who are unable to follow a cohort through an entire theme-based program must complete a total of 30 credit hours, at least 18 of which must be in the given theme to qualify for the diploma.

Admission to Diploma Program
The minimum requirements for admission are:
- a bachelor's degree from a recognized university
- a teaching certificate based on a recognized teacher preparation program, and
- submitted evidence of the student's ability to undertake advanced work in education.

Under exceptional circumstances, applicants without a teaching certificate but having a Bachelor's degree and significant teaching or leadership experience in education (e.g., in a pre-school or post secondary setting) may be accepted into the program.

For further information, contact Field Programs, Faculty of Education, Simon Fraser University, Burnaby, BC, V5A 1S6, (604) 291-4892 Tel, (604) 291-5882 Fax, tbailleul@sfu.ca

Graduate Diploma Courses
EDPR 501-520 3,4,5 Special Topics
These courses require students to investigate current theory, research and pedagogy related to a particular theme. Graded on a satisfactory/unsatisfactory basis.

EDPR 521-540 3,4,5 Special Topics
These courses involve students in critical examination of policy, curricular, instructional and assessment practices related to a particular theme. Graded on a satisfactory/unsatisfactory basis.

EDPR 541-544 2,3,4,5 Advanced Field Studies in Curriculum Development I
In these courses, students read for, plan and develop a conceptual framework for action that connects theme studies to the individual's professional context. Graded on a satisfactory/unsatisfactory basis.

EDPR 545-548 2,3,4,5 Advanced Field Studies in Curriculum Development II
In these courses, students read for, plan and develop a conceptual framework for action that connects theme studies to the individual's professional context. Graded on a satisfactory/unsatisfactory basis.

EDPR 549-552 2,3,4,5 Advanced Field Studies in Education Practice I
In these courses, students implement plans for action, conduct classroom inquiry, and document their individual learning related to the theme of the course sequence. Graded on a satisfactory/unsatisfactory basis.

EDPR 553-556 2,3,4,5 Advanced Field Studies in Education Practice II
In these courses, students implement plans for action, conduct classroom inquiry, and document their individual learning related to the theme of the course sequence. Graded on a satisfactory/unsatisfactory basis.

EDPR 557-560 2,3,4,5 Advanced Field Studies in Collaborative Inquiry I
In these courses, students work in groups to investigate topics of mutual interest within the diploma.
theme, with an emphasis on their contributions to both the cohort learning group and the individual’s broader educational community. Graded on a satisfactory/unsatisfactory basis.

**EDPR 561-564 2,3,4,5 Advanced Field Studies in Collaborative Inquiry II**
In these courses, students in groups investigate topics of mutual interest within the diploma theme, with an emphasis on their contributions to both the cohort learning group and the individual’s broader educational community. Graded on a satisfactory/unsatisfactory basis.
Faculty of Science

P9451 Shrum Science Centre, (604) 291-4590 Tel, (604) 291-3424 Fax, www.sfu.ca/~science

Dean
W.S. Davidson BSc (Edin), PhD (Qu)

Graduate Degrees Offered
Master of Environmental Toxicology
Master of Pest Management
Master of Science
Doctor of Philosophy

General Regulations
See "Graduate General Regulations" on page 283 for admission requirements, registration, residence requirements and degree completion time limits.

Admissions
Requirements for the MSc Degree
The minimum requirements are those stated in the Graduate General Regulations. Any additional requirements imposed by the supervisory committee must be satisfied. Individual departments may require additional courses at the graduate level. Students who, in the opinion of the supervisory committee, lack certain prerequisites for graduate courses may be required to include some undergraduate courses in their programs.

Requirements for the PhD Degree
A PhD candidate must present a thesis embodying original research results. In addition, 15 credit hours beyond the BSc degree is required. Of these, at least 12 must be graduate courses and the remaining three may be chosen from graduate or upper division undergraduate level within the candidate’s department or an ancillary department. These are minimum faculty requirements. Individual departments may have additional requirements.

Full-Time Study
Full-time study for the MET, MPM, MSc, and PhD degrees normally is defined as a period of intensive work, during which time no more than 20 hours of employment per week may be undertaken by the candidate. These clock hours either at external employment off-campus or employment on campus as a teaching assistant or research assistant performing specified duties not directly related to the candidate’s program of study.

Supervisory Committee
For information on supervisory committees, refer to the Graduate General Regulations.

Thesis
The thesis must be presented and lodged in the University library. Details concerning the final form for binding are available from the library.

PhD Examinations
Examinations may be oral and/or written and all committee members must certify the results. See “1.9.4 Preparation for Examination of Doctoral Thesis” on page 287 for further regulations.

Research Facilities
Faculty of Science research programs are housed in modern research laboratories and are serviced by a wide range of facilities and equipment. The research complement includes 139 faculty members, 55 post-doctoral fellows and research associates and 350 to 400 graduate students.

The facilities include a Molecular Beam Epitaxy facility, a Bruker FTIR-GC system, a number of NMR machines including a Bruker AMX 600 superconducting high field facility for 'H and other nuclei, a Hewlett Packard 5985 GC mass spectrometer with data station, amino acid analyser facilities for DNA synthesis and automated DNA sequencing and quadrupole gas analyser. X-ray generators with vertical and full circle goniometers, various electron microscopes and high power lasers are available. There are also comprehensive machine, glassblowing and electronic workshops.

Biological research is enhanced by fresh and salt water aquarium facilities, insectary, extensive radioisotope facilities, an 11 metre research vessel, and various boat and vehicle transport systems. The Bamfield Marine Station on Vancouver Island's west coast, is available as a teaching and research facility for marine biology and oceanography. The marine station is operated jointly by the Universities of Alberta, British Columbia, Calgary, Simon Fraser University and the University of Victoria.

Experimental facilities are available at TRIUMF, a 500 MeV proton accelerator for the study, for example, of high energy nuclear reactions, muon chemistry and nuclear decay systems of exotic nuclei. TRIUMF is a joint venture of the University of Alberta, University of British Columbia, Simon Fraser University and the University of Victoria.

Applied and Computational Mathematics Program

K10512 Shrum Science Centre, (604) 291-3331 Tel, (604) 2914947 Fax, www.math.sfu.ca

Chair
J.L. Berggren BSc, MSc, PhD (Wash)

Graduate Program Chair
R.A. Lockhart BSc (Br Col), MA, PhD (Calif)

Faculty and Areas of Research
G.N. Bojadziev – differential equations; population dynamics, control dynamics
J.M. Borwein – optimization, tomography, convex analysis, nonlinear analysis
R. Choksi – calculus of variations, partial differential equations, and applications to material science
A. Das* – variational techniques; interior solutions in general relativity
G.A.C. Graham – viscoelastic solid mechanics
M.C.A. Kropinski – numerical solutions of non-linear differential equations; fluid dynamics
R.W. Lardner* – computational fluid dynamics: oceanography, asymptotic methods, nonlinear waves
D. Muraki – asymptotic analysis and modelling for the physical sciences, nonlinear waves and dynamics, atmospheric fluid dynamics
E. Pechlaner – relativistic continuum mechanics: approximation methods, self-similarity
K. Promislow – partial differential equations, nonlinear waves, invariant manifolds
R.D. Russell – numerical analysis: numerical solution of differential equations, dynamical systems
S. Ruth – scientific computing, differential equations, dynamics of interface
C.Y. Shen – electromagnetic scattering; large-scale scientific computing

M. Singh* – nonlinear stability and perturbation methods
M.R. Trummer – numerical analysis: differential equations, integral equations

*emeritus

This is one of the graduate programs offered by the Department of Mathematics and Statistics.

Admission
See “Graduate General Regulations” on page 283 for admission requirements.

Applicants are normally required to submit scores in the aptitude section and an appropriate advanced section of the Graduate Record Examinations of the Educational Testing Service.

Applicants with backgrounds in areas other than mathematics, (for example, a bachelor’s degree or its equivalent in engineering or physics) may be considered suitably prepared for these programs.

Degree Requirements

MSc Program

A candidate for the MSc will normally be required to obtain a total of 28 credit hours beyond courses taken for the bachelor's degree. These 28 hours will consist of at least four courses chosen from the list of core courses below with at least one course from each of the pairs MATH 900,901; MATH 920, 922; MATH 930, 935; a further eight credit hours at the graduate level; and a further four hours of credit which may be at the graduate level or at the 400 undergraduate level. The six core courses are

- MATH 900-4 Advanced Mathematical Methods I
- MATH 901-4 Advanced Mathematical Methods II
- MATH 920-4 Numerical Linear Algebra
- MATH 922-4 Numerical Solution of Partial Differential Equations
- MATH 930-4 Fluid Dynamics
- MATH 935-4 Mechanics of Solids

In addition to this course requirement (normally completed in five semesters), the student completes a project which involves a significant computational component the submit and successfully defends a project report. This project should be completed within about one semester.

PhD Program

A PhD candidate must obtain at least a further eight graduate level credit hours beyond the MSc requirements. Candidates who are admitted to the PhD program without completing an MSc will be required to obtain credit or transfer credit for an amount of course work equivalent to that obtained by students who first complete a MSc degree.

PhD candidates normally pass an oral candidacy exam given by their supervisory committee prior to the end of the fourth full time semester. The exam consists of a proposed thesis topic defence and questions from the supervisory committee on related proposed field of research topics. The exam follows submission of a written PhD research proposal and is graded pass/fail. Those with a fail must take a second exam within six months. A student failing twice will normally withdraw.

A PhD candidate must submit and defend a thesis based on his/her original work that embodies a significant contribution to mathematical knowledge.
Program section.

for STAT 801-890 can be found in the Statistics section while those further credit.

credit for MA TH 853 may not take MA TH 923 for method, Quasi-Newton methods, secant methods, and unconstrained optimization problems. Newton's

Numerical solution of systems of nonlinear equations, Optimization

MATH 923-4 Numerical Methods in Continuous

MA TH 922 for further credit.

solving partial differential equations. Finite difference

Analysis and application of numerical methods for numerical linear algebra, sparse matrix techniques, and parallel algorithms. Prerequisite: MATH 930 or permission of the instructor.

MATH 910-4 Ordinary Differential Equations

The solutions and properties of ordinary differential equations and systems of ordinary differential equations in the real and complex domains. Prerequisite: MATH 415 or equivalent. Students with credit for MATH 842 may not take MATH 910 for further credit.

MATH 912-4 Partial Differential Equations

An advanced course on partial differential equations. Topics covered usually will include quasi-linear first order systems and hyperbolic, parabolic and elliptic second-order equations. Prerequisite: MATH 901 or permission of the instructor. Students with credit for MATH 845 may not take MATH 912 for further credit.

MATH 920-4 Numerical Linear Algebra

Direct and iterative methods for the numerical solution of linear systems, factorization techniques, linear least squares problems, eigenvalue problems. Techniques for parallel architectures. Students with credit for MATH 850 may not take MATH 920 for further credit.

MATH 921-4 Numerical Solution of Ordinary Differential Equations

Study of the practical numerical methods for solving initial and boundary value problems for ordinary differential equations. Students with credit for MATH 851 may not take MATH 921 for further credit.

MATH 922-4 Numerical Solution of Partial Differential Equations

Analysis and application of numerical methods for solving partial differential equations. Finite difference methods, spectral methods, multigrid methods. Students with credit for MATH 852 may not take MATH 922 for further credit.

MATH 923-4 Numerical Methods in Continuous Optimization

Numerical solution of systems of nonlinear equations, and unconstrained optimization problems. Newton's method, Quasi-Newton methods, secant methods, and conjugate gradient algorithms. Students with credit for MATH 853 may not take MATH 923 for further credit.

MATH 929-4 Selected Topics in Numerical Analysis

Study of a specialized area of numerical analysis such as computational fluid dynamics, approximation theory, integral equations, integral transforms, computational complex analysis, special functions, numerical quadrature and multiple integrals, constrained optimization, finite elements methods, sparse matrix techniques, or parallel algorithms. Prerequisite: MATH 614 or equivalent. Recommended: MATH 419.

MATH 930-4 Advanced Mathematical Methods II


MATH 902-4 Applied Complex Analysis

Review of complex power series and contour integration. Conformal mapping, Schwarz-Christoffel transformation. Special functions. Asymptotic expansions. Integral transform. Prerequisite: MATH 322 or equivalent. Students with credit for MATH 836 may not take MATH 902 for further credit.

MATH 905-4 Applied Functional Analysis

Infinite dimensional vector spaces, convergence, generalized Fourier series. Operator Theory; the Fredholm alternative. Application to integral equations and Sturm-Liouville systems. Spectral theory. Prerequisite: MATH 900 or permission of the instructor.

Department of Biological Sciences


Chair
N.H. Haunerland MSc, PhD (Mün)

Graduate Program Chair
L.M. Dill BSc, MSc, PhD (Br Col)

Faculty and Areas of Research
See “Department of Biological Sciences” on page 179 for a complete list of Biological Sciences faculty. See “Centre for Environmental Biology” on page 361 for a complete list of Environmental Biology faculty.

