Enrolment Limitations
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.

Protection of Privacy
Simon Fraser University collects and maintains information used for the purposes of admission, registration and other activities directly related to its education programs, being a member of the Simon Fraser University community, including its alumni, and attending a public post-secondary institution in the Province of British Columbia.

Information on admission, registration and academic achievement may also be used for statistical and research purposes at the institutional level and, at the provincial level, through the BC Educational Records Linkage File (link file). The personal records in the link file are not identifiable and are not used for other administrative purposes.

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).

Notification of Disclosure of Personal Information to Statistics Canada
Statistics Canada is the national statistical agency. As such, Statistics Canada carries out hundreds of surveys each year covering a wide range of matters, including education.

It is essential to be able to follow students across time and institutions to understand, for example, the factors affecting enrolment demand at post-secondary institutions. The increased emphasis on accountability for public investment means that it is also important to understand outcomes. In order to carry out such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates.

Institutions collect and provide to Statistics Canada student identification information (student’s name, student ID number, social insurance number), student contact information (address and telephone number), student demographic characteristics, enrollment information, previous education, and labor activity.

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

Students who do not wish to have their information used are able to ask Statistics Canada to remove their identification and contact information from the national database.

Further information on the use of this information can be obtained from Statistics Canada’s website at www.statcan.ca or by writing to the Postsecondary Section, Centre for Education Statistics, 17th floor, R.H. Coats Building, Holland Avenue, Ottawa, K1A 0T6.

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.

Calendar Distribution
Registered Simon Fraser University students are entitled to one free copy of the Calendar each year, on presentation of a Calendar voucher at the SFU Bookstore on the Burnaby campus, or at Information and Registration Services at Harbour Centre. The voucher is sent with the student’s registration materials or with the letter of acceptance.

To pick up an extra Calendar, or to have one mailed to you, the following shows the costs.

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Acceptable forms of payment include Visa, MasterCard, American Express, a money order in Canadian funds, or a cheque drawn on a Canadian bank.

The Calendar is distributed to many universities, colleges, secondary schools and public libraries in British Columbia, and to all Canadian universities for reference purposes. The Calendar can also be accessed in both HTML and PDF formats at www.reg.sfu.ca/calendar.

Calendar Production
Published by the Office of the Registrar.
Editor: S. Dench, BA (Vic, BC), MA (S Fraser)
Editorial Assistant: S. Walter, Communication Services
Printer: Webcom Limited

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 Fraser 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 Legislative, 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 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/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 2002 approximately 21,684 students were enrolled in courses. At the June 2002 Convocation ceremonies 2,336 degrees were conferred, while at the University’s October Convocation, 1,242 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.

Simon Fraser University Surrey opened its doors in September 2002. The SFU satellite campus currently offers undergraduate and graduate degrees in Information Technology and Interactive Arts.
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<td>Information and Registration Services</td>
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<td>604.291.5060</td>
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<td>604.291.5052</td>
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<td>Meeting and Event Services</td>
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<td>Morris J. Wosk Centre for Dialogue</td>
<td>604.291.5800</td>
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<td>Public Relations</td>
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<td>604.291.5098</td>
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<td>Security</td>
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### Surrey Campus

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<th>Service</th>
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<td>Administration</td>
<td>604.268.7500</td>
<td>604.268.7488</td>
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<td>Co-operative Education</td>
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<td>Student and Registrar Services</td>
<td>604.268.7400</td>
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Programs Offered

University Degrees
Honorary Degrees
Doctor of Fine Arts Honoris Causa
DFA (Fine Arts)
Doctor of Laws Honoris Causa
LLD (Laws)
Doctor of Letters Honoris Causa
DLitt (Letters)
Doctor of Science Honoris Causa
DSc (Science)

Faculty of Applied Sciences
Bachelor of Applied Science (Honors)
Bachelor of Applied Science
Bachelor of Arts (Honors)
Bachelor of Arts
Bachelor of General Studies (Applied Sciences)
Bachelor of Science (Honors)
Bachelor of Science
Bachelor of Science (Information Technology, Tech BC)
Bachelor of Science (Interactive Arts, Tech BC)
Bachelor of Science (Kinesiology) (Honors)
Bachelor of Science (Kinesiology)
Master of Applied Science
Master of Arts
Master of Arts under Special Arrangements
Master of Engineering
Master of Resource Management
Master of Science
Master of Science under Special Arrangements
Doctor of Philosophy
Doctor of Philosophy under Special Arrangements

Faculty of Arts
Bachelor of Arts (Honors)
Bachelor of Arts
Bachelor of Fine Arts
Bachelor of General Studies
Master of Arts
Master of Arts
Master of Arts Liberal Studies
Master of Arts under Special Arrangements
Master of Fine Arts
Master of Public Policy
Master of Publishing
Doctor of Philosophy
Doctor of Philosophy under Special Arrangements

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 Arts
Master of Arts under Special Arrangements
Master of Education
Master of Science
Master of Science under Special Arrangements
Doctor of Education
Doctor of Philosophy
Doctor of Philosophy under Special Arrangements

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

Master of Science
Master of Science under Special Arrangements
Doctor of Philosophy
Doctor of Philosophy under Special Arrangements

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 Ethnic and Intercultural Relations
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 Labor 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 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
Graduate Diploma in Urban Studies

Faculty of Business Administration
Graduate Diploma in Business Administration

Faculty of Education
Certificate in Literacy Instruction
Post Baccalaureate Diploma (General)
Post Baccalaureate Diploma in Early Childhood Education
Graduate Diploma in Advanced Professional Studies in Education

Faculty of Science
Certificate in Actuarial Mathematics
Certificate in Forestry Geoscience
Post Baccalaureate Diploma in Biological Sciences