L.J. Albright – marine microbiology, fish diseases
D.L. Hallie – genetics, developmental biology
A.T. Beckenbach – population genetics, biometrics
J.H. Borden – forest entomology, phenornenes
B.P. Brandhorst – development biology, molecular biology
F. Breiden – population genetics, evolution of social behavior
A.H. Burr – biophysics, photobiology, neurobiology
F. Cooke – population biology
B.J. Crespi – behavioral ecology
K.R. Delaney – neurophysiology
L.M. Dill – behavioral ecology
L.D. Druehl – marine physiology, ecology
E. Elie – plant evolutionary ecology
P.V. Fankboner – pearl culture, marine invertebrate biology
A.P. Farrell – cardiovascular physiology, environmental toxicology
T. Finlayson* – insect taxonomy
F.J.F. Fisher* – evolution and ecophysiology of plants
G.J. Gries – behavioral ecology, chemical ecology
N. Harden – characterization of signal transduction in drosophilia
A.S. Harestad – wildlife biology
E.B. Hartwick – marine invertebrate ecology, cephalopod biology
N.H. Haunerland – biochemistry, insect physiology
B.M. Honda – molecular biology, biochemistry
C.J. Kennedy – aquatic toxicology
A.R. Kermode – plant molecular biology
F.C.P. Law – environmental toxicology
S.P. Lee – plant stress physiology and molecular biology
L.F.W. Lesack – ecosystem biogeochemistry, limnology; land-water interactions
J.P.M. Mackauer* – insect parasitology, biological control, systematics
R. Mathews – paleoecology, palynology
B.A. McKeown – endocrinology
A.R. Moers – biodiversity, molecular analysis
M.M. Moore – toxicology, microbiology
R.A. Nicholson – pesticide biochemistry, toxicology
A.L. Plant – root specific gene expression, osmotic stress, seed specific gene expression, modulation by ABA, osmotica
J.V. Price – developmental genetics
Z.K. Punja – plant biotechnology and pathology
L.M. Quarmby – diagnostics
J.E. Rahe – plant pathology, pest management
B.D. Rottig – population dynamics, insect behavioral ecology
J. Scott – immunochemistry, immunology
M.J. Smith – molecular biology, development and evolution
L.M. Srivastava* – plant physiology and molecular biology, biology of weeds
N.A.M. Verbeek* – ornithology, field ecology
E.M. Verheyen – drosophilia developmental genetics
W.E. Widmer – plant histology, algal physiology
J.M. Webster – nematology, parasitology
T.D. Williams – physiological ecology
M.L. Winston – apiculture, social insects
R.C. Ydenberg – behavioral ecology

Associate Members
C. Crawford, Psychology
B. Gallikas, Archaeology
C. Krieger, Kinesiology
G.F. Tibbits, Kinesiology

Adjunct Professors
N.P.D. Angerilli BSc, PhD (S Fraser)
P. Belton BSc (Lond), PhD (Glas), ARCS
R.W. Butler BSc, MSc (S Fraser), PhD (Br Col)
H.L. Ching BA, MSc (Oregon State), PhD (Neb)
R. Einer BSc (Newcastle, UK), PhD (Bangor, UK)
W.G. Friend BSc (McG), PhD (C'nell)
D.D. Gillespie BSc, MSc, PhD (S Fraser)
M. Goettel BSc (C'dia), MSc (Ott), PhD (Alta)
G.J.R. Judd BSc, MPM, PhD (S Fraser)
D.B. Lank BS (Minn), MS (Minn), PhD (C'nell)
R.S. Vernon BSc, MPM, PhD (S Fraser)
I.R. Walker BSc (Mt Allison), MSc (Wat), PhD (S Fraser)
* emeritus

Admission – MSc and PhD
See “Graduate General Regulations” on page 283 for admission requirements. See “Centre for Environmental Biology” on page 361 for admission to the Master of Pest Management program and the Master of Environmental Toxicology program.
Biochemistry and Molecular Biology
See “Department of Molecular Biology and Biochemistry” on page 365 for graduate studies in molecular biology or biochemistry.

Biophysics
Students who wish to undertake interdisciplinary work in biophysics may apply to the Department of Biological Sciences or the Department of Physics. See “Graduate General Regulations” on page 283 for biophysics under special arrangements.

Post Baccalaureate Diploma in Environmental Toxicology
See “Environmental Toxicology” on page 182 for information about this program.

Degree Requirements for MSc and PhD
All MSc and PhD programs require a thesis based on original research. Each PhD student must pass an oral candidacy exam prior to the end of the fourth program semester or the second semester after transfer from the MSc program. The exam concentrates on the student’s area of research and follows submission of a written PhD research proposal. The exam is graded acceptable/unacceptable. Students with an unacceptable grade must pass a second exam within six months; a student receiving a second unacceptable rating will normally be required to withdraw from the program.

If a student already has a master’s degree, the PhD program requires a minimum of three courses totalling not less than eight credit hours. Of these eight hours, at least six are to be in graduate courses and the remaining hours may be chosen from courses at the graduate or upper division undergraduate level within the candidate’s department, or in an ancillary department. Where advance approval is obtained, a PhD student may take up one-half of the above course requirement at another university for credit toward the PhD degree at Simon Fraser University. PhD students entering directly from a bachelor’s program or transferring from the MSc program must complete 15 credit hours in total (i.e. one additional three credit course beyond the University MSc requirement (See “1.7.3 Course Requirements for the Master’s Degree” on page 286). Additional course work may be set by the supervisory committee.

For biological sciences graduate program information, contact the chair, department graduate studies committee.

Biological Sciences Graduate Courses
BISC 804-3 Plant Ecology
Directed study and discussion of current literature related to terrestrial plant ecology particularly environmental relationships. Particular topics to be arranged.

BISC 805-3 Comparative Endocrinology
A comprehensive account of morphological and physiological aspects of endocrine systems in various groups of animals. Principles of methods and techniques in endocrinological research.

BISC 806-3 Evolutionary Theory
A consideration of recent advances and current controversies in our understanding of the development, diversification and adaptation of life through natural selection.

BISC 807-3 Ecological and Evolutionary Physiology
This course considers what physiology has to offer behavioral and evolutionary ecology (and vice versa), with a focus on whole organism or 'integrative physiology'. (3-0-0)

BISC 812-3 Marine Research Techniques: Scientific Diving
An introduction to the use of diving in marine/freshwater research, related underwater methodology, diving competency and current issues in marine biological research and scientific diving. (3-0-3)

BISC 814-3 Aquatic Ecology
Current problems in the ecology of marine and freshwater environments. Topics will be selected from recent developments in physiological ecology, energetics, population ecology and community studies.

BISC 815-3 Contemporary Problems in Plant Physiology
Directed studies in modern laboratory approaches to specific areas of research.

BISC 816-3 Biology and Management of Forest Insects
Bionomics, ecology, economic impact, and management of the major groups of forest insects, based on intensive reviews of information on representative species. Prerequisite: BISC 317 or permission of the department.

BISC 817-3 Evolution of Social Behavior
Study of the proximate and ultimate causes and consequences of alternative social systems in non-human animals. (3-0-0)

BISC 824-3 Survival and Reproductive Strategies
An examination of strategies for resource acquisition and allocation, and the behavioral, ecological and life history means whereby organisms maximize lifetime reproductive success. (3-0-0)

BISC 827-3 Seminar in Evolutionary and Behavioral Ecology
An introduction to the important issues, methods and philosophy of behavioral ecology, and discussion of current topics. Grading will be on an S/U basis. Prerequisite: BISC 304 and 410 or permission of the department.

BISC 828-3 Models in Behavioral Ecology
An intensive survey course of current modeling techniques used for analysis of problems in behavioral ecology. (3-0-0)

BISC 829-3 Conservation Ecology
This course will illustrate the value of applying ecological theory, particularly concerning life history and demography, to issues of management and conservation. Examination of life history characteristics and variability of individuals will demonstrate how knowledge of demography and population parameters are essential for effective conservation. Emphasis will be on vertebrate species. (3-0-0)

BISC 838-3 Population Biology
Consideration of the ecological and genetic processes acting at the population level. (3-0-0)

BISC 839-3 Industrial Microbiology
This course introduces students to the use of microorganisms in biotechnology, e.g. in the environmental, pharmaceutical and chemical industries. The lectures will cover the unique physiology and biochemistry of industrial microorganisms as well as discussing their use in various processes including industrial fermentation, bioremediation, chemical synthesis and protein production (e.g. vaccines) by recombinant organisms. (2-0-1) Prerequisite: a second or third year undergraduate microbiology course.

BISC 841-3 Plant Disease Development and Control
An examination of the major factors that lead to development of soil-associated and foliar plant diseases in cultivated crops. The major areas of emphasis are ecology and the control of soil borne plant pathogens, and the nature and utilization of host resistance for the control of plant diseases.

BISC 842-3 Insect Development and Reproduction
Analysis of hormonal factors that influence growth, development, and reproduction in insects, with emphasis on the use of hormone analogues and anti-metabolites for population management.

BISC 843-3 Applied Behavioral Ecology
Concepts and methods from behavioral ecology and population dynamics are used to solve problems of an applied nature (e.g. pest management, harvesting policies, management of human diseases). Model building and analysis feature prominently.

BISC 844-3 Biological Controls
Principles, theory, and practice of the use of living organisms in the natural regulation and the control of organisms. Emphasis will be on parasitic insects, and include host specificity, genetics, genetic controls, and the evolution of host-parasite associations.

BISC 846-3 Insecticide Chemistry and Toxicology
The chemistry of insecticides, with emphasis on their toxicology, metabolism and fate in the environment.

BISC 847-3 Pest Management in Practice
Status and special problems of pest management programs in different kinds of ecosystems; organization, special characteristics, practices, and problems of pest management agencies; interactions and communication.

BISC 848-3 Nematology
A study of the concepts of host-parasite relationships as exemplified by nematode parasites of plants and insects. Special problems associated with the nematode organism and its way of life and their relevance to crop production. Prerequisite: permission of the department.

BISC 849-0 Master of Pest Management Thesis
A supervised individual analysis in detail and depth of an aspect of pest management and the preparation of a scholarly paper on it.

BISC 850-3 Weed Biology and Control
A survey of the biological and ecological characteristics of weeds, the types and magnitudes of damage they cause, and the theory and principles of control.

BISC 851-3 Vertebrate Pests
An evaluation of the biology and of the economic and social impacts of vertebrates that are in conflict with human activities; and a discussion and evaluation of actual and potential control techniques as applied to such animals.

BISC 852-3 Medical and Veterinary Entomology
Analyses of problems in the management of insects and related organisms that directly harm or that carry diseases of man or livestock.

BISC 853-3 Special Topics I
Selected topics in biological science. The content of this course varies from semester to semester.

BISC 869-3 Special Topics II
BISC 879-3 Special Topics III
BISC 880-3 Special Topics in Behavioral Ecology
A consideration of advanced special topics in the field of behavioral ecology.
BISC 881-3 Special Topics in Cell and Molecular Biology
A student participation seminar course focusing on recent literature on selected topics in cellular, developmental and molecular biology. Prerequisite: permission of the instructor.

BISC 883-3 Special Topics in Environmental Toxicology
Special topics course with emphasis on recent developments in environmental toxicology.

BISC 884-3 Special Topics in Pest Ecology and Management I
A specific topic in the field of pest ecology and management, not otherwise covered in depth in regularly scheduled courses.

BISC 885-3 Special Topics in Animal Physiology
Special topics in comparative vertebrate and invertebrate functional mechanisms and adaptations. Prerequisite: undergraduate course in animal physiology.

BISC 886-3 Special Topics in Marine and Aquatic Biology
Special topics course emphasizing recent developments in the area of aquatic and marine biology.

BISC 887-3 Special Topics in Plant Biology
Advanced treatment of selected topics or specialized areas in plant biology. The special topics to be discussed will vary from semester to semester.

BISC 888-1 Directed Readings in Biology
Programs of directed readings and critical discussions offered by staff members to individual students. A formal description of the study program is required (forms available from the graduate secretary). These forms must be approved by the departmental graduate studies committee at the beginning of the semester, prior to registration.

BISC 889-2 Directed Reading
Intended to cover the same ground as a normal graduate course, it may be given to one or two students when a lecture/seminar is inappropriate.

BISC 890-3 Directed Readings in Biology
Programs of directed readings and critical discussions offered by staff members to individual students. A formal description of the study program is required (forms available from the graduate secretary). These forms must be approved by the departmental graduate studies committee at the beginning of the semester, prior to registration.

BISC 890-6 Directed Reading
Intended to cover the same ground as a normal graduate course, it may be given to one or two students when a lecture/seminar is inappropriate.

BISC 899-0 MSc Thesis

BISC 899-0 PhD Thesis

Marine Science Courses
Marine Science courses, which may be included in a biology graduate program at Bamfield, BC, are offered in conjunction with certain other universities. The following courses are available for graduate course credit for MSc and PhD students on recommendation of the supervisory committee.

MASC 500-3 Directed Studies
A graduate level course of directed studies under the supervision of a member of faculty. The study will involve a research project approved by the supervisor in the field of interest of the student, and will be designed to take maximum advantage of the laboratory and/or field opportunities offered by the Bamfield Marine Station.

MASC 501-3 Special Topics
Courses offered, as opportunities arise, by distinguished scientists who are visiting the Bamfield Marine Station and are prepared to offer a course extending over a six week period.

MASC 502-3 Special Topics
Courses offered, as opportunities arise, by distinguished scientists who are visiting the Bamfield Marine Station and are prepared to offer a course extending over a three week period.

MASC 503-3 Special Topics
Courses offered, as opportunities arise, by distinguished scientists who are visiting the Bamfield Marine Station and are prepared to offer a course extending over a six week period.

MASC 504-6 Special Topics
Courses offered, as opportunities arise, by distinguished scientists who are visiting the Bamfield Marine Station and are prepared to offer a course extending over a six week period.

MASC 505-6 Special Topics
Courses offered, as opportunities arise, by distinguished scientists who are visiting the Bamfield Marine Station and are prepared to offer a course extending over a six week period.

MASC 506-6 Special Topics
Courses offered, as opportunities arise, by distinguished scientists who are visiting the Bamfield Marine Station and are prepared to offer a course extending over a six week period.

Department of Chemistry
C8035 Shrum Science Centre, (604) 291-3590 Tel, (604) 291-3765 Fax, www sfu ca/chemistry
Chair
B.M. Pinto BSc, PhD (Qu), FCIC
Graduate Program Chair
A.J. Bennet BSc, PhD (Bristol)
Faculty and Areas of Research
See "Department of Chemistry" on page 183 for a complete list of faculty.

G. Agnes – analytical chemistry
A.J. Bennet – organic chemistry
T.J. Borgford – biochemistry*
J.A.C. Cumbie – inorganic chemistry
R.B. Cornell – biochemistry*
R.J. Cushley – physical biochemistry*
J.M. D’Auria – nuclear chemistry
I.D. Gay – physical chemistry
R.H. Hill – inorganic chemistry
S. Holcomb – polymer chemistry
C.H.W. Jones – radiochemistry
E. Kiehlmann – organic chemistry
R.G. Korteling – nuclear chemistry
G.W. Leach – physical chemistry
D.B. Leznoff – inorganic chemistry
P.C. Li – analytical chemistry
G.L. Malli – theoretical chemistry, chemical physics
P.W. Percival – physical chemistry, nuclear chemistry
B.M. Pinto – organic chemistry
E. Plettner – bio-organic chemistry
R.K. Pomery – inorganic chemistry
W.R. Richards – biochemistry*
D. Sen – biochemistry*
K.N. Slessor – bio-organic chemistry
J.J. Wilkie – theoretical chemistry
V. Williams – organic chemistry
P.D. Wilson – organic chemistry
Z.G. Ye – materials chemistry
Associate Member
D.H. Boal, Physics
*joint appointment with biochemistry

Degrees Offered
The department offers courses leading to the MSc and PhD degrees.