Credentials by Program

<table>
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<th>Key to abbreviations used below</th>
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<tr>
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<td>minor program requiring completion of specified minimum upper division courses</td>
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<td>MRM</td>
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<td>PhD</td>
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Actuarial Science – certificate
Actuarial Science – BSc, honors, certificate
Advanced Professional Studies in Education – graduate diploma
Anthropology – BA, minor, extended minor, honors, co-op
Art and Culture Studies – BA, minor
Art and Culture Studies and Sociology and/or Anthropology – BA joint major
Arts, General – BA, extended minor
Asia-Canada – minor
Biological Sciences – BSc, minor, honors, MSc, PhD, diploma, co-op
Business Administration – BBA, minor, 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, joint 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

Programs Offered
Environmental Education – minor
Environmental Science – BSc, honors, co-op
Environmental Toxicology – minor, MET
Ethnic and Intercultural Relations – certificate
Family Studies – certificate
Film – BFA, extended minor
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
Forestry Geoscience – certificate
French – BA, extended minor, honors, MA
French Canadian Studies – certificate
French and Education – diploma
French, History, Politics – BA joint major
French Language Proficiency – certificate
General Studies – minor
General Science – BSc
General Studies – BGS
Geography – BA, minor, extended minor, honors, MA, MSc, PhD, certificate, co-op
Geography and Economics – Environmental Speciality – BA joint major
Gerontology – minor, MA, diploma
Health and Fitness Studies – certificate
Hellenic Studies – certificate
History – BA, minor, extended minor, honors, MA, PhD, co-op
History and Humanities – BA joint major
Humanities – BA, minor, extended minor, diploma, co-op
Humanities and French – BA joint major
Information Systems in Business Administration and Computing Science – BBA, BA, BSc joint major
Interactive Arts – BSc
Kinesiology – BSc, minor, honors, MSc, PhD, diploma, co-op
Labor Studies – minor, certificate
Latin American Studies – minor, extended minor, MA, co-op
Latin American Studies and Archaeology – BA joint major
Latin American Studies and Business Administration – BA 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 and/or Anthropology – BA joint major
Learning Disabilities – minor
Liberal Arts – certificate, co-op
Liberal Studies – MALS
Linguistics – BA, minor, extended minor, 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, minor, extended minor, honors, BSc, minor, honors, MSc, PhD, co-op
Mathematics and Computing Science – BSc joint major
Molecular Biology and Biochemistry – BSc, minor, honors, MSc, PhD, co-op
Molecular Biology and Biochemistry and Business Administration – BSc joint major
Music – BFA, extended minor
Master of Arts – co-op
Native Studies Research – certificate, co-op
Natural Resource Management and Business Administration – MRM, MBA joint
Nuclear Science – minor
Pest Management – MPM
Philosophy – BA, minor, extended minor, honors, MA, co-op
Philosophy and Humanities – BA joint major
Physical Education – minor
Physics – BSc, honors, MSc, PhD, co-op
Physics and Physiology – BSc (honors only)
Political Science – BA, minor, extended minor, honors, MA, PhD, co-op
Political Science and Economics – BA joint major
Political Science and Women's Studies – BA joint major
Psychology – BA, minor, extended minor, honors, MA, PhD, co-op
Psychology and Communication – BA joint major
Psychology and Women's Studies – BA joint major
Public History – certificate, diploma
Public Policy – MPD
Publishing – BFA, extended minor
Resource and Environmental Management – MRM, PhD, co-op
Science, General – BSc
Senior Citizens, Certificate for – certificate
Social Policy Issues – diploma
Sociology – BA, minor, extended minor, honors, co-op
Sociology and Anthropology – BA joint major, joint honors, MA, PhD, co-op
Sociology or Anthropology and Art and Culture Studies – BA joint major
Sociology or Anthropology and Communication – BA joint major
Sociology and/or Anthropology and Criminology – BA joint major
Sociology and/or Anthropology and Linguistics – BA joint major
Sociology and/or Anthropology and Women's Studies – BA joint major
Spanish Language Proficiency – certificate
Spatial Information Systems – certificate
Statistics – BA, minor, extended minor, honors, BSc, minor, honors, MSc, PhD, co-op
Teaching English as a Second Language – diploma
Teaching ESL Linguistics – certificate
Theatre – BFA, extended minor
Undergraduate Semester in Dialogue – Urban Studies – certificate, graduate diploma
Visual Art – BFA, extended minor
Women's Studies – BA, minor, extended minor, 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.

2003 Fall Semester

August
29 Fri Last day for continuing graduate students to register and pay fees.

September
1 Mon LABOUR DAY. Offices closed.
2 Tues Classes commence.
   Last day for students completing degree requirements during summer to cancel application to graduate in October.
8 Mon Deadline for undergraduate application for re-admission to the fall semester.
   Deadline for submission of undergraduate grade changes from 2003 summer semester, summer session and intersession.
15 Mon Last day for graduate students to add courses and register late.
30 Tues Deadline for application for undergraduate admission to the spring semester 2004.
   Last day for receipt of grades deferred from previous semester for graduate students.

October
2 Thurs Fall Convocation for students who graduated in the summer semester.
3 Fri Fall Convocation for students who graduated in the summer semester.
   Certificates and diplomas awarded for 2002/2003 academic year.
6 Mon Last day for undergraduates to drop courses except under special procedures applicable in extenuating circumstances.
13 Mon THANKSGIVING DAY. All classes cancelled. Offices closed.
17 Fri Deadline for submission of undergraduate application for graduation without a late fee for students completing requirements by the end of the 2003 fall semester.