MSc Program
Admission
See "Graduate General Regulations" on page 283.

Degree Requirements
Course Work
The minimum requirement for the MSc is 12 credit hours of graduate courses, including CHEM 801 and 805. CHEM 805 must be taken at the first opportunity following registration in the program.

Research
A major part of this program is devoted to original research. A thesis describing this must be submitted and defended at program conclusion.

PhD Program
Admission
See “Graduate General Regulations” on page 283.

Degree Requirements
Course Work
For those entering with a BSc or equivalent, 20 graduate credit hours is required including CHEM 801, 805 and 806. CHEM 805 must be taken at the first opportunity following program registration. CHEM 806 must be taken at the first opportunity following three semesters in the program.

For students entering with a master's degree, 12 graduate credit hours, including CHEM 805 and 806, is required. CHEM 805 must be taken at the first opportunity following registration in the program. CHEM 806 must be taken at the first opportunity following three semesters registration in the program. CHEM 801 is optional.

Research
A major portion of this program will be devoted to original research. A thesis embodying new and significant results must be presented and defended at the conclusion of the degree program.

Transfer from the MSc to the PhD Program
Transfer from the MSc program to the PhD program without submitting an MSc thesis must satisfy University requirements, and include CHEM 805. Evidence of research potential will be judged by the graduate program committee.

Biochemistry
See “Department of Molecular Biology and Biochemistry” on page 365.

Chemical Physics
Students who wish to undertake interdisciplinary work in chemical physics may apply to the Department of Chemistry or to the Department of Physics. See “Graduate General Regulations” on page 283 for chemical physics under special arrangements.

Co-operative Education Program
The Department of Chemistry offers a co-operative education option in its graduate program in order to allow students to gain work experience outside the academic sphere. Students who are currently enrolled in the department’s MSc program may apply...
for registration in CHEM 881 and 882. This option is only tenable after the completion of an MSc thesis and defence but before formal graduation. Registration in these courses required the approval of the graduate program committee.

Graduate Courses
CHEM 750-3 Advanced Organic Chemistry
An advanced treatment of mechanism and structure in organic chemistry and the use of physical methods as probes of structure, stereochemistry and conformation.

CHEM 751-3 Advanced Organic Chemistry II

CHEM 752-3 Advanced Bio-organic Chemistry
An advanced treatment of the use of enzymes in organic synthesis, the use of stable and radio isotopes in the study of enzymatic processes, and the design of enzyme inhibitors.

CHEM 753-3 Photo-organic Chemistry
Discussion of energy transfer, electron transfer, excited states, photophysics, and mechanistic and synthetic aspects of photochemistry in solution.

CHEM 754-3 Carbohydrate Chemistry
A detailed treatment of the structure and reactions of monosaccharides, the use of carbohydrates as chiral templates in organic synthesis, advances in glycoside synthesis, the occurrence, chemistry, and conformational analysis of complex carbohydrates and their role in biological systems.

CHEM 801-3 Student Seminar
Discussion of recent literature in chemistry through student seminars.

CHEM 805-3 MSc & PhD Research Thesis Proposal
Critical evaluation of written and oral thesis research proposals.

CHEM 806-3 PhD Thesis Research Seminar
Critical evaluation of written and oral thesis research reports. Prerequisite: CHEM 805. To be evaluated on a satisfactory/unsatisfactory basis and counted toward the minimum course requirement.

CHEM 811-3 Crystal Structure Analysis I
Point groups, space groups, periodic structures with atoms in general and special positions. The crystal as a 3-dimensional diffraction grating; the Laue conditions; Bragg’s Law. Single crystal methods with X-rays. Electron density as the transform of structure. Fourier maps. An introduction to the phase problem. Structure refinement and accuracy assessment.

CHEM 812-2 Crystal Structure Analysis II
The phase problem and its solution by direct and vector space techniques. Neutron and electron diffraction. Application of these techniques to problems of the solid state.

CHEM 823-3 Selected Topics of Special Biochemical Interest
Modern physical methods applied to biomacromolecules; structure of nucleic acids, proteins and membranes.

CHEM 824-3 Physical Biochemistry
Modern physical methods applied to biomacromolecules; structure of nucleic acids, proteins and membranes.

CHEM 825-3 Bioenergetics
A discussion of the most important processes for biological energy transduction. Structure-function relationships of membrane components and/or other interacting macromolecular systems.

CHEM 832-3 Advanced Inorganic Chemistry
An advanced treatment of the synthesis, structures, reactions and spectroscopic identification of inorganic compounds.

CHEM 833-3 Recent Advances in Main Group Chemistry
Important developments in main group chemistry in recent years will be examined in the context of the basic chemistry of the elements involved; not every element or group will necessarily be discussed.

CHEM 834-3 Recent Advances in Transition Metal Chemistry
Developments in the chemistry of simple and complex transition metal compounds emphasizing current theories of electronic structure, stereochemistry and bonding.

CHEM 835-3 Recent Advances in Organometallic Chemistry
A review of recent progress in this area, including metal alkyls, metal carbonyls and their derivatives, complexes with delocalized ring systems and related compounds.

CHEM 836-3 Special Topics in Inorganic Chemistry I
An advanced, in-depth treatment of a specialized area of inorganic chemistry.

CHEM 837-3 Special Topics in Inorganic Chemistry II
An advanced, in-depth treatment of a specialized area of inorganic chemistry.

CHEM 841-3 Advanced Nuclear Chemistry I
Review of deuteron and neutron-nucleon scattering, a study of nuclear models, and a detailed description of nuclear spectroscopy.

CHEM 842-3 Selected Topics in Radiochemistry
Theory and practical techniques of the current uses of radioactive isotopes in systems of chemical interest.

CHEM 843-3 Advanced Nuclear Chemistry II
A thorough discussion of the theories of nuclear reactions and the mechanism of fission. Additional topics on nuclear models and elementary particles.

CHEM 856-3 Selected Topics in Organic Chemistry
An advanced treatment of specific topics related to the study of organic compounds. Topics which will be discussed will vary from one semester to the next.

CHEM 860-3 Advanced Physical Chemistry
A review of basic concepts in physical chemistry, spectroscopy and chemical kinetics.

CHEM 861-3 Photochemistry and Chemical Kinetics
Chemical kinetics with emphasis on the reactions of free radicals and excited species. Basic principles of photochemistry and their application. CHEM 861 may not be taken for credit by students who have completed CHEM 865.

CHEM 862-3 Macromolecular Chemistry
Physical properties and characterization of macromolecules. Relationship between structure and properties. Kinetics of polymerization. CHEM 862 may not be taken for credit by students who have completed CHEM 867.

CHEM 863-3 Magnetic Resonance
Principles, techniques and applications of NMR and ESR.

CHEM 869-3 Selected Topics in Physical Chemistry
A specialized area of physical chemistry will be selected from a list of topics.

CHEM 871-3 Quantum Chemistry
Non-relativistic quantum mechanics. Atomic and molecular structure, perturbation theory, variation method.
In addition, a thesis is required. The actual course selection will be a reflection of the student’s research interest and guidance from the advisor.

Research
Graduates will be required to conduct original research and report their results in a thesis.

Graduate Courses

EASC 600-0 Introduction to Graduate Studies
A required course designed to acquaint new graduate students with the research strengths of the program, research facilities in the University, and its vicinity. Procedures and policies relating to preparation, conduct and presentation of thesis research will be discussed. (seminar)

EASC 611-3 Sedimentology
An advanced treatment of topics which may include processes of sedimentation, facies model concepts, applications of ichnology, and depositional environments with an emphasis on siliciclastic successions. Course content will be tailored to student interest, but generally will include both non-marine and marine processes of sedimentation and resultant depositional systems. The development of effective field criteria for the interpretation of the sedimentary record will be emphasized. (2-0-2)

EASC 612-3 Stratigraphy
Stratigraphic concepts of lithostratigraphy, biostratigraphy, chronostratigraphy and genetic stratigraphy. The course concentrates on genetic stratigraphy, with emphasis on allostratigraphy, genetic stratigraphic sequences and sequence stratigraphy. Students will critically assess each paradigm and its applicability to both the subdivision and the interpretation of the sedimentary record. Relative sea level changes and their effects on deposition will be discussed in relation to the preserved sedimentary record. Students will examine the utility of facies analysis in the various genetic stratigraphic frameworks and the viability of reconstructing the depositional history of sedimentary successions. (2-0-2)

EASC 613-3 Groundwater Hydrology
Advanced topics in physical hydrogeology, including fluids and porous media, saturated and unsaturated flow systems, mass transport and dispersion, and hydrogeological modeling. The course includes an introduction to numerical techniques for groundwater modeling, focusing on understanding of fundamental principles and application of the role of models. The course assumes successful completion of at least one undergraduate hydrogeology course. (2-0-2)

EASC 614-3 Subsurface Techniques
Advanced topics in subsurface exploration methods. Methods of drilling; core description and analysis; well logging. (1-0-3)

EASC 615-3 Applied Geophysics
Instrumentation, application and limitations of electrical, seismic, radar and gravity methods in the exploration for mineral resources and in engineering applications. (1-0-3)

EASC 616-3 Fluvial Systems
Fluid mechanics of open channel flow; physical sedimentology and sediment transport in aqueous environments. (2-0-2) Prerequisite: appropriate standing in Applied Mathematics and in Physics.

EASC 617-3 Quaternary Geology
Environments of glacial and proglacial deposits. Quaternary stratigraphy and dating methods with emphasis on the Cordillera. (1-0-3)

EASC 618-3 Tectonics of Sedimentary Basins
Regional processes of subsidence and basin formation from a plate tectonics viewpoint. The course will examine the origins and general characteristics of convergent, divergent, intraplate and hybrid basins. Methods of discriminating basin origins from an understanding of depositional systems, stratigraphic analysis, provenance and compositional variations will be examined. (2-0-2)

EASC 619-3 Environmental Geoscience
An examination of the concepts, methods and techniques used in advanced case studies of environmental geology, in fields including forestry, environmental geochemistry, earthquake and volcanic hazard, and urban planning. (2-0-2)

EASC 620-3 Volcanology
Physical, chemical and tectonic aspects of volcanology examined with emphasis on processes of magma generation and evolution, styles of eruption, environments of deposition, and interpretation of volcanic facies. (2-0-2) Prerequisite: undergraduate course in petrology and structural geology.

EASC 621-3 Tectonics and Magmatism of Convergent Plate Margins
Geological processes at convergent plate margins are considered in the context of plate tectonic principles. Topics to be addressed include: driving forces of tectonic plate, mantle convection, geometry of subducted slabs, ridge-trench intersections, generation of volcanic arcs, causes of anomalous magmatism, accretion of terranes, and transpression of orogenic float. (2-0-2) Prerequisite: advanced undergraduate sedimentology course

EASC 622-3 Principles of Ichnology
The conceptual framework of ichnology with particular emphasis on the ethological (behavioral) classification of biogenic structures, as well as its applications to the ichnocracies concept and paleoenvironmental interpretation of the sedimentary record. Environmental stresses and organism responses will be integrated with conventional sedimentology to highlight the complex inter-relationships between fauna and the environments they inhabit. The genetic stratigraphic applications of ichnology will also be addressed. (2-0-2) Prerequisite: advanced undergraduate sedimentology course

EASC 623-3 Groundwater Resource Evaluation
In addition to examining groundwater resources (exploration, evaluation and management), this course expands upon the theory and use of aquifer testing and their respective methods of analysis for evaluating groundwater resources. Advanced methodologies for partially penetrating wells, leaky aquifers, anisotropic aquifers, double porosity type and fractured aquifers will be included. Computer applications will be emphasized. (2-0-2) Prerequisite: undergraduate course in groundwater

EASC 701-1 Special Topics in Earth Sciences I
EASC 702-2 Special Topics in Earth Sciences II
EASC 703-3 Special Topics in Earth Sciences III
EASC 898-0 MSc Thesis

Centre for Environmental Biology


Director
Z.K. Punja BSc (Br Col), MSc, PhD (Calif)

Faculty and Areas of Research
See “Department of Biological Sciences” on page 179 for a complete list of faculty.

L.I. Bendell-Young – ecotoxicology
J.H. Borden – plant pathology
A.P. Farrell – cardiorespiratory physiology of fish, aquatic toxicology
F. Gobas – environmental toxicology
G.J. Gries – semiochemicals
A.S. Harestad – wildlife biology
C. Kennedy – biochemical and aquatic toxicology
F. Law – environmental toxicology, environmental risk assessment
S.P. Lee – plant stress physiology and molecular biology
M.M. Moore – microbiology, fungal pathogenesis
R.A. Nicholson – pesticide biochemistry, toxicology
Z.K. Punja – plant biotechnology and pathology
J.E. Rahe – plant pathology, biochemistry
B.D. Roitberg – population dynamics
M.P. Rosin – environmental carcinogenesis
R.D. Routledge – biometrics, estimating the sizes of animal populations
J.M. Webster – nematology, parasitology
M.L. Winston – apiculture, social insects

Adjunct Professors
P. Belton BSc (Lond), PhD, ARCS (Glas)
M. Goettel BSc (C’dia), MSc (Ott), PhD (Alta)
G.J.R. Judd BSc, MPM, PhD (S Fraser)
K.K. Klein BSA, MSc (Sask), PhD (Purdue)
H.R. MacCarthy BA (Br Col), PhD (Calif)
R.S. Vernon BSc, MPM, PhD (S Fraser)

The Centre for Environmental Biology (CEB) provides graduate training in the areas of pest management and environmental toxicology.

Pest Management

This program, which leads to the award of the degree of Master of Pest Management (MPM), is a professional degree program offered on a full or part time basis. Established in 1972, Simon Fraser University has graduated pest management students from all over the world.

Pest management offers comprehensive instruction in theoretical and applied pest biology and management, combining graduate courses with demonstration of traditional and modern methods of pest assessment and control in the field. The program is not committed to any particular approach in pest control, although the need for environmental conservation is emphasized.

Students must complete a thesis on a specific aspect of pest management which may be based on original field, laboratory or library research and must satisfy University regulations. The requirements can be completed in three semesters (one year) of full-time study. However, most will require four to six semesters. A minimum of one semester should be allowed for a research project based on library work, while field and laboratory research usually takes longer to complete. This program may also be completed part-time.

Admission Requirements

University admission requirements are given in the General Regulations, Graduate section. In addition, the program requires that, for clear admission, the applicant must have completed undergraduate level instruction equivalent to a total of 12 credit hours in ecology, entomology, plant pathology, and chemical pesticides. Applicants who lack some of the prerequisites may be admitted to the program but will be required to make up the deficiencies prior to graduation. Professional experience relevant to pest management can be considered in the case of applicants who do not meet formal admission standards. Normally, the CEB admissions committee will specify the appropriate qualifying conditions, if any, at the time of admission.

Program Requirements

Every MPM program includes the following courses.

Core Courses

BISC 601-5 Urban and Industrial Pest Management
BISC 602-5 Forest Pest Management
BISC 603-5 Farm and Specialty Crop Pest Management
BISC 604-3 Orchard Crop Pest Management
BISC 605-3 Management of Animal Disease Vectors
BISC 847-3 Pest Management in Practice

Elective Courses
MPM candidates must complete a minimum of four elective 800 level graduate courses from the list given below. Course selection must be approved by the student’s supervisory committee and the program director.

BISC 816-3 Biology and Management of Forest Insects
BISC 817-3 Social Insects
BISC 841-3 Plant Disease Development and Control
BISC 842-3 Insect Development and Reproduction
BISC 843-3 Population Processes
BISC 844-3 Biological Controls
BISC 846-3 Insecticide Chemistry and Toxicology
BISC 848-3 Nematology
BISC 850-3 Weed Biology and Control
BISC 851-3 Vertebrate Pests
BISC 852-3 Medical and Veterinary Entomology
BISC 884-3 Special Topics in Pest Biology and Management

Core Courses
BISC 650-3 Environmental Risk Assessment: Human Health Risk Assessment and Ecological Effects-based Risk Assessment
BISC 651-3 Environmental Toxicology Tests I: Ecological Effects-based Tests
BISC 652-3 Environmental Toxicology Tests II: Mammalian Toxicity Tests
BISC 654-3 Food and Drug Toxicology
BISC 655-3 Environmental Toxicology Seminar
BISC 656-0 Master of Environmental Toxicology Project
BISC 855-3 Biochemical Toxicology
STAT 650-5 Quantitative Analysis in Resource Management and Field Biology

Elective Courses
Students must complete one of
BISC 854-3 Ecotoxicology
EASC 613-3 Groundwater Hydrology
REM 610-5 Management of Contaminants in the Environment
and six credit hours chosen from the following
BISC 846-3 Insecticide Chemistry and Toxicology
BISC 856-3 Industrial Biotechnology
BISC 883-3 Special Topics in Environmental Toxicology
KIN 851-3 Recent Advances in Experimental Carcinogenesis
REM 612-5 Simulation Modelling in Natural Resource Management

Thesis
The thesis (BISC 849) is based on original laboratory, field or library research and must meet the standards specified in the Graduate General Regulations.

Defence
An oral examination that includes the candidate’s research as well as general aspects of pest biology and management will be given.

Environmental Toxicology

Admission Requirements
Before entering this Master of Environmental Toxicology (MET) program, students should have completed the following courses or their equivalents. These prerequisites may be waived by the departmental graduate studies committee under special circumstances on recommendation from the director of the program.

BISC 312-3 Environmental Toxicology I
BISC 313-3 Environmental Toxicology II
CHEM 250-3 Organic Chemistry II
BICH 221-3 Cellular Biology and Biochemistry

Program Requirements
Each MET student must choose a senior supervisor after admission, in consultation with the director of the program. In accordance with university regulations, a supervisory committee must be formed by the beginning of the third semester of full time equivalent enrolment. As part of the requirements, students must complete a project on a specific aspect of environmental toxicology which may be based on original field, laboratory or library research. The student will be supervised on this project by the senior supervisor while enrolled in BISC 656. In addition to submission of a report at the completion of the project, the student will make an oral presentation to at least the supervisory committee and at least one other faculty member.

This program may be taken on a part time basis. Every MET program will consist of a minimum of 32 credit hours of graduate credit, including the following courses.

Co-operative Education
This program has a co-operative education option that allows students to gain work experience outside the University. Award of the Master of Environmental Toxicology degree is contingent upon satisfactory completion of this option. Students registering in the co-op program must note the regulations governing minimum fee requirements. See “Graduate Fees” on page 290.

Professional Registration and Certification
Eligibility for the certification examination of the American Board of Toxicology Inc. can be met through the Master of Environmental Toxicology program and four years of work experience.

Graduate Courses
BISC 601, 602, 603, 604, and 605 are designed for students undertaking the Master of Pest Management degree. They may be taken for credit for the MSc and/or PhD degree in the Faculty of Science, subject to prior approval by the student’s supervisory committee and the program director.

BISC 601-5 Urban and Industrial Pest Management
Pests of foodstuffs and stored products, structural pests, and pests found in and near buildings, ships and aircraft, and their management, with emphasis on insects and rodents.

BISC 602-5 Forest Pest Management
Management of pests and forest regeneration, growing and mature forests, and forest products, and of forest rights-of-way and recreation areas.

BISC 603-5 Farm and Specialty Crop Pest Management
Agricultural pests and their management, with emphasis on insects and crop diseases, and including garden and greenhouse pests.

BISC 604-3 Orchard Crop Pest Management
Insects, diseases, and other pests of fruit trees, including grapevines and small fruits, and their management.

BISC 605-3 Management of Animal Disease Vectors
Management of vectors, especially arthropods, of human and animal diseases, especially microbial; selected topics in epidemiology.

BISC 650-3 Environmental Risk Assessment
This course emphasizes recent development in quantitative human health risk assessment and ecological effects based risk assessment of environmental chemicals. (0-0-3) Prerequisite: BISC 313.

BISC 651-3 Toxicity Tests I: Ecological Effects Based Tests
This course provides the basic concepts and practical experience for the application of ecologically-based toxicity tests. (2-0-4) Prerequisite: BISC 313.

BISC 652-3 Environmental Toxicology Testing II: Mammalian Toxicology
The main focus of this course is on laboratory testing procedures currently employed in the toxicological evaluation of chemicals. (2-0-3) Prerequisite: BISC 313 or permission of the department.

BISC 654-3 Food and Drug Toxicology
Investigates those toxic compounds in the environment which are added to, contaminate, or supplement one’s diet. (2-0-4) Prerequisite: BISC 313 or equivalent.

BISC 655-3 Environmental Toxicology Seminars
A structured series of seminars on the recent developments of environmental toxicology. (3-0-0)

BISC 656-0 Master of Environmental Toxicology Project
One semester experience in a university or commercial laboratory according to student’s interests. Prerequisite: acceptance into the environmental toxicology program.

BISC 657-0 Co-op Practicum I
First work experience for MET students. Prerequisite: completion of professional paper.

BISC 658-0 Co-op Practicum II
Second work experience for MET students. Prerequisite: completion of professional paper.

BISC 854-3 Ecotoxicology
The proposed course will detail the physiochemical factors that influence contaminant behavior in aquatic and terrestrial ecosystems. (0-0-3) Prerequisite: BISC 101, 312, CHEM 102, and 103. Recommended: BISC 414.

BISC 855-3 Biochemical Toxicology
This course examines the biodynamics and actions of toxicants on several key biological systems within living organisms at the biochemical and molecular levels. (3-2-0) Prerequisite: BISC 301 and 313.

BISC 856-3 Industrial Biotechnology
This course is intended to provide students with the theory and hands-on experience of several commonly used biotechnological techniques. (2-0-6) Prerequisite: BISC 221 and 303. Recommended: BISC 329.

Geography Program

Chair
M.V. Hayes BA, MA, PhD (MC)
Faculty and Areas of Research
See “Department of Geography” on page 326 for a list of areas of research of faculty members. The department takes special interest in the systematic aspects of physical geography; geomorphology, biogeography, soils, climatology, hydrology and
spatial information systems. Emphasis is on physical geographical problems of western North America, with particular reference to British Columbia.

Many research areas occur in co-operation with other departments. Candidates are encouraged to take courses in biological sciences, chemistry, mathematics and physics when related to research.

**Degrees Offered**
The Department of Geography offers a program leading to the MSc degree in the Faculty of Science.

**Admission**
See “Graduate General Regulations” on page 283 for admission requirements.

Students should hold a BSc degree, or equivalent, with at least a second class standing (3.0 GPA) in geography or a related discipline. When the first degree is not in geography, the student should have at least 12 hours or equivalent in upper division geography. Students with a general degree must have 30 credit hours or the equivalent in upper division geography courses.

**MSc Committee**
The candidate will work under the direction of a faculty advisor, pending the choice of supervisory committee, normally composed of two faculty members, one of whom may be drawn from outside the department, and will be chosen by the second semester.

**MSc Requirements**

**Course Work**
Students complete 12 credit hours minimum (three courses) plus GEOG 700 and 701 which are non-credit courses, the grading of which is on a satisfactory/unsatisfactory basis. Students mustcomplete GEOG 706 as part of the 12 credit hours, and complete minimum department requirements. Graduate studies committee permission is required to complete a minimum course requirement outside the department. Students with deficiencies may be asked to complete more course work.

**Thesis**
A thesis is required. The candidate submits a written thesis proposal to the supervisory committee by the end of the third residence semester following completion of GEOG 700 and 701. The supervisory committee approves the proposal prior to the start of substantive research. The candidate presents the research proposal to the department at a colloquium prior to the end of the third residence semester (by semester end following GEOG 700 and 701 completion). The examining committee judges the thesis at an oral defence.

**Graduate Courses**
See “Geography Graduate Courses” on page 327 for course descriptions.

GEOG 700-0 Introduction to Graduate Studies: Part I
GEOG 701-0 Introduction to Graduate Studies: Part II
GEOG 704-4 Analytical Techniques for Human Geographers
GEOG 706-4 Quantitative Techniques in Physical Geography
GEOG 708-4 Geographic Ideas and Methodology
GEOG 710-4 Geography and Ideology
GEOG 714-4 Computer Cartography
GEOG 715-4 Geographic Information Systems
GEOG 716-4 Aerial Reconnaissance for Remote Sensing
GEOG 717-4 Digital Processing of Remote Sensing Data
GEOG 718-4 Soil Science
GEOG 720-4 Ecological Biogeography
GEOG 723-4 Climatology
GEOG 726-4 Glacial Geomorphology
GEOG 728-4 Advanced Glacial Geomorphology
GEOG 731-4 Hydrology
GEOG 734-4 Resources Management
GEOG 736-4 Resources and Environmental Issues in the Growth of Food Production
GEOG 738-4 Water Resources
GEOG 740-4 Geography and the Third World
GEOG 742-4 Regional Development
GEOG 745-4 Multinational Corporations and Regional Development
GEOG 752-4 Cultural Geography
GEOG 754-4 Law and the Geographies of Power
GEOG 756-4 Historical Geography
GEOG 760-4 Morphogenesis and the Built Environment
GEOG 770-4 Geography, Development Theory, and Latin America
GEOG 780-4 Environmental Cognition
GEOG 781-4 Tactual Mapping: Theory and Practice
GEOG 791-4 Directed Readings
GEOG 795-4 Selected Topics in Geography
GEOG 797-0 MSc Thesis

**Department of Mathematics and Statistics**

Chair
J.L. Berggren BSc, MSc, PhD (Wash)

Graduate Program Chair
Dr. R.A. Lockhart BSc (Br Col), MA, PhD (Calif)

Faculty of Science – 363

**Faculty and Areas of Research**
See “Department of Mathematics and Statistics” on page 363 for a complete list of faculty.

B.R. Alspach* – graph theory, discrete mathematics
J.L. Berggren – history of mathematics, algebra
J.M. Borwein – analysis, computation
P.B. Borwein – analysis, computation, number theory
T.C. Brown – algebra, combinatorics
I. Chen – number theory, arithmetic geometry
R. Choksi – calculus of variations, partial differential equations, and applications to material science
A. Das* – variational techniques, interior solutions in general relativity
C.B. Dean – discrete and lifetime data, extra-Poisson variation
L. Goddyn – combinatorics
G.A.C. Graham – viscoelastic solid mechanics
J. Graham – statistical genetics
P. Helli – computational discrete mathematics
M.C. Kropinski – numerical solutions of non-linear differential equations, fluid dynamics
A.H. Lachlan – mathematical logic
R.A. Lockhart – goodness-of-fit testing, inference on stochastic processes, large sample theory
B. McNeney – biostatistics, epidemiology and epidemiologic study design
M.B. Monagan – symbolic computation, algebra
D. Muraki – asymptotic analysis and modelling for the physical sciences, nonlinear waves and dynamics, atmospheric fluid dynamics
E. Pechlaner – relativistic continuum mechanics; approximation methods, self-similarity
K. Promislov – partial differential equations, nonlinear waves, invariant manifolds
N.R. Reilly – algebra
R.D. Routledge – biometrics, estimating the sizes of animal populations
R.D. Russell – numerical analysis; numerical solution of differential equations, dynamical systems
S. Ruuth – scientific computing, differential equations, dynamics of interfaces
C. Schwarz – modelling of animal population dynamics, capture-recapture methods
C.Y. Shen – electromagnetic scattering; large scale scientific computing
R.R. Sitter – sample surveys, design of experiments, biostatistics
M.A. Stephens* – goodness-of-fit testing and directional data
T.B. Swartz – statistical computing, theory of inference
B.S. Thomson – analysis
M.R. Trummer – numerical analysis; differential equations, integral equations
C. Villegas* – Bayesian inference
K.L. Weldon – cross sectional sampling, statistical consulting
J.L. Wirch – actuarial mathematics, insurance solvency, applied probability

*emeritus

**Advisors**
Ms. M. Fankboner BA (Occidental), MSc (S Fraser), K10511 Shrum Science Centre, (604) 291-4849
Dr. R.A. Lockhart BSc (Br Col), MA, PhD (Calif), K10546 Shrum Science Centre, (604) 291-3264

**Statistical Consulting Service**
K10513 Shrum Science Centre, (604) 291-4670

**Admission**
See “Graduate General Regulations” on page 283 for admission requirements. Applicants are normally required to submit aptitude section scores and an appropriate advanced section of the graduate record exams of the Educational Testing Service. Applicants whose first language is not English will be asked to submit TOEFL results.

See also applied and computational mathematics or statistics in this Calendar.

**Co-operative Education Program**
The department has introduced co-op education into its graduate program to allow students to gain work experience outside the academic sphere. Students who are currently enrolled in one of the department’s MSc or PhD programs may apply to the department’s co-operative education committee.