November
3 Mon Last day for graduate students to drop courses without academic penalty except under special procedures applicable in extenuating circumstances.
11 Tues REMEMBRANCE DAY. All classes cancelled and offices closed.
24 Mon Last day for graduate students to drop courses under special procedures applicable in extenuating circumstances.
   Last day for undergraduates to drop courses under special procedures applicable in extenuating circumstances.

December
1 Mon Classes end.
3 Wed Examination period for undergraduates begins.

8 Mon Final deadline for submission of undergraduate application for graduation (with a late fee) for students completing requirements by the end of the 2003 fall semester.
11 Thurs Last date for receipt of grades 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.
15 Mon Examination period for undergraduates ends.
23 Tues Grades available on the registration system, as they are received (approximately seven working days after the final examination)
25 Thurs CHRISTMAS DAY. Offices closed.
26 Fri BOXING DAY. Offices closed.

2004 Spring Semester

January
1 Thurs NEW YEAR’S DAY. Offices closed
2 Fri Last day for continuing graduate students to register and pay fees.
5 Mon Classes commence.
   Last day for students completing degree requirements in fall to cancel application to graduate.
9 Fri Deadline for undergraduate applications for re-admission to the spring semester.
   Deadline for submission of undergraduate grade changes from the 2003 fall semester.
15 Thurs Deadline for submission of application to the professional development program for fall semester, 2004.
16 Fri Last day for graduate students to register late, last day to add courses.
30 Fri Last day for receipt of grades deferred from previous semester for graduate students.

February
2 Mon Deadline for application for undergraduate admission to the summer semester, intersession and summer session 2004.
6 Fri Last day for undergraduates to drop courses except under special procedures applicable in extenuating circumstances.
16 Mon READING BREAK. Classes cancelled.
17 Tues READING BREAK. Classes cancelled.
20 Fri Deadline for submission of undergraduate application for graduation without a late fee, for students completing requirements by the end of the 2004 spring semester.

March
1 Mon Deadline for application for BC, Canadian and US grade 12 Early Admission students to the 2004 fall semester.
5 Fri Last day for graduate students to drop courses without academic penalty except under special procedures applicable in extenuating circumstances.
26 Fri Last day for graduate students to drop courses under special procedures applicable in extenuating circumstances.

April
6 Tues Classes end.
8 Thurs Examination period for undergraduates begins.
9 Fri GOOD FRIDAY. No examinations. Offices closed.
12 Mon EASTER MONDAY. No examinations. Offices closed.
13 Tues Final deadline for submission of undergraduate application for graduation (with a late fee) for students completing requirements by the end of the 2004 spring semester.
15 Thurs Last day for receipt of grades 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.
22 Thurs Examination period for undergraduates ends.
28 Wed Grades available on the registration system, as they are received (approximately seven working days after the final examination)
30 Wed Deadline for application for undergraduate admission to the fall semester 2004.
   Last day for continuing graduate students to register and pay fees.

2004 Summer Semester
   (including intersession, May-June and summer session, July-August)

May
3 Mon Summer semester and intersession classes commence.
   Last day for students completing degree requirements in spring to cancel application to graduate.
7 Fri Deadline for undergraduate application for re-admission to the summer semester.
   Deadline for submission of undergraduate grade changes from the spring semester.
### Start of Each Class Week

#### 2003 Fall Semester
- **September 2**: Week 1
- **September 9**: Week 2
- **September 16**: Week 3
- **September 23**: Week 4
- **September 30**: Week 5
- **October 7**: Week 6
- **October 15**: Week 7
- **October 22**: Week 8
- **October 29**: Week 9
- **November 5**: Week 10
- **November 12**: Week 11
- **November 19**: Week 12
- **November 26**: Week 13

#### 2004 Spring Semester
- **January 5**: Week 1
- **January 12**: Week 2
- **January 19**: Week 3
- **January 26**: Week 4
- **February 2**: Week 5
- **February 9**: Week 6
- **February 16**: Week 7
- **February 23**: Week 8
- **March 1**: Week 9
- **March 8**: Week 10
- **March 15**: Week 11
- **March 22**: Week 12
- **March 29**: Week 13

#### 2004 Summer Semester
- **May 2**: Week 1
- **May 9**: Week 2
- **May 16**: Week 3
- **May 23**: Week 4
- **June 1**: Week 5
- **June 8**: Week 6
- **June 15**: Week 7
- **June 22**: Week 8
- **June 29**: Week 9
- **July 6**: Week 10
- **July 13**: Week 11
- **July 20**: Week 12
- **July 27**: Week 13

#### Significant Future Dates (tentative at time of printing)

**2004 Fall Semester**
- **September 7**: Classes commence
- **October 7**: Fall convocation
- **November 7**: Final examinations begin
- **December 18**: Final examinations end

**2005 Spring Semester**
- **January 10**: Classes commence
- **April 8**: Classes end
- **April 21**: Final examinations begin
- **April 22**: Final examinations end

**2005 Summer Semester**
- **May 2**: Classes commence
- **June 1**: Summer session begins
- **June 29**: Final examinations begin
- **July 12**: Final examinations end
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, and netnews.

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 email 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 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
University Advancement, 2118 Strand Hall, 604.291.4154 Tel, 604.291.4956 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 strengthen the bond between Simon Fraser University and its graduates.

The association promotes an annual fundraising campaign for the University, offers benefits and services to members, and supports alumni group activities and career development programs.

The Office of University Advancement maintains alumni records, links alumni and University departments, and provides administrative support.

Archives
0400 Maggie Benston Student Services Centre, 604.291.3261 Tel, 604.291.4047 Fax, archives@sfu.ca, www.sfu.ca/archives

Archives’ mandate is to acquire original archival materials that document all programs and activities of the University 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 multimedia collection including film, video and sound recordings, maps, plans and architectural drawings, documentary, 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. There are exhibitions 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.

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 an extensive selection of stationery, university crestedsportsware 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.