**Mathematics**

**MSc Program Requirements**
A candidate normally obtains at least 20 credit hours beyond courses taken for the bachelor’s degree. Of these, at least 12 are graduate courses or seminars, and the remaining eight may be from graduate courses or seminars or 400 division undergraduate courses. The student must also submit a satisfactory thesis and will attend an oral examination based on that thesis and related topics.

**Note:** MATH 900-990 and STAT 800-890 may satisfy requirements for the master of science degree. See “Applied and Computational Mathematics Program” on page 356 for course descriptions of those MATH courses. See “Statistics Program” on page 367 for course descriptions of those STAT courses.
PhD Program Requirements
A candidate will generally obtain at least 28 credit
hours beyond those for the bachelor's degree. Of
these, at least 16 are graduate courses or seminars and
the remaining 12 may be graduate courses, seminars or 400 level undergraduate courses.

Students with an MSc in mathematics or statistics are
deemed to have earned 12 of the 16 hours and eight
of the 12 undergraduate or graduate hours required.

Course work in all cases will involve study in at least
four different areas of mathematics and/or statistics.

Candidates will normally pass a two stage general
exam. In the first stage the examination covers a
broad range of senior undergraduate material. In the
second stage students present to their supervisory
committee a written thesis proposal and then will
defend this proposal at an open oral defence.

The supervisory committee evaluates the thesis proposal
and defence and either passes or fails the student. A
candidate ordinarily is not allowed to take either stage
of the general examination more than twice. Both
stages must be completed within six full time
semesters of initial enrolment in the PhD program.

The supervisory committee may require proficiency in
reading mathematical papers in either French,
German or Russian.

Students must submit and successfully defend a
thesis which embodies a significant contribution to
mathematical knowledge.

See "Graduate General Regulations" on page 283 for
further information and regulations.

Note: MATH 900-990 and STAT 800-890 may satisfy
PhD requirements. See "Applied and Computational
Mathematics Program" on page 356 for MATH course
descriptions. See "Statistics Program" on page 367 for
STAT course descriptions.

Mathematics Graduate Courses
MATH 601-4 Discovering Mathematics I
Arithmetic and Geometry form the core of the
elementary school curriculum. The fundamental
concepts in both these areas of mathematics will be
approached through exploratory exercises and
problems as well as in projects. The students will work
both singly and in groups to explore the ideas of
mathematics. The presentations will be non-
theoretical. Prerequisite: acceptance into the master's
program in mathematics education or permission of
the department. Graduate students in Department of
Mathematics and Statistics cannot take this course to
satisfy their degree requirements.

MATH 602-4 Discovering Mathematics II
Discrete mathematics is used in computer
communications, scheduling and transportation
problems. Statistics is encountered by each of us
every day in the newspapers and on television as
medical findings, sporting results and economic
strategies are discussed. These are two of the most
accessible areas of modern applied mathematics and
many problems and the ideas behind their solution
can be understood and appreciated by students with
only a modest mathematical background. Several
topics in these areas and their relationship to real
world problems will be explored. The exploration will
be done through a series of projects with students
often working in teams and making presentations of
their discoveries. The presentation will be non-
theoretical. Prerequisite: MATH 601 and acceptance
into the master's program in mathematics education
or permission of the department. Graduate students
in Department of Mathematics and Statistics cannot
take this course to satisfy their degree requirements.

MATH 603-4 Foundations of Mathematics
Crises in mathematics, their historical and
philosophical background and their resolution.

Prerequisite: acceptance into the MSc program in
mathematics education or permission of the
department. Graduate students in the Department of
Mathematics and Statistics cannot take this course to
satisfy their degree requirements.

MATH 604-4 Geometry
Euclidean and non-Euclidean geometries. Klein's
erlangen program. Prerequisite: entrance into the
MSc in mathematics education program or
permission of the department. Graduate students in
the Department of Mathematics and Statistics cannot
take this course to satisfy their degree requirements.

MATH 605-4 Mathematical Modeling
Introduction to mathematical modeling using
algebraic, geometric techniques along with
techniques using calculus. Prerequisite: acceptance
into the MSc program in mathematics education and
one year of university level calculus. Graduate
students in the Department of Mathematics and
Statistics cannot take this course to satisfy their
degree requirements.

MATH 800-4 Pure Mathematics: Selected
Topics
MATH 806-4 Mathematical Logic II
First-order theories. Some syntactical theorems
concerning provability, such as the equivalence and
equality theorems; the completeness theorem and
some of its consequences for equivalence of
syntactical and semantical notions, and introduction
to model theory; incompleteness of formal arithmetic.

MATH 807-4 Mathematical Logic: Selected
Topics
MATH 808-4 Mathematical Logic III
Introduction to recursion theory. Church's Thesis,
Godel-Rosser incompleteness theorem,
undecidability, Kleene's normal form theorem and
enumerations theorem, the recursion theorem. The
arithmetic hierarchy, the analytical hierarchy. Degrees
of unsolvability. Basic theorems. Additional topics, if
time permits. Prerequisite: MATH 806.

MATH 812-4 Algebra I
Theory of fields. Topics covered will include
separable, normal, Galois, and transcendental
extensions; finite fields and algebraically closed fields.
Additional topics may include infinite Galois groups,
valuation, Kummer extensions and Galois
cohomology, further material in algebraic number
theory.

MATH 813-4 Algebra II
Group theory. Generators and relations, normalizers
and centralizers, composition series. Permutation
groups, Sylow theory, abelian groups. Other topics
covered will be the theory of p-groups, nilpotent and
solvable groups, and some aspects of simple groups.

MATH 814-4 Algebra: Selected Topics

MATH 815-4 Algebra III
Rings and modules. Commutative and
noncommutative associate rings with ascending or
descending chain condition. Jacobson radical
Chevalley-Jacobson density theorem, Wedderburn-
Artin theorems, Goldie theorems, with applications to
matrix groups and group algebras. As time permits,
homological and local methods.

MATH 816-4 Algebra IV
Homology. Categories, functors, adjoint functors,
homology, and cohomology of a complex. Universal
coefficient theorem; Ext and Tor. Cohomology of groups;
Schur's theorem. Tensor and torsion products. Global
dimension of rings.

MATH 820-4 Graph Theory
A first graduate course in graph theory dealing with
some of the following: algebraic graph theory,
extremal graph theory, coloring problems,
applications of graphs, hypergraphs, and current
research topics.

MATH 821-4 Combinatorics
An introduction to the theory of block designs, finite
geometries and related topics.

MATH 825-4 Enumeration
Enumeration problems concerned with permutations,
sequences, partitions, lattice walks and graphs,
algebraic and analytic properties of generating
functions, asymptotic analysis.

MATH 826-4 Posets and Matroids
An introduction to the theory of posets, geometric
lattices and matroids.

MATH 827-4 Discrete Mathematics: Selected
Topics
MATH 831-4 Real Analysis I
An intensive study of Lebesque measure, integration
and the Lebesgue convergence theorems together
with the treatment of such topics as absolute
continuity, the fundamental theorem of calculus, the
Lp-spaces, comparison of types of convergence in
function spaces, the Baire category theorem.

MATH 832-4 Real Analysis II
This course normally covers abstract measure and
integration, and material which collectively might be
called an introduction to functional analysis (e.g.
complete metric spaces, normal spaces, the Stone-
Weierstrass theorem, linear functionals and the
Hahn-Banach theorem). Other specialized topics in
modern analysis. Prerequisite: MATH 831.

MATH 833-4 Analysis: Selected Topics
MATH 836-4 Complex Analysis I
Topics covered normally will include: Riemann
surfaces, complex conjugate co-ordinates; the
maximum principle, boundary value problems;
conformal mappings, Schwarz-Christoffel formula;
the symmetry principle, analytic continuation.

MATH 837-4 Complex Analysis II
Topics covered will include some of the following:
entire functions, normal families, Hilbert space of
analytic functions; conformal mappings of special
functions; Picard's theorem. Prerequisite: MATH 836.

MATH 839-4 Topology I
A first graduate course in general topology, dealing
with some of the following topics: set-theoretic
preliminaries, topological spaces, filters and nets,
connectedness notions, separation properties,
countability properties, compactness properties,
paracompactness, metrization, uniform spaces,
function spaces.

MATH 840-4 Topology II
A second graduate course in general topology dealing
with additional topics among those listed for MATH
839. Prerequisite: MATH 839.

MATH 841-4 Topology: Selected Topics
MATH 890-0 Practicum I
First semester of work experience in the co-operative
education program. (0-0-0)

MATH 891-0 Practicum II
Second semester of work experience in the
co-operative education program. (0-0-0)

MATH 892-0 Practicum III
Third semester of work experience in the co-operative
education program. (0-0-0) Prerequisite: MATH 891.

MATH 893-0 Practicum IV
Fourth semester of work experience in the
co-operative education program. (0-0-0) Prerequisite:
MATH 892.

MATH 895-4 Reading
MATH 896-2 Introductory Seminar
MATH 897-2 Advanced Seminar
MATH 898-0 MSc Thesis
MATH 899-0 PhD Thesis
Department of Molecular Biology and Biochemistry


Chair
A.T. Beckenbach BSc (Florida Presbyterian), MSc (Flor), PhD (Calif)

Faculty and Areas of Research
D.L. Baillie – developmental genetics, genomics
A.T. Beckenbach – population genetics, molecular evolution
T. J. Borford – protein structure and function
B.P. Brandhorst – developmental biology and gene regulation
R.B. Cornell – membrane bound enzymes
R. J. Cushey – high field nuclear magnetic resonance
W.S. Davidson – molecular, population and evolutionary genetics
N. Harden – developmental genetics, signal transduction
B.M. Honda – molecular biology and gene regulation
J.V. Price – developmental genetics; cellular signalling
W.R. Richards – protein biochemistry; photosynthesis
J.K. Scott – immunochemistry, immunology
D. Sen – nucleic acid biochemistry; chromosome structure
M.J. Smith – molecular phylogeny and development
J.L. Thewalt – membrane biophysics; nuclear magnetic resonance

Associate Members
A.J. Bennet, Chemistry
F. Breden, Biological Sciences
A.H. Burr, Biological Sciences
B.J. Crespi, Biological Sciences
L.D. Druhl, Biological Sciences
N.H. Haunerland, Biological Sciences
E. Kätter, Biological Sciences
A. Kermode, Biological Sciences
M.M. Moore, Biological Sciences
B.M. Pinto, Chemistry
A. Plant, Biological Sciences
G.F. Tibbits, Kinesiology
A. Tracey, Chemistry
E. Verheyen, Biological Sciences

Faculty of Science – 365

Admission
See “1.3 Admission” on page 283 for requirements. Applicants should normally have completed some advanced course work in a related discipline.

Degree Requirements
Students will be assigned a graduate supervisory committee which has the authority to specify an appropriate program of work to meet or exceed the minimum requirements stated below. All students are expected to attend the MBB research seminar series and to participate regularly in a journal club.

MSc Program

Course Work
Minimum requirements are 12 credit hours of graduate courses including MBB 801 and 802.

Research
A major part of the MSc program will be devoted to original research. A thesis describing the work must be submitted and defended in accordance with Graduate General Regulations.

PhD Program

Course Work
For those entering with a BSc or equivalent, a minimum of 20 credit hours is required, at least 15 of which must be graduate level including MBB 801, 802 and 806. PhD students must normally enrol in MBB 806 at the earliest opportunity following four semesters of program registration. With the approval of the supervisory committee, MSc students may apply to the MBB graduate program committee for transfer to the PhD program.

For those entering with an MSc, eight credit hours are required, at least six of which must be at the graduate level including MBB 802 and 806. The latter course must be taken at the first opportunity following two semesters of program registration.

Research
A major portion of the PhD program is original research. An original thesis which contributes new knowledge is presented and defended at the program’s end according to Graduate General Regulations. In addition, all MBB PhD candidates present a public seminar on their research.

Courses Offered by Other Departments

Faculty of Science – 365

Graduate Course Work at Other Universities

With the supervisory committee’s recommendation and department graduate studies committee’s approval, MBB students may choose to take relevant courses from other departments toward their degree. Some courses of interest may include, but are not limited to the following: CHEM 752, 754 and 811.

Graduate Courses

MBB 801-2 Student Seminar in Molecular Biology and Biochemistry I
Discussion of recent literature through student seminars and written reports. Cannot be taken for credit in addition to CHEM 801.

MBB 802-2 Student Seminar in Molecular Biology and Biochemistry II
Discussion of recent literature through student seminars and written reports. Prerequisite: MBB 801 or an MSc degree. Cannot be taken for credit in addition to CHEM 802.

MBB 806-3 PhD Graduate Research Seminar
Oral presentation and defence of a written PhD research proposal. Students will be examined on their progress and grasp of knowledge relevant to the proposed research and their capacity to complete the proposed thesis research. Open only to students in the molecular biology and biochemistry graduate program. Cannot be taken for credit in addition to CHEM 806.

MBB 811-1, 812-2, 813-3 Techniques in Molecular Biology and Biochemistry
Consideration of methods applied to research in molecular, cellular, and developmental biology; genetics; and biochemistry. Can be repeated with permission of the instructor.

MBB 821-3 Nucleic Acids
An examination of recent literature about the structure and function of DNA and RNA.

MBB 822-3 Biological Membranes
A review of recent literature on the structure, dynamics, function and biosynthesis of membrane lipids and proteins.

MBB 823-3 Protein Structure and Function
Transition state theory; specificity in enzyme catalyzed reactions; use of recombinant DNA techniques to describe and modify enzyme catalysis, catalytic activities through monoclonal antibody techniques.

MBB 824-3 Physical Biochemistry
The physical properties of biomacromolecules; modern physical methods applied to biomolecules; properties and analysis of membrane systems.

MBB 825-3 Bioenergetics
Consideration of important processes for biological energy transduction. Structure/function relationships of membrane components and other interacting macromolecular systems. Cannot be taken for credit in addition to CHEM 825.

MBB 826-3 Molecular Immunology
An overview of cellular and humoral immunology with emphasis on the molecular basis of immune recognition and response.

MBB 827-3 Mechanisms in Enzyme Catalysis
The study of enzyme mechanisms by a variety of techniques including spectroscopic, kinetic, radioisotopic exchange, and site-directed mutagenesis.

MBB 828-3 Spectroscopic Methods in Biochemistry
Application of spectroscopic methods including multidimensional NMR, fluorescence, circular dichroism, and FTIR for determination of biomacromolecular structure. Includes elements of protein conformation. Cannot be taken for credit in addition to CHEM 828.