Campus Security
Patrol Operations/Information Centre
01 Transportation Centre, 604.291.3100 (24 hours), 604.291.3469 Fax, security@sfu.ca, www.sfu.ca/security

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

604.291.4500 (24 hours) all emergencies
604.444.4929 (24 hours) or www.sfu.ca/security/current for road conditions
604.291.5451 lost and found
604.291.5448 caret (stroller, wheelchair, etc.)
604.291.3920 lockshop/keys

General Office
1300 Transportation Centre
604.291.5983 Fax
604.291.5450 personal security

Parking Services
3110 West Mall Centre, parking@sfu.ca
604.291.5534 Tel, 604.291.5386 Fax
604.291.4577 information telephone line

All parking lots on campus, with the exception of visitor parking, are reserved for valid permit holders only. Students, faculty and staff without valid permits, as well as visitors to the Burnaby campus are required to park in one of the four designated visitor parking lots (rates subject to change).

Parking Lot Price per semester Eligible
B lot search lot $95.00 undergraduate and graduate students, faculty and staff
C lot search lot $105.00 graduate students, faculty and staff
Convocation Mall and West Mall reserved space $261.00 undergraduate and graduate students, faculty and staff
visitor parking $1.75 per hour, $9.00 per day undergraduate and graduate students, faculty, staff and visitors
Undergraduate students may purchase a permit for B lot, Convocation Mall or West mall as follows:

**B lot (search lot)**

**PARKING LOT**

B lot parking permits are available through the parking lottery held prior to the fall and spring semesters. Available spaces are allocated at random to students who enter the lottery. Students may enter the lottery through the Parking Services web site at www.sfu.ca/security/Parking, or in person at the Parking Services office. You must have an SFU student number to enter as well as a current e-mail account.

**Open Sale**

There is an open sale on April 14. The number of open sale permits is based on availability and is sold on a first-come, first-served basis.

**Convocation Mall and West Mall (reserved space)**

Undergraduate students may also purchase a permit for the Convocation and West Mall Reserved lots, when available. If available, permits are purchased through an open sale, which is held approximately two weeks prior to the beginning of each semester. Please visit the Parking Services web site for a schedule of open sale dates.

Once these permits are issued, they must be renewed each semester to maintain status. For more detailed information, visit 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 concerning the status of an account should be directed to this office.

Arrangements can be made to automatically pay fees from the student’s banking institution to the University. Account information is then available via the information telephone line (604-294-8600) or on the world wide web (my.sfu.ca). Links to financial institutions at this site will show directed payments and other bank account information.

For the convenience of students in downtown Vancouver, the Information and Registration Office at the Harbour Centre campus will perform many of the functions of the Cashier’s Office at the Burnaby campus. Students may pay their fees in person at the Surrey campus of Simon Fraser University also.

Office hours are 9 am – 4:30 pm, Monday to 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 and run parallel to the on-campus offerings. Students may complete many certificate, diploma and degree programs entirely by distance education. Or students may take a combination of distance education, evening or day courses to fulfill their academic requirements.

Each registered student receives a complete learning package using one or more of the following delivery methods: print-based study guides, audio and/or videotapes, supplementary readings. In addition, some courses have a teleconferencing or e-mail requirement. Increasingly, instructional technologies (e.g. web based or computer conferencing) are being used to promote interaction between and amongst students and the tutor-marker.

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.

**Centre for Students with Disabilities**

1250 Maggie Benston Student Services Centre, 604.291.3112 Tel, 604.291.5457 TTY, www.sfu.ca/ccs/csd

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 with 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). 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 interlibrary 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 day 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 at 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.
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 – 2:15 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 – Thursday, 11 am – 3:30 pm, and Friday, 11 am – 2:30 pm

Alexander MacKenzie Cafe
Hungry? Meat or vegetarian wraps are for your choosing. Check out the grab and go health snack bar Outakes, with some of the feistiest dips this side of the 49th parallel, or choose from our great daily entrées, burgers, sandwiches and pasta. Breakfast is served Monday – Friday, 7:30 – 10:45 am. The Café is open Monday – Thursday 7:30 am – 7:30 pm.

Frank Express
Choose from Mr. Tube Steak jumbo smokies, beef and veggie wieniers, soft pretzels and fruit smoothies to tame that hunger. Open Monday – Friday, 10:30 am – 2:30 pm.

Catering Services
We cater to conferences, office groups, business meetings — whatever the occasion, give us a call. Tel 604.291.4510, Fax 604.291.5661 or e-mail your requests to catering@sfu.ca

Academic Quadrangle

Triple O’s by White Spot
The home of the White Spot Triple O burger, thick cut onion rings, fresh cut fries, milk shakes and more.

Summer Semester Hours of Operation
Monday – Thursday 9 am – 3:30 pm, Friday 9 am – 3 pm.

Fall Semester Hours of Operation
Monday – Thursday 9 am – 4:30 pm, Friday 9 am – 3 pm.

Simon C’s
Our convenience store sells sandwiches, snacks, beverages, slurpees, soup, groceries, health and beauty aids, newspapers, magazines and stamps.

Summer Semester Hours of Operation
Monday – Friday 8 am – 9:30 pm, Saturday and Sunday 10 am – 4 pm.

Fall Semester Hours of Operation
Monday to Friday, 8 am – 9:30 pm, Saturday and Sunday, 10 am – 6:00 pm

Catering Service
Call 604-291-4510 for all your catering needs.

West Mall Complex

Raven’s Café
Our nutritional entrées change daily. We offer a choice of traditional meat or vegetarian cuisine, breakfast and lunch grill choices, gourmet deli sandwiches, soups, chili and salad bar, pizza and pasta bar, hot wraps and made-to-order stir-fry delights. Check out our desserts and baked goods while enjoying the best view on campus!
Open Monday to Thursday, 8 am – 7 pm, Friday, 8 am – 4 pm, Saturday and Sunday, 9 am – 3:30 pm.

Raven’s Bistro
We proudly serve Starbucks coffee along with gourmet baked goods, pizza and other delicious savories. Treat yourself to an ice cream cone or a milkshake. Open Monday – Thursday, 7:30 to 10:30 pm, Friday, 7:30 am to 4:30 pm.

Diamond University Centre

The idyllic setting of the Diamond University Centre on the north slope of Burnaby Mountain, combined with its beautiful facilities, professional services and gourmet food makes it the near perfect location for gatherings of up to 250 for receptions and 140 for dinners. Open Monday – Friday, 10:30 am to 2 pm. Call 604.291.4794 for reservations.

First Nations Student Centre

1500 Maggie Benston Student Services Centre, 604.291.3555 Tel, 604.291.5682, Monday – Friday, 9 am – 4 pm
Support services and programs are available to students of Aboriginal ancestry (First Nations, Métis, Inuit) through the First Nations 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 face-to-face services also.
A First Nations academic advisor can help with academic program planning, including registration procedures, course selection and course withdrawals, and with appeals and retroactive withdrawals.
In the First Nations Student Association lounge, located in TC 3108, students can meet in a relaxed atmosphere. The lounge is available 24 hours a day.

George and Ida Halpern Centre

Halpern Centre, 604.291.4910 Tel, 604.291.3420 Fax
The Halpern Centre was donated to the University as a setting for cultural and intellectual endeavors which are not part of the scheduled University credit offerings. The centre is 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, etc.
The centre may be booked 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.

Health, Counselling and Career Centre

0101 Maggie Benston Student Services Centre, 604.291.4112 Tel, 604.291.5888 Fax, www.sfu.ca/hccc

Our Mission
We exist to promote mind-body wellness to enable students to realize full potential and achieve 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 and learning skills, career services, and outreach.

Health Services

0101 Maggie Benston Student Services Centre, 604.291.4615 Tel, 604.291.5888 Fax, medical emergencies: 604.291.4500
300 Harbour Centre, 604.291.5020 Tel, 604.291.5025 Fax, medical emergencies (via Security); 604.522.5252

Physicians after regular hours: 604.522.3311, 6 pm – 7 am, Monday – Friday, weekends and holidays
The Health Services division 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 staff are an interdisciplinary team of health care providers including physicians, a psychiatrist, nurses, a health educator and support staff. We also operate a physiotherapy clinic and a BC Biomedical Laboratory on-site. 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 campus community members. Physiotherapists address orthopedic and sports injuries, prevention, treatment and rehabilitation.
Services are available by appointment. No referral is required except for WCB claimants. Students who qualify for Premium Assistance will be eligible for limited appointments at no charge. All other students, staff and faculty will pay all charges, which may be reimbursed through extended medical insurance.

Counselling Services
0101 Maggie Benston Student Services Centre, 604.291.4615 Tel, 604.291.5888 Fax
Free, confidential counselling services are available for SFU students currently registered in SFU credit courses. Registered psychologists, counsellors and counsellor trainees provide brief individual, couple and group counselling and address personal, academic and career concerns. Same day appointments are available for initial visits and crisis. Groups and workshops are offered on a range of personal development topics including stress management, depression, performance anxiety, communication skills, procrastination and body image. The service also provides expert consultation to staff and faculty, outreach to campus groups and crisis intervention for critical campus incidents.

Learning Skills Services
0300 Maggie Benston Student Services Centre, 604.291.3106 Tel, 604.291.5926 Fax
Learning skills counsellors and peer educators assist SFU students with their 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 MBC 0300 to review our extensive collection of learning resources and check out the many programs available to enhance your academic success.

Career Services
0300 Maggie Benston Student Services Centre, 604.291.3106 Tel, 604.291.5926 Fax
Career Services provides a range of options for SFU students and recent graduates who require assistance with career development and work 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 work search strategy.

Our self-help resource library offers a comprehensive set of print and on-line resources to aid in your planning process. We provide access to internet-based work search tools offering on-line job postings, on-line resumes and applications, employer profiles and recruitment campaigns, and Mentors On-Line. We also co-ordinate on campus recruiting and specialized career events. Sign on to our e-mail list (career-services@sfu.ca) to receive regular updates and information about employment opportunities, programs and services.

Peer Programs
604.291.3878/3879 Tel, 604.291.5888 Fax
Peer educators are registered students who deliver outreach programs and provide assistance with student health issues, academic performance, career development and personal issues. They work under the supervision of HCCC staff to organize special events on campus, conduct educational workshops and small group discussions and provide one-on-one consultation in all areas of HCCC.

New student volunteers are welcome in all of our peer programs. Applications are available in MBC 0300 and are accepted in spring semester each year. Extensive training is provided each year in late August.

SFU Nightline
604.857.7148 evenings, weekends and holidays
SFU Nightline offers a telephone crisis intervention service, providing peer counselling and support, information and referrals after regular HCCC office hours. 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. For more information, visit our web site at www.sfu.ca/hccc.

Human Rights Office
3045 Academic Quadrangle, 604.291.4446 Tel, 604.291.5468 Fax, betloryn@sfu.ca, www.sfu.ca/human-rights-office

On April 7, 2003 the SFU Board of Governors approved changes to GP 18, the Harassment Policy, which expanded the scope of the policy to include discrimination as a proscribed behavior. As such, the Human Rights Policy responds to the University’s obligations under the BC Human Rights Code to provide a discrimination and harassment free environment for the students, faculty and employees of this University. The objectives of the expanded policy are to educate the University community about human rights issues and to provide procedures by which complaints of discrimination and harassment can be addressed, mediated and resolved.