MBB 829-3 Special Topics in Biochemistry
Consideration of recent literature concerning selected contemporary research topics. Can be taken more than once with permission of the instructor.

MBB 831-3 Molecular Evolution of Eukaryote Genomes
Examination of the dynamics of change in eukaryotic nuclear, mitochondrial, and chloroplast genome structure and organization.

MBB 832-3 Molecular Phylogeny and Evolution
Examination of the basic methods applicable to analyses of molecular phylogeny and evolution.

MBB 833-3 Developmental Genetics
Selected topics in the developmental genetics of drosophila.

MBB 834-3 Topics in Developmental Biology
Selected topics including pattern formation, morphogenetic determinants, inductive interactions, and differential gene expression in embryos.

MBB 835-3 Genomic Analysis
Consideration of topics related to the structure and function of the genome with emphasis on genome mapping and sequencing projects, and computational methods for genomic sequence analysis.

MBB 836-3 Gene Expression
A consideration of the mechanisms and regulation of gene expression in eukaryotes and prokaryotes.
MBB 837-3 Molecular Genetics of Signal Transduction
Consideration of mechanisms of signal transduction using molecular genetic approaches with emphasis on the yeast Saccharomyces cerevisiae. Cannot be taken in addition to BISC 861.

MBB 839-3 Special Topics in Molecular Biology
Consideration of recent literature concerning selected contemporary research topics. Can be taken more than once with permission of instructor.

MBB 871-1 Directed Readings in Molecular Biology and Biochemistry
Programs of directed reading and critical discussions offered by faculty or staff members to individual students according to their needs. Study programs must be approved by the molecular biology and biochemistry graduate studies committee.

MBB 872-2 Directed Readings in Molecular Biology and Biochemistry
Programs of directed reading and critical discussions offered by faculty or staff members to individual students according to their needs. Study programs must be approved by the molecular biology and biochemistry graduate studies committee.

MBB 873-3 Directed Readings in Molecular Biology and Biochemistry
Programs of directed reading and critical discussions offered by faculty or staff members to individual students according to their needs. Study programs must be approved by the molecular biology and biochemistry graduate studies committee.

MBB 888-0 MSc Thesis

MBB 899-0 PhD Thesis

Department of Physics


Chair
M. Plishchke BSc (Montr), MPhil (Yale), PhD (Yeshiva)

Graduate Program Chair
J.L. Bechhoefer AB (Harv), PhD (Chic)

Faculty and Areas of Research
See "Department of Physics" on page 195 for a complete list of faculty.

A.S. Arrott* – magnetism, liquid crystals
L.E. Ballentine – dynamical chaos, foundations of quantum mechanics
J.L. Bechhoefer – liquid crystals, soft condensed matter, pattern formation
D.H. Boal – statistical mechanics and biophysics
C. Bolognesi – semiconductor devices
B.P. Clayman – far-infrared properties of solids
J.F. Cochran – layered compounds and high temperature superconductors, Raman scattering
I. Herbut – condensed matter theory
K.L. Kavanagh – materials science
G. Kirzenow – condensed matter theory
H. Li – theoretical biophysics
S.R. Morrison* – physical and chemical properties of semiconductor surfaces, energy storage and conversion
M. Plishchke – condensed matter theory, statistical physics
K.E. Rieckhoff* – chemical physics, spectroscopy
G. Savard – experimental subatomic physics
J.E. Sonier – MuSR spectroscopy, high TC superconductivity
J.L. Thewalt – biophysics, NMR studies of membranes
M.L.W. Thewalt – semiconductor physics
H.D. Trotter – lattice quantum chromodynamics, phenomenology of strong and weak interactions, field theoretical study of non-Abelian gauge theories
K.S. Viewananthan – high energy theory, classical and quantum gravity
S. Watkins – semiconductor physics
M. Worts – solid state theory, statistical mechanics, surface physics, membranes, biophysics

Adjunct Faculty
B.K. Jennings – theoretical intermediate energy physics
M. Vetterli – intermediate energy and particle physics
J. Vrba – thin films, SQUID systems
R.M. Woloszyn – theoretical particle physics, lattice field theory

Associate Members
J.M, D'Auria, Chemistry
D.E. Nelson, Archaeology
E.M. Voigt,* Chemistry
*emeritus

Degrees Offered
The Department of Physics offers programs leading to the MSc and PhD degrees in physics.

MSc Program

Admission
To qualify for admission, a student must have at least second class standing or equivalent, in honors physics, honors mathematics and physics, engineering physics, or electrical engineering. See "1.3 Admission" on page 283.

Degree Requirements

Course Work
The minimum requirement is 17 credit hours, of which at least 14 must be at the graduate level and will normally include

PHYS 801-2 Student Seminar
PHYS 810-3 Fundamental Quantum Mechanics
PHYS 821-3 Electromagnetic Theory

and one of
PHYS 811-3 Advanced Topics in Quantum Mechanics
PHYS 841-3 Equilibrium Statistical Mechanics

Additional undergraduate courses, including prerequisites to required graduate courses, may be required to remedy deficiencies in background.

Research
Part of the program is conducting original research. A thesis describing this research is submitted and defended at the program’s conclusion.

PhD Program

Admission
To qualify for admission, a student must have a masters degree or the equivalent in physics. Refer also to the Graduate General Regulations.

Degree Requirements

Course Work
The minimum requirement consists of nine hours of graduate credit beyond the master’s. Faculty of Science requirements must also be met.

Research
A major portion of this program is conducting original research. A thesis, embodying new and important results or original research, must be presented and defended at the conclusion of the degree program.

Admission from a Master’s Program to the PhD Program
A student may be admitted from an MSc to a PhD program with a CGPA that normally will be at least 3.67 calculated over a minimum of 15 graduate level credits, and approval of the student’s supervisory committee and senate graduate studies committee.

Language Requirement
In certain areas of research, familiarity with languages other than English may be important so a student’s supervisory committee may require a reading knowledge of one such language.

Biophysics
Students who wish to undertake interdisciplinary work in Biophysics may apply to the Department of Physics or the Department of Biological Sciences. Those who wish to work in biophysics under special arrangements should refer to the Graduate General Regulations 1.3.4.

Chemical Physics
Students who wish to undertake interdisciplinary work in chemical physics may apply to the Department of Physics or to the Department of Chemistry. Those who wish to work in chemical physics under special arrangements should refer to the Graduate General Regulations 1.3.4.

Biochemistry and Molecular Biology
Refer to the Department of Molecular Biology and Biochemistry in the Graduate Studies section.

Graduate Courses

PHYS 801-2 Student Seminar
Discussion of recent developments in physics, based on student seminars. Attendance is required for all students proceeding toward MSc or PhD degrees in physics. Course offered regularly.

PHYS 810-3 Fundamental Quantum Mechanics
Review of foundations of quantum mechanics, states and observables, measurement theory, angular momentum, time reversal, stationary and time dependent perturbation theory, variational methods. Course offered regularly. Prerequisite: PHYS 415, or equivalent.

PHYS 811-3 Advanced Topics in Quantum Mechanics
A continuation of PHYS 810: scattering theory, spin statistics, creation and annihilation operators, diagrammatic perturbation theory, relativistic QM. Prerequisite: PHYS 810 or equivalent.

PHYS 812-3 Introduction to Quantum Field Theory
Lorentz group and representations, Dirac and Klein-Gordon Equations, Maxwell’s equations and
Statistics Program


Director of Statistics
C.B. Dean BSc (Sask), MMath, PhD (Wat)
Graduate Program Chair
R.A. Lockhart BSc (Br Col), MA, PhD (Calif)

Faculty and Areas of Research
See "Department of Mathematics and Statistics" on page 363 for a complete list of faculty.

Admission
See "1.3 Admission" on page 283 for admission requirements. Applicants normally submit scores in the aptitude section of the Graduate Record Examinations of the Educational Testing Service. Applicants whose first language is not English normally submit the Test of English as a Foreign Language results.

Students with a good undergraduate background in statistics will normally complete the course work in four semesters. The project, including the defence, is expected to require two semesters or less.

Students with backgrounds in other disciplines, or with an inadequate background in statistics, may be required to take certain undergraduate courses in the department in addition to the above requirements.

Co-operative Education

Students in the MSc or PhD program may obtain work experience during their graduate studies by participating in the co-operative education program. Employment lasting one or two semesters with government agencies, companies or other organizations employing statisticians is arranged for qualified students. Such employment often provides the problem which forms the basis of the MSc project.

PhD Program Requirements

A candidate will generally obtain at least 28 credits beyond those taken for the bachelor’s degree. Of these, at least 16 will be graduate courses or seminars and the remaining 12 may be from graduate seminars or 400 level undergraduate courses. Students who hold an MSc in statistics are deemed to have earned 12 of the 16 graduate hours and eight of the 12 undergraduate or graduate hours required. The course work in all cases will involve study in at least four different areas of statistics and probability.

Students submit and successfully defend a thesis which will embody a significant contribution to statistical knowledge.

See "Graduate General Regulations" on page 283 for further information and regulations.

Graduate Courses

See "Graduate Courses" on page 357. See "Mathematics Graduate Courses" on page 364 also.

STAT 602-3 Generalized Linear and Non-linear Modelling

A methods oriented unified approach to a broad array of nonlinear regression modelling methods including classical regression, logistic regression, probit analysis, dilution assay, frequency count analysis, ordinal type responses, and survival data. A project will be assigned related to the student’s field of study. Prerequisite: STAT 302 or 330 or permission of instructor. Open only to graduate students in departments other than Statistics.

STAT 650-5 Quantitative Analysis in Resource Management and Field Biology

The use of statistical techniques and mathematical models in resource management with special emphasis on experimentation, survey techniques, and statistical model construction. (5-0-0)

Prerequisite: A course in parametric and non-parametric statistics. This course may not be used for the satisfaction of degree requirements in the Department of Mathematics and Statistics.

STAT 801-4 Mathematical Statistics

STAT 802-4 Multivariate Analysis
An advanced course in multivariate analysis. Factor analysis, discriminant analysis, principal components, canonical correlations. Multivariate regression and analysis of variance.

STAT 803-4 Data Analysis
A problem based course emphasizing the exploratory aspects of statistical analysis with emphasis on modern computer oriented methods. Prerequisite: STAT 450 or equivalent or permission of the instructor.

STAT 804-4 Time Series Analysis
An introduction to time series models and their analysis. Both time-domain and frequency-domain techniques will be studied. Prerequisite: STAT 450 or equivalent or permission of the instructor.

STAT 805-4 Non-Parametric Statistics and Discrete Data Analysis
Order statistics, rank statistics, procedures based on the empirical distribution function. Asymptotic efficiencies, goodness-of-fit, contingency tables, log-linear models and further topics will be offered. Prerequisite: STAT 330 and 420 or equivalent or permission of the instructor.

STAT 806-4 Lifetime Data Analysis

STAT 811-2 Statistical Consulting I
Students will participate in the department statistical consulting service under the direction of faculty members. This course will be graded on a satisfactory/unsatisfactory basis. (2-0-0)

STAT 812-2 Statistical Consulting II
Students will participate in the department statistical consulting service under the direction of faculty members. This course is graded on a satisfactory/unsatisfactory basis. Open to MSc and PhD students in statistics. (2-0-0)

STAT 870-4 Applied Probability Models
Application of stochastic processes: queues, inventories, counters, etc. Reliability and life testing. Point processes. Simulation. Students with credit for MATH 871 may not take STAT 870 for further credit.

STAT 880-0 Practicum I
First semester of work experience in the co-operative education program.

STAT 881-0 Practicum II
Second semester of work experience in the co-operative education program.

STAT 882-0 Practicum III
Third semester of work experience in the co-operative education program.

STAT 883-0 Practicum IV
Fourth semester of work experience in the co-operative education program.

STAT 890-4 Statistics: Selected Topics

STAT 891-2 Seminar
A course to be team taught by current and visiting faculty and with topics chosen to match the interests of the students.

STAT 894-2 Reading
(2-0-0)

STAT 895-4 Reading
(4-0-0)

STAT 898-0 MSc Thesis/Project

STAT 899-0 PhD Thesis/Project
Institute for Applied Algorithms and Optimization Research
Director: Dr. L. Hafer, (604) 291-4153 Tel, (604) 291-3045 Fax
The institute was established in 1994 to stimulate, encourage, and enhance research and technology transfer in the areas of applied algorithms and optimization by providing a focus and resource base for collaborative and multidisciplinary research. The group conducts research in algorithms and their complexity as well as the mathematics underlying these algorithms. Although much of this work is basic science, the results obtained in this area have extremely important implications to practitioners. A primary goal of the institute is to foster increased awareness of these results by industry. The institute provides a vehicle for disseminating known results and stimulating new work on relevant problems. The institute members are faculty from Simon Fraser University’s School of Computing Science, Faculty of Business Administration and Department of Mathematics and Statistics.

Western Canadian Universities Marine Biological Station (Bamfield)
Director: Dr. A.N. Spencer, (250) 728-3301 Tel, (250) 728-3452 Fax
Contact: Dr. M.J. Smith, (604) 291-3540 Tel
The Western Canadian Universities Marine Biological Society was founded in 1969 with the objective of operating a major research and teaching facility in coastal biology. The Bamfield Marine Station offers year round research facilities that enable resident and visiting scientists and students (MSc and PhD) to develop a range of research programs. Courses that lead to academic credit for undergraduate and graduate degree programs at member universities are given at the station. The station also runs a public education program from September through April.

Behavioural Ecology Research Group
Director: Dr. L.M. Dill, (604) 291-3664 Tel
The Behavioural Ecology Research Group was formally established in 1989, to pursue basic research in the field of behavioural ecology; to maintain and further develop an internationally recognized training centre for students in behavioural ecology, and related areas of inquiry; and to provide a service to government, industry and other organizations, so that basic and applied problems in behavioral ecology can be tackled through collaborative research. Members are drawn from the Departments of Biological Sciences, Psychology, and Archaeology.

W.J. VanDusen BC Business Studies Institute
Director: Dr. J. Waterhouse, (604) 291-4183 Tel
Established to focus research efforts on the issues of particular relevance to corporations and government agencies in BC, the institute brings the expertise and research acumen of the Faculty of Business Administration to the Harbour Centre campus where faculty and business executives can have greater and more direct opportunities to work together. The institute sponsors lectures and has an executive-in-residence program to bring business leaders into the University’s classrooms.

Canadian Centre for Studies in Publishing
Director: Dr. R.M. Lorimer, (604) 291-5240 Tel, (604) 291-5239 Fax
The Canadian Centre for Studies in Publishing was established in 1987 to pursue the study of publishing and to serve the research and the information needs of the publishing industry. The centre engages in basic research into the history, social history, management and the policy issues related to the industry. Projects are both initiated by the centre and undertaken under contract to government and industry. The research work of the centre involves faculty, graduate students and independent researchers from a variety of disciplines. The centre published monographs and reports on the theory and practise of publishing and sponsors seminars, conferences and short courses.

Institute for Canadian Urban Research Studies
Director: Dr. P.L. Brantingham, (604) 291-3515 Tel, (604) 291-4140 Fax
The institute furthers multidisciplinary research on urban issues. Specifically its objectives are to provide a focus for research about urban problems and issues in Canada, to promote interdisciplinary collaboration and research; to provide an institutional focus for international scholarship concerning urban problems; to provide a facility in which data for the study of urban problems can be collected, catalogued, and made readily accessible through modern data management; to provide a facility in which research and techniques are available to those having a responsibility for policy.

Chemical Ecology Research Group
Director: Dr. J.H. Borden, (604) 291-3646 Tel
This research group was established in 1981 to provide an international graduate training centre in chemical ecology; to offer a service to government and industry; to isolate, identify and synthesize semiochemicals; and to apply research results to semiochemicals.

Community Economic Development Centre
Director: Dr. M. Roseland, (604) 291-4161 Tel
Community economic development is a process by which communities can initiate and generate their own solutions for their common economic problems and thereby build long term community capacity and foster the integration of economic, social and environmental objectives. The goal of the centre is to encourage accountable, sustainable and appropriate community economic development (CED) in British Columbia. The centre provides research, training and advisory services to the CED sector in BC through a team of associates drawn from the University and CED practice. It is actively involved in community based projects throughout the province and offers a post baccalaureate diploma in community economic development, which is also available by distance education.

Co-operative Resource Management Institute
Director: R. Peterman, (604) 291-4683 Tel, (604) 291-4968 Fax
This institute is a unit on the Burnaby Mountain campus of Simon Fraser University that houses personnel from natural resource management agencies. The Institute can facilitate solutions to difficult multidisciplinary issues in resource management by providing an environment where personnel from different management agencies such as forestry, fisheries, and wildlife can work side-by-side along with SFU faculty, graduate students, post-doctoral fellows, and research associates on a daily basis. The university benefits from greater concentration of expertise in resource management on campus and from new opportunities for multidisciplinary, collaborative research programs.

International Centre for Criminal Law Reform and Criminal Justice Policy
Director: D.C. Préfontaine QC, (604) 822-9875 Tel, (604) 822-9317 Fax
This International Centre, established in 1991 in Vancouver, BC, is a joint initiative of Simon Fraser University, the University of British Columbia and the Society for the Reform of Criminal Law. The centre is housed at the University of British Columbia. The International Centre has been established to encourage research initiatives in areas of transnational crime or comparative criminal justice policy; to contribute to graduate programming in international criminal law and international criminal justice; to promote democratic principles, the rule of law and respect for human rights in criminal law and the administration of justice in both the domestic and international arenas, and through these activities to contribute to the international criminal law and criminal justice agenda through the United Nations and other related agencies. The International Centre is an affiliated institute of the United Nations.

Institute for Studies in Criminal Justice Policy
Director: Dr. M.A. Jackson, (604) 291-4040 Tel, (604) 291-4140 Fax
The Institute for Studies in Criminal Justice Policy was established with the initial support of the Donner Canadian Foundation in 1980. The purpose of the institute is to contribute to the examination of criminal justice policy by providing a setting in which academics, justice system personnel and members of the community can assemble to apply scholarly research to policy development and analysis. The institute undertakes projects on its own initiative as well as under contract.

Criminology Research Centre
Director: Dr. W. Glackman, (604) 291-4041/4127 Tel, (604) 291-4140 Fax
The Criminology Research Centre was established in 1978 to facilitate criminological research by faculty and graduate students. Funds to establish and maintain the centre are provided by grants and contracts from provincial, federal and private sources. The centre publishes occasional working papers based on reports and other manuscripts generated by the various research projects, and also maintains a modest library for the use of faculty and students.

Centre for Education, Law and Society
Director: Dr. W. Cassidy, (604) 291-4484 Tel
The Centre for Education, Law and Society was established in 1984 and given formal approval by the board of governors in 1994. Its central purpose is to improve the legal literacy of youth and adults through teaching, program and curriculum development and research. Its projects range from the use of mock trials as teaching methods in law-related education, to the application of alternative dispute resolution methods, to investigations into human rights, international law and world order. Four undergraduate courses and one graduate course are offered in law.
related education through the Faculty of Education. Three of the undergraduate courses are also available through distance education. The centre attracts graduate students interested in school law, curriculum and youth justice issues.

**Centre for Experimental and Constructive Mathematics**
Director: Dr. J. Borwein, (604) 291-5617/3070 Tel, (604) 291-4976 Fax
The centre is intended to further research and graduate education in computation in the mathematical sciences.

The centre’s activities may include the following: provision of post doctoral fellowships in areas related to experimental and constructive mathematics; sponsorship of regular short-term and long term research visitors to the centre; organization of regular colloquia and occasional conferences on advances in experimental and constructive mathematics; participation in the training of graduate students in experimental and constructive mathematics; establishment, development and maintenance of accessible software archives; provision of tutorial assistance for faculty and graduate students at Simon Fraser University in the use of symbolic languages, of the centre’s software, and of other high level mathematical tools; establishment of a related algorithmic consulting service for individuals within and without the University community; collaboration with similar centres and appropriate individuals at other Canadian and foreign universities. Such collaboration may include co-sponsorship of speakers, conferences and visitors, joint application for external research funds, exchange of software and expertise, establishment of a Canadian mathematical computation network.

Subject to the approval of the director, the centre’s membership will be open to Simon Fraser University, faculty, post doctoral and graduate students actively involved in mathematical computing. Associate membership will be available to faculty at other universities.

**Institute of Fisheries Analysis**
Director: Dr. R. Brown, (604) 291-3060 Tel, (604) 291-5716 Fax
Established in 1980, the institute promotes research and study of a broad range of questions, and accommodates visiting scholars, concerned with fisheries. Areas of interest include the basic biology, ecology and population dynamics of exploitable fish stocks, the bio-economic and socio-political framework of fisheries regulation and management, the socio-economic well-being of fishing communities, and industry. The institute encourages interdisciplinary team research among its members, and maintains a fisheries research papers series. Where appropriate, it will administer members’ research projects and undertake contract research, utilizing the services of its members as research principals.

**Feminist Institute for Studies on Law and Society**
Director: Dr. D. Chunn, (604) 291-4761 Tel
The institute was established in 1990 to facilitate and continue the development of feminist analyses on law and society at Simon Fraser University. It is designed to provide an environment for creative interaction among scholars and community representatives who are involved in its work locally, nationally and internationally, and to bridge gaps between legal and social science research.

**Gerontology Research Centre**
Director: Dr. G. Gutman, (604) 291-5062 Tel, (604) 291-5066 Fax
Established in 1982, the Gerontology Research Centre promotes and conducts research on topics relating to aging and the aged, serves as a clearinghouse for information and provides consultation and technical assistance to the academic community, government, public and private organizations. The centre houses a specialized collection of research materials, maintains an active publications program, organizes workshops and conferences, and is a contributing member of two inter-university research consortia. Research activities focus on applied gerontology with concentrations in: aging and the built environment; health promotion and population health; prevention of victimization and exploitation of the elderly; older adult education, and changing demography and lifestyles. The associated gerontology program offers a post baccalaureate diploma in gerontology, a minor and a master of arts degree.

**Institute of Governance Studies**
Director: P.J. Smith, (604) 4994 Tel, (604) 291-4786 Fax, iges@sfu.ca
The institute is intended to further research on governance issues. Specifically its objectives include:
(1) to provide a focus for research on issues and problems of governance — in Canada, at the municipal, regional/metropolitan, provincial and federal levels, in comparative domestic systems and in the newly emerging global order (2) to promote collaboration and research on issues of governance among scholars in a variety of disciplines located at Simon Fraser University (3) to promote an institutional focus for international scholarship concerning issues of governance (4) to provide a forum within the Vancouver metropolis, British Columbia and Canada for the presentation and dissemination of research and ideas on issues of governance (5) to provide a facility in which data for the study of contemporary governance and related public policy can be collected, catalogued and made readily accessible through data management and exchange (6) to provide a facility in which research and techniques can be made available for exchange with those having responsibility for contemporary governance.

**Centre for the Study of Government and Business**
The primary focus of the Simon Fraser University/University of British Columbia Centre for the Study of Government and Business will be on academic research. The initial three primary program areas are: privatization and contracting out in the public sector; competition policy and regulation of business; efficiency, effectiveness and productivity in government. Other areas of focus will also be developed. In addition to academic research carried by both business faculties and scholars in related disciplines in both universities, the centre also engages in conferences, seminars, workshops and a visiting scholar program.

**Institute for the Humanities**
Director: Dr. J. Zaslove, (604) 291-4868 Tel, (604) 291-5788 Fax
This institute provides various means to support and develop humanities programs and Humanities concepts which are in existence throughout the University. The institute is devoted to the exploration and dissemination of knowledge about traditional and modern approaches to the humanities, and is dedicated to the exploration of critical perspectives that relate social concerns to the cultural and historical legacy of the humanities. The institute initiates and plans interdisciplinary programs, conferences, seminars, research, publications and courses in a range of interrelated fields in the humanities and social sciences. The audience for these activities will be found in the University and the community. The institute and the humanities minor program are affiliated. A complete outline of the institute’s current projects is available through the office of the director.

**Centre for Innovation in Management**
Director: Dr. J. Waterhouse, (604) 291-4177 Tel, (604) 291-3851 Fax
The Centre for Innovation in Management serves as a leading edge source of ideas and learning opportunities for business leaders and academics in North America in the area of stakeholder responsive and responsible management.

The centre conducts research aimed at understanding when, how and why a stakeholder orientation leads to business success and at the same time supports sustainable communities. It creates opportunities for dialogue and learning for business leaders, managers and academics on emerging ideas about stakeholder-oriented management and stimulates new thinking about the social and economic impact of stakeholder-oriented management through the collection, synthesis, publication and dissemination of cross-disciplinary research and best practice case studies.

**Centre for Labour Studies**
Director: Dr. T. Nesbit, (604) 291-4177 Tel, (604) 291-3851 Fax
The Centre for Labour Studies promotes the study and understanding of labour, working people, and their organizations from a comprehensive social, cultural, historical, political and economic perspective. The centre aims to provide a range of taught courses and programs (both credit and non-credit), offer research opportunities and assistance to both Simon Fraser University students and provincial labor organizations, and create mutually supportive and beneficial links between the academic and labour communities.

**David Lam Centre for International Communication**
Director: Dr. J.W. Walls, (604) 291-5021 Tel, (604) 291-5112 Fax
This interdisciplinary centre, which began operation in 1989, integrates government, professional and business resources for education, training, research and development activities. Its focus is on international, intercultural, and interlingual communication with a special emphasis on the people and institutions of the Pacific Rim. Programs include international communication research and development projects, Chinese and Japanese culture and communication courses and workshops, cross-cultural management and communication courses, and the Pacific region forum on business and management communication.

**Logic and Functional Programming Group**
Director: Dr. V. Dahl, (604) 291-3426/3372 Tel, (604) 291-3045 Fax
This group was established in 1990 to facilitate research on using declarative programming tools (in particular logic programming, functional programming, constraint logic programming and logic grammars) to investigate the theoretical and practical
aspects of developing fifth generation computing software. It is a strongly interdisciplinary group comprising members from several SFU units (Computing Science, Linguistics, Mathematics, Centre for Systems Science, Engineering Science) and two University of British Columbia units (Linguistics and Computing Sciences), from the University of Victoria, and from the University of Dallas. Members' interests include logic and functional programming theory and tools, natural language processing, linguistic theory automation, deductive data bases, knowledge representation, hardware design, expert systems, robotics, distributed processing, mobile code and virtual worlds.

**Mental Health, Law and Policy Institute**
Director: Dr. R. Roesch, (604) 291-3370 Tel, (604) 291-3427 Fax

This institute was established in 1991 to promote interdisciplinary collaboration in research and training in areas related to mental health, law and policy. Its membership is drawn from the Department of Psychology and the School of Criminology at Simon Fraser University as well as government and community agencies. The institute has received federal and provincial grants for a variety of research projects in the area of mental health and law, and also sponsors lectures and workshops.

**Institute of Micromachine and Microfabrication Research**
Director: Dr. A.M. Parameswaran, (604) 291-4971 Tel, (604) 291-4951 Fax

The institute will stimulate, encourage and enhance micromachining and microfabrication research by providing a focus and resource base for collaborative and multidisciplinary research leading to new processes and new devices of benefit across a wide array of disciplines.

**Pacific Institute for the Mathematical Sciences**
Director: Dr. P. Borwein, (604) 291-5808 Tel, (604) 291-3045 Fax

This institute is a collaborative effort established in 1996 by scientists from the University of Alberta, the University of Calgary, Simon Fraser University, the University of Victoria and the University of British Columbia, with affiliations to the University of Northern British Columbia and Lethbridge University.

Its mandate is to promote research in the mathematical sciences, education and public awareness regarding mathematics, and collaboration between the academic, industrial and government sectors involving the mathematical sciences.

**Centre for Policy Research on Science and Technology**
Director: R. Smith, (604) 291-5116 Tel, (604) 291-5165 Fax

This centre was established in 1988. CPROMT's primary research focus is the relationship between public policy and management of technology. The centre brings together practitioners and scholars to study the interaction of advances in science and technology, their implementation in the marketplace, and the consequent impact on community and individual interests.

**Institute for Quaternary Research**
Director: Dr. I. Hutchinson, (604) 291-3292 Tel

This institute was established in 1984 to focus quaternary science projects through an interdisciplinary team consisting of Simon Fraser University faculty from six departments and external associates from other organizations and universities. The institute presents a regular series of research seminars for faculty and graduate students and from time to time expects to host conferences, symposia, and field excursions. The institute aims to serve western Canada as a centre for paleo-environmental, surficial geological and related archaeological investigations.