To reach the Human Rights Office co-ordinator Brenda Taylor, visit, telephone, fax or e-mail at the numbers/addresses above.

Normal business hours are Monday to Friday, 8:30 am to 4:30 pm but the office is frequently closed when mediations or sessions, meetings or seminars are in process. Appointments are necessary but can often be scheduled on the same day as contact is made with the office.

The principles of natural justice and impartiality govern the complaint process. The co-ordinator can offer advice and assistance to people who wish to deal with situations on their own or mediation services can also be provided. In exceptional circumstances, formal complaints are referred to an external investigator who is an experienced administrative lawyer.

For more information about the Human Rights Policy, including the definition of discrimination and harassment and the types of harassment covered, please visit our website.

Interfaith/Chaplaincy Centre
1470 Maggie Benston Student Services Centre, 604.291.3180 Tel, www.sfu.ca/student-services/chaplaincy.html

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. Students are warmly invited to visit our drop-in centre and reading room, 9:30 am – 5 pm, Monday – Friday.

Learning and Instructional Development Centre
7560 Education Building, 604.291.3910 Tel, 604.291.4900 Fax, www.idc.sfu.ca, Monday to Friday, 8 am – 4:30 pm

Our mission is to help create an enriched academic environment at SFU. This will be accomplished by supporting and promoting effective teaching, stimulating and conducting research and scholarly activity, assisting in the integration of instructional technologies, and providing media services and classroom support to the university community.

Classroom Technology Assistance
P9301 Shrum Science Centre, 604.291.4828 Tel, 604.291.4616 Fax, Monday to Thursday, 8 am – 10 pm, Friday 8 am – 4:30 pm
2622 West Mall Centre, 604.291.5538 Tel, Monday to Thursday, 8 am – 8 pm, Friday 8 am – 4:30 pm

The Classroom Technology Assistance Centre has two locations.

A wide variety of audio, visual and computer equipment for classroom projects is available for loan to students as well as advice and instruction in the proper use of equipment. When requested by faculty, audio recordings of lectures can be produced for student use. The cassettes and a listening facility are located in both the W.A.C. Bennett Library and the Belzberg Library at the Harbour Centre campus.

Instructional Development
7560 Education Building, 604.268-6727, 604.291.4900

This group provides a wide variety of services to faculty and other instructional staff, including:
- delivering workshops to various groups
- assisting with the design, development and evaluation of teaching
- assisting teachers with their face-to-face teaching
- supporting the integration of technology into courses
- providing a consultation program on the preparation of teaching portfolios, teaching evaluations, and student assessment methods
- helping to develop a resource centre on teaching, learning and technology in teaching

Media Production Group
7560 Education Building, 604.291.4648 Tel, 604.291.4900 Fax, www.sfu.ca/idc

Our function and purpose is to provide leadership and service in media and communications technology for the advancement of teaching and learning at Simon Fraser University. Our production staff provides comprehensive media capability in both conventional and digital formats using the most current technology. We find creative solutions to your problems, we offer guidance and support through consultation and are always pleased to assist you with your projects. Visit our web site to see what we can do for you.

Teaching Enhancement Program
7560 Education Building, 604.291.6570 Tel, 604.291.3851 Fax, www.sfu.ca/idc/teaching, Monday to Friday, 9 am – 4:30 pm

Teaching Enhancement Program staff co-ordinate and organize instructional development and educational technology programs (workshops, seminars, lecture series, symposia and conferences) and services (consultations, publications, and online support) for SFU’s academic community to enhance the quality of teaching and learning at the University. Some programs include:
- Certificate Program in University Teaching and Learning
- annual fall and spring semester TA/TM Days
- Instructional Skills Workshop
- ISW Facilitator Development Workshop
- Diversity Awareness Workshop
- Voice Projection Workshop
- Teaching and Learning with Technology

Technical Services
7528 Education Building, 604.291.4755 Tel, 604.291.3199 Fax

This technical group provides support to keep SFU’s classrooms as contemporary as possible. Expertise in research, design, installation, and service is offered as well as advice to staff, faculty, students and special interest groups about lecture theatre operations. Other services include sales of audio visual materials, the dissemination of Shaw and satellite over the in-house CATV system, and video conferencing. A broad range of experience is offered to those wishing to purchase or evaluate equipment, plan system installations, or learn about new technologies.

Samuel and Frances Belzberg Library
Simon Fraser University at Harbour Centre, 604.291.5050 Tel, 604.291.5052 Fax, www.harbour.sfu.ca/belzberg/index.htm

The Belzberg Library has been in operation since January 1989 as a branch library serving Harbour Centre students and faculty. It provides full services including reference, library materials loans, access to course reserve items, and materials requests from the W.A.C. Bennett Library. On-line services, including the library catalogue, full text databases, electronic journals, and access Web sources, form an essential element of this ‘electronic’ library.

The library collection supports the courses and programs offered downtown. It currently consists of over 8,000 books and several hundred journal titles as well as microfilm and fiche collections.

The Samuel and Frances Belzberg Library was developed through the generous donation of the Belzberg family.

Library hours: Belzberg Library service is available Monday – Thursday, 10 am – 9 pm; Friday, 10 am – 7 pm; and Saturday, 10 am – 5 pm.
W.A.C. Bennett Library

Collections
The library has over 1,300,000 bound volumes, 7,000 print journal subscriptions and 9,000 electronic journal subscriptions. Together with other types of materials, the library collections contain over 2,000,000 items. The Library of Congress classified books are arranged on three floors as follows: A-HS on the 4th; HT-QE on the 5th; and QH-Z on the 6th. Periodicals are housed on the 6th floor, with current journals and newspapers in a separate reading room. Designated quiet study carrels are located on the fourth, fifth and sixth floors, with a silent study room on the 5th floor. Group study rooms are located on the 2nd floor and may be reserved through the library web site.

Strong collections are available to the undergraduate student in all disciplines taught at SFU. The graduate student will also find a growing corpus of research literature. The library web site provides access to our collections for SFU researchers on or off campus, through the library catalogue, indexes to journals, electronic journals, and other digital resources. Special collections include the contemporary literature collection, of interest to the student of avant-garde poetry, the finest William Wordsworth collection in Canada, the Canadian editorial cartoon collection, the Wosk-McDonald Alidine collection and significant manuscript and archival collections. The curriculum collection contains copies of curriculum guides and suggested readings prescribed by the Department of Education for use in BC schools. A guides and suggested readings prescribed by the curriculum collection contains copies of curriculum

The library has over 8,000 books, 2,000 e-books, 160 e-journal subscriptions, videos, DVDs and computer games on site, plus access to the full SFU Library's collection of more than 2 million books and 9,000 electronic journals. The SFU Surrey Library specializes in electronic resources and also lends digital cameras and other multimedia equipment.

Due to security restrictions, the SFU Surrey campus and library are currently only open to SFU Surrey faculty, staff and students.

Loans
Your SFU student ID card is also your library card, and is required to borrow books. The standard loan period for undergraduates is three weeks for high demand items and semester loans for lower demand items. Reserves (recent materials are assigned short loan periods two hours to one week) to increase availability in specific courses. Lecture tapes for selected courses are also available in Reserves.

Faculty and students are eligible for a free library card from other Canadian university libraries. Document delivery services provide access to materials not held at SFU through agreements with BC and other post-secondary libraries, as well as providing delivery of SFU’s collections to Distance Education students.

Hours
Monday to Thursday 8 am – 11:45 pm; Friday 8 am – 8 pm; Saturday and Sunday 10 am – 10 pm.

Normally, the building closes during statutory holidays. For detailed information about service hours, visit the library web site at www.lib.sfu.ca/about/hours.html.

SFU Surrey Library
SFU Surrey Library, 604.268.7411 Tel, 604.268.7420 Fax, www.lib.sfu.ca/about/surrey
The SFU Surrey Library, located at the SFU Surrey campus, is the most recent addition to the SFU Library system. It was opened in spring 2002 as a branch library to serve the students, staff and faculty of the Simon Fraser University Surrey campus. The library has over 8,000 books, 2,000 e-books, 160 electronic journals, videos, DVDs and computer games on site, plus access to the full SFU Library's collection of more than 2 million books and 9,000 electronic journals. The SFU Surrey Library specializes in electronic resources and also lends digital cameras and other multimedia equipment.

Due to security restrictions, the SFU Surrey campus and library are currently only open to SFU Surrey faculty, staff and students.

Libray hours when classes are in session: Monday and Tuesday, 9 am – 5 pm; Wednesday and Thursday 9 am – 7 pm; Friday, 9 am – 5 pm; closed weekends. See the website for updated opening hours.

Media and Public Relations Office
2200 Strand Hall, Tel, 604.291.3039 Fax, www.sfu.ca/mediaprx
Media and Public Relations Office provides media relations and information dissemination. We publicize campus events and achievements, offer media liaison, publish Simon Fraser University News and maintain information on the University’s website. 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.ucs.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 Adobe, Borland, Corel, FileMaker, Macromedia, Microsoft and Symanetc. Apple, Epson, IBM, Lex arks, Panasonic and offer educational discounts on computer hardware products. We can help you choose the right products to get your university work done. Our store staff are not on commission, so we offer unbiased advice to our customers.

The store stocks software, printer ink cartridges and toner, memory, media, moderns, paper, cables and accessories for your convenience. We also have demonstration computers, monitors and printers for you to evaluate. Our service shop can upgrade or repair most computer equipment.

Our regular hours are Monday – Friday, 10 am – 4:30 pm.

The Peak Newspaper
2901 Maggie Benston Student Services Centre, 604.291.4560, www.peak.sfu.ca

Published weekly each semester. The Peak is Simon Fraser University's independent student newspaper. Students may place free personal classified ads, sit on the Board of Directors, vote, volunteer, work as an 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
110 Chancellor's Gymnasium Complex, 604.291.3675 Tel, 604.291.4922 Fax, www.sfu.ca/athletics-rec

Recreational Services and Athletics provides the campus community with a variety of physical activities from recreational to competitive levels.

Chancellors 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.

A valid gym identification tag, plus a gym membership, is required to use all facilities. Students receive a free membership as part of their student fees.
14 Academic and Campus Services

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 2001-2002 season by securing a sixth 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, one of the few Canadian programs to compete in the NAIA and the CIS, offers athletic financial awards to its student athletes along with excellent competitive opportunities.

Simon Fraser University Varsity sports programs for women include basketball, soccer, softball, wrestling, swimming and diving, track and field, and volleyball. For men, our Varsity sports include golf, basketball, soccer, football, swimming and diving, track and field, and wrestling.

For more information, see www.sfu.ca/athletics.

Recreational Programming
The Recreational Services 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 sequential instruction of up to 12 weeks in a large number of activities suited to varying levels of skill or fitness. Offerings include instruction in combatives, 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. Student sport clubs — a variety of clubs are sponsored by Recreational Services and 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.

For more information, see www.sfu.ca/recreation.

SFU International
1200 Maggie Benston Student Services Centre, 604.291.4232 Tel, 604.291.5880 Fax, sfu_international@sfu.ca, www.sfu.ca/international

SFU International is responsible for co-ordinating the University’s exchange programs and other international opportunities as well as encouraging a strong and visible international presence.