**Research Institute on Southeastern Europe**
Director: Dr. A. Gerolymatos, (604) 291-5597 Tel, (604) 291-5837 Fax

The goals of this research institute will be to shed light on the problems of the region, both in terms of its historical and contemporary context. Among the research themes that will be addressed are questions of regional co-operation, defense and security, historical background, as well as various socio-economic and political issues that have challenged the status quo of the states in the region.

The objective of the institute is to promote an understanding of, and co-operation with, the countries and peoples of southeastern Europe. To that end, the institute will focus on a variety of initiatives including research projects, conferences, publications, community information programs, faculty exchanges and other forms of information sharing.

**Centre for Scottish Studies**
Director: Dr. S. Duguid, (604) 291-5515, (604) 291-4504 Fax

The activities and programs of the centre are intended to promote teaching, research and community programming in the field of Scottish studies. The centre supports and initiates research, publications, non-credit and credit instruction, colloquia, conferences, visiting speakers and international relationships. In the pursuit of these objectives, the centre seeks to provide support to existing individual, departmental and cross-departmental activities at Simon Fraser University in the area of Scottish studies.

**Centre for Systems Science**
Director: Dr. B. Funt, (604) 291-3126/4588 Tel, (604) 291-4424 Fax

The Centre for Systems Science (CSS) is a multidisciplinary research institute which supports specialized research areas and advanced educational programs in related disciplines which promise to offer particular support for the development of sophisticated industry for British Columbia. CSS fosters basic and applied research within its three research groups: intelligent systems (artificial intelligence, robotics, cognitive science, neural networks, expert systems, graphics and animation, etc.), microelectronics (surface science, VLSI design and test, quickchip), and computer and communications (subsea communications, mobile communications, communications policy, algorithms, distributed computing, information systems, signal processing, applications, etc.). CSS encourages associations across departmental boundaries to stimulate interest and knowledge of systems science and help attract a significant level of research funding. The centre represents the British Columbia Advanced Systems Institute at Simon Fraser University and collaborates with other research units at Simon Fraser University, the University of British Columbia, the University of Victoria, the British Columbia Institute of Technology, and with BC industry and government sectors.

**Institute for Studies in Teacher Education**
Co-directors: P. Grimmett, (604) 291-4937, (604) 291-3203 Fax, Dr. M.F. Wideen

The general aim of the institute is to promote and carry out research in the area of teacher education. It also seeks to develop collaborative links with groups within and outside the university community.

**Centre for Tourism Policy and Research**
Director: Dr. P.W. Williams, (604) 291-3103 Tel, (604) 291-4968 Fax

This centre was established in 1989 to provide leadership in developing and delivering research and professional education in the management of tourism. The centre provides a fixed point for graduate level studies and professional development education with a distinctively integrated resource and business management orientation. The centre also encourages and conducts policy, planning and management orientation, as well as encourages and conducts policy, planning and management research designed to enhance the sustained use of the tourism resource base.

**Tri-University Meson Facility (TRIUMF)**
Director: Dr. A. Astbury, (604) 222-1047 ext. 6258 Tel

Contacts: Dr. W. Davidson, (604) 291-3771 Tel, Dr. C.H.W. Jones, (604) 291-3583 Tel, Dr. R.G. Korteling, (604) 291-3532 Tel

TRIUMF is Canada's national meson facility and a laboratory of world class standing. The facility is based on a 500 Me V H ion accelerator which provides intense beams of subatomic particles for use in a wide range of research projects in nuclear and elementary particle physics.
Governing Bodies and Faculty

Expiry dates of terms of office are shown where applicable.

Convocation
Chancellor – Chair
President and Vice-Chancellor
Registrar – Secretary
Members of senate
All faculty members
All graduates of Simon Fraser University
All persons whose names are added to the roll of Convocation by regulations of the senate

Board of Governors
Ex Officio
Chancellor
President and Vice-Chancellor
Appointed by Order-in-Council
Elected by the Faculties
M. Warsh
B. Sanghera
B. Naef
D. McInnes
Appointed by Order-In-Council
University Librarian
Registrar – Secretary of Senate
Dean of Graduate Studies
Dean of the Faculty of Science
Dean of the Faculty of Education
Dean of the Faculty of Arts
Dean of Continuing Studies
Dean of Applied Sciences
Associate Vice-President, Academic
Vice-President, Research
President and Vice-Chancellor – Chair
Vice-President, Academic
Vice-President, Research
Associate Vice-President, Academic
Dean of Applied Sciences
Dean of Continuing Studies
Dean of the Faculty of Arts
Dean of the Faculty of Business Administration
Dean of the Faculty of Science
Registrar – Secretary of Senate
University Librarian
Appointed by Order-In-Council
D. McNees
B. Naef
B. Sanghera
M. Warsh
Elected by the Faculties
Faculty of Applied Sciences
J. Delgrande, May 31, 2000
J. Jones, May 31, 2003
Faculty of Arts
C. Gerson, May 31, 2002
J. Ogloff, May 31, 2001

Faculty of Business Administration
J. Zaichkowsky, May 31, 2003
G. Mauser, May 31, 2002

Faculty of Education
L. Larocque, May 31, 2002
R. Zazkis, May 31, 2001

Faculty of Science
M. Smith, May 31, 2002
L. Peterman, May 31, 2001

Elected by Faculty Members Jointly
S. Atkins, May 31, 2002
P. Bawa, May 31, 2003
P. Budra, May 31, 2002
D. Finley, May 31, 2001
P. Grimmer, May 31, 2003
R. Harris, May 31, 2001
R. Hill, May 31, 2003
M. Jackson, May 31, 2003
P. McFetridge, May 31, 2002
D. Paterson, May 31, 2002
P. Percival, May 31, 2003
J. Peters, May 31, 2001
R. Russell, May 31, 2001
L. Weldon, May 31, 2003
M. Worsis, May 31, 2002

Elected by Convocation
A. Chan, May 31, 2002
V. Dunsterville, May 31, 2002
J. McArthur, May 31, 2002
S. Wessel, May 31, 2002

Elected by Students from the Students
D. Crossley, May 2001
R. Stewart, May 2001

Elected by University Employees (excluding Faculty Members)
K. Thornton, May 2002

Administrative Officer
A. Watt, Director, University Secretariat

Senate
Ex Officio
Chancellor
President and Vice-Chancellor – Chair
Vice-President, Academic
Vice-President, Research
Associate Vice-President, Academic
Dean of Applied Sciences
Dean of Continuing Studies
Dean of the Faculty of Arts
Dean of the Faculty of Business Administration
Dean of the Faculty of Education
Registrar – Secretary of Senate
University Librarian
Appointed by Order-In-Council
D. McNees
B. Naef
B. Sanghera
M. Warsh
Elected by the Faculties
Faculty of Applied Sciences
J. Delgrande, May 31, 2000
J. Jones, May 31, 2003
Faculty of Arts
C. Gerson, May 31, 2002
J. Ogloff, May 31, 2001

Academic and Administrative Officials
Chancellor
M.K. Wong BA (Br Col), LLD (S Fraser), CM
President and Vice-Chancellor
J.P. Blaney BEd, MED (Br Col), EdD (Calif)
President and Vice-Chancellor
M. Stevenson BA (Witwatersrand), MA (WMich), PhD (Northwestern)
Provost and Vice-President, Academic
M. Stevenson BA (Witwatersrand), MA (WMich), PhD (Northwestern)
Provost and Vice-President, Academic
J.H. Waterhouse BSc, MBA (Alta), PhD (Wash)
Provost and Vice-President, Academic
J.E. R. Johnson BSc(CE) (Manit), MBA (S Fraser), PhD (Wash)
Vice-President, External Relations
D.J. Mitchell BA, MA (S Fraser)
Vice-President, Finance and Administration
R. Barrow BA (Oxf), CertEd, PhD (Lond)
Vice-President, Research
W. Rowe, July 2002

Associate Vice-President, Academic
J.A. Osborne LLB (Edin), MA (Tor), LLM (Br Col)
Associate Vice-President, Administration
J.E.R. Johnson BSc(CE) (Manit), MBA (S Fraser), PhD (Wash)
Associate Vice-President, Simon Fraser University at Harbour Centre
W.G. Gill BA, MA, PhD (Br Col)
Executive Director, International Relations
C.H.W. Jones BSc, PhD (Manc)
Executive Director, President’s Office
G. Macdonald BA (Br Col), MA (S Fraser)
Dean of Applied Sciences
R.G. Martinenik BPE, MA (Alta), EdD (Calif)
Dean of Arts
J.T. Pierce BA (Tor), MA (Wat), PhD (Lond)
Dean of Business Administration
J.H. Waterhouse BSc, MBA (Alta), PhD (Wash)
Dean of Continuing Studies, Pro Tem
J.C. Yerbury BEd, MA, PhD (S Fraser)
Dean of Education
R. Barrow BA (Oxf), CertEd, PhD (Lond)
Dean of Graduate Studies
J.C. Driver MA (Camb), PhD (Cal)
Dean of Science
W.S. Davidson BSc (Edin), PhD (Qu)
Dean of Student Services and Registrar
W.R. Heath BSA (Guelph)
Director of Academic Computing Services
L. Tolan
Director of Admissions
N. Heath BA (Oxf), MA (S Fraser)
Director of Alumni Relations
G.J. Stewart BA (S Fraser)
Director of Analytical Studies
W.J. Wattamaniuk BEng, MSc, PhD (Alta)
Director of Campus Community Services
M. Dinning BA, MA (W Ont)
Director, Campus Security
N. Coutu
Director of Ceremonies
M. Pankratz
Director of Childcare Services
S. Davidson
Director of Co-operative Education
N. Angerilli BSc, PhD (S Fraser)
Director, Centre for Distance Education
J.C. Yerbury BEd, MA, PhD (S Fraser)
Director of Health and Counselling Services
L. Pelletier BA (Wat), BEd (Qu), MHSc (Tor)
Director of Human Resources
B.L. Anderson MA (Illinois), BCom (Alta)
Acting Director of Instructional Media Centre
W.G. Glackman BA (Calif), MA, PhD (S Fraser)
Director, International Co-operation
J. Knockaert, BCom (Manit)
Director of International & Exchange Student Services
R. Martin BA, MA (S Fraser)
Director of Media and Public Relations
K. Aberle
Excellence in Teaching Awards

1992
PE. Kennedy, Economics
A. Lebowitz, English
T.J. O’Shea, Education

1983
M.J. Gresser, Chemistry
L.M. Prock, Education

1984
R. Coe, English
I. Gordon, Business Administration
K. Silverman, Centre for the Arts

1985
R.H. Dunham, English
K.N. Slessor, Chemistry

1986
A. Aberbach, History
R. Mathewes, Biological Sciences
R. Menzies, Criminology

1987
F. Fisher, Biological Sciences
T. Kirschner, Languages, Literatures, and Linguistics
R. Koepeke, History

1988
A. Harestad, Biological Sciences
N. Robinson, Education
S. Wasserman, Education

1989
N. Dyck, Sociology and Anthropology
D. Krebs, Psychology
R. Pomeroy, Chemistry

1990
C.I. Dyck, History
T. Grieve, English
R. Peterman, Resource and Environmental Management

1991
C. Banerjee, English
R. Schwindt, Economics
M. Weir, Business Administration

1992
L. Boland, Economics
M. Gates, Sociology and Anthropology
S. Wendell, Women’s Studies

1993
G. Gries, Biological Sciences
M. Mantle-Casimir, Education
D. Sutton, Chemistry

1994
J. Dahn, Physics
A. MacKinnon, Education
J. Sturrock, English

1995
C. Day, Resource and Environmental Management
M. Moore, Biological Sciences
H. Trotter, Physics

1996
A.L. Liebman, Computing Science
S. Roberts, English
D.A. Ross, Political Science

1997
M. Jackson, Criminology
J. Giltrow, English
J.S. Craig, History

1998
L. Dill, Biology
G. Poole, Psychology
D. Zaple, Contemporary Arts

1999
J. Busumtwi-Sam, Political Science
S. Holdcroft, Chemistry
B. Truax, Communication

Endowed Chairs and Professors

Telus Endowed University Professor
R.G. Harris, Economics

Endowed University Professor
(vacant)

Jack and Nancy Farley Endowed University Professor
J. Parr, History

Endowed Forest Renewal BC Chair in Terrain Analysis and Forest Geoscience
D. Stead, Earth Sciences

Gordon M. Shrum Endowed Chair
J. Clague, Earth Sciences

Ming and Stella Wong Endowed Chair in International Business
R.L. Tung, Business Administration

J.S. Woodward Chair
(vacant)

Ruth Wynn Woodward Endowed Chair
D. Brand, Women’s Studies

Hellenic Canadian Congress of BC Endowment
A. Gerolymatos, History

J.L. Wright Professor of Engineering Science
A. Parameswaran, Engineering Science

Sponsored Chairs and Professors

Eboe/Epic NSERC Industrial Chair in Intelligent Software Systems
Q. Yang, Computing Science (junior chair)

NSERC / Canadian Wildlife Service Industrial Research Chair in Wildlife Ecology
F. Cooke, Biological Sciences

NSERC Industrial Research Chair in Chemical Ecology and Management of Forest Insect Pests
J. Borden, Biological Sciences

NSERC Industrial Research Chair in the Optical Properties and Characterization of Electronic and Optoelectronic Materials
M. Thewalt, Physics

NSERC / SSHRC / BNR / Vancouver City Savings Chair in the Management of Technology
P. Guild, Communication (senior chair)
R. Smith, Communication (junior chair)

Faculty

Professors Emeriti

A
Alsop, B.R., Mathematics and Statistics 191, 363
Ames, E., Psychology 156
Aronoff, S., Chemistry 183
Arrott, A.S., Physics 195

B
Bakan, P., Psychology 156
Banister, E.W., Kinesiology 110
Bell, T.N., Chemistry 183
Bhaktan, N.M.G., Kinesiology 110
Blaser, R.F., English 133
Bojadziev, G.N., Mathematics and Statistics 191
Bojadziev, G.N., Applied Mathematics 178
Bradley, R.D., Philosophy 153
Butenhuis, P.M., English 133

C
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Chapman, A.E., Kinesiology 110
Cheng, P.L., Business Administration 166
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Colbow, K., Physics 195, 366
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Crampton, C.B., Geography 139
Cunningham, F.F., Geography 139
# Academic Year

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Simon Fraser University at Harbour Centre
515 West Hastings Street
Vancouver, BC V6B 5K3

Hours
Monday to Thursday, 9 am to 7:30 pm
Friday, 9 am to 5 pm

Parking