Students and recent graduates of SFU 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
SFU International 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. Drop by for advice, for assistance, or just for a visit.

The office 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
• information and advice on income tax issues
• temporary mail facilities for new students
• liaison with academic departments and units in support of international student issues

All new undergraduate and graduate international students will be contacted by SFU International shortly after admission to Simon Fraser University has been confirmed.

Orientation is offered at the beginning of each semester. In addition to being a resource to all international students during their period of study, SFU International provides support in students’ adjustment to Canadian university life. New students especially are encouraged to visit our centre where the staff will be pleased to outline the wide range of services available on campus.

Study Abroad
International Exchange Programs
Students in their third and fourth years at Simon Fraser University have access to unique education opportunities by becoming involved in a student exchange. 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.

Undergraduate International Exchanges

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<td>various cities</td>
<td>National Student Exchange Program</td>
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A student approved for participation in a formal exchange program may, with the approval of his/her major department(s), undertake a maximum of 30 lower or upper division 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.

Students participating in formal exchange programs may receive exchange credit for courses completed at the host university with a passing grade. Transfer credit for exchange programs should be arranged before departure.

See www.reg.sfu.ca/calendar for information about international program fees.

Bilateral Canadian Exchanges
Université Québec à Montréal (UQAM)
University of Ottawa
Université Laval
Université Montréal

National Student Exchange (NSE)
Simon Fraser University is a member of the American consortium NSE. Students can participate in an exchange with over 80 American public universities from each of the fifty states, including Alaska and Puerto Rico. More information is available on-line or in MBC 1200.

Eligibility for Undergraduate Exchanges
Participants on all exchanges must meet certain academic and residency requirements. All domestic and international exchange participants:
• must have completed 45 credit hours prior to application with a minimum of 15 credit hours completed at Simon Fraser University prior to application
• have been approved into a specialization (for example a major or minor)
• have achieved a minimum GPA of 2.67 in the last two semesters and 24 credit hours completed
• be entering third or fourth year at the commencement of the exchange program
• be a full time student during the exchange period

Information Sessions
Information sessions for students interested in North American or institutional exchanges will be held as follows (times subject to change). Plan to attend one of these meetings.

2003

Wed., September 10 10:30 - 11:20 Halpem Centre
Thurs., September 25 10:30 - 11:20 Halpem Centre
Wed., October 8 10:30 - 11:20 MBC 1300
Thurs., October 23 3:30 - 4:20 MBC 1300
Mon., November 3 11:30 - 12:20 MBC 1200

2004

Fri., January 9 1:30 - 2:20 Halpem Centre
Thurs., January 15 3:30 - 4:20 Halpem Centre
Fri., February 27 12:30 - 1:20 MBC 1300
Tues., March 16 9:30 - 10:20 MBC 1200
Tues., May 11 11:30 - 12:20 MBC 1300

Times subject to change; visit www.sfu.ca/international for dates and times


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. The following field schools are planned for the 2003-2004 academic year:

Chinese Studies (summer 2004)
Sponsored by the Asia Canada program, the field school will spend one week at Simon Fraser University followed by seven weeks in China – one week in Beijing and six weeks in Jinling, studying intensive Chinese language as well as Chinese culture.

French (summer 2004)
Sponsored by the Department of French, the field school will take place in Tours, in the Loire Valley of France. Students will spend eight weeks studying French culture, language and literature at the Université de Tours (all instruction in French).

Hellenic Studies (summer 2004)
Sponsored by the Hellenic Studies program, the field school will spend one week at Simon Fraser University followed by seven weeks of study in Kephallonia, Greece with field trips to surrounding areas. Application deadline: February 6, 2004.

Humanities in the Czech Republic (summer 2004)
Sponsored by the Faculty of Arts, the field school will spend eight weeks in Prague studying Czech culture and humanities courses.

Southeast Asia (summer 2004)
Sponsored by the Department of Sociology and Anthropology, the field school will study regional areas, minority peoples and traditional arts through anthropological studies and course work. The field school will travel to Vietnam and Thailand.

Field School Information Sessions
To find out more about the summer 2003 field schools, attend an information session, as shown below.
Thurs., November 13 4:30 - 5:20 MBC 1200
Mon., December 15 1:30 - 2:20 MBC 1200
Wed., January 7 4:30 - 5:20 Harbour Centre
Times subject to change; visit www.sfu.ca/international for dates and times

Independent Study Abroad
Students may study at institutions in virtually any country and may receive SFU credit. Students arrange the programs individually, and must also organize transfer credit using a Letter of Permission. Finance, tuition, academic and language requirements of the host institution must be met by the student. Contact the host university regarding application and admission requirements. Information regarding the process for an SFU Letter of Permission (LOP) is available from the Office of the Registrar (see Courses at Other Institutions on page 50).

Residence and Housing Office
On Campus housing for traditional residences, studios, townhouses, apartments: 226 Shell House, 604.291.4201 Tel, 604.291.5903 Fax, www.sfu.ca/~sfuadmissions

A townhouse complex which accommodates 396 single students in four bedroom fully furnished townhouses
• Louis Riel House, a family apartment building containing 209 one and two bedroom units. Units are furnished with a stove and refrigerator. Apartments are reserved for couples, families with children, and single parent families.

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

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.
spring 2004 – September 19, 2003
summer 2004 – January 2, 2004

Apply as soon as possible within the application period. As residence accommodation is limited, 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.

Note: An academic application to Simon Fraser University is not an application for residence accommodation. Also, an academic acceptance from the University is not an offer of residence.

Off Campus Housing
www.sfu.ca/offcampushousing

This website maintains a current listing of all types of housing available to students in the neighboring community. The services are free to students seeking accommodation. Listings are not inspected in any way. Landlords listing their accommodation are required to pay $20 per listing for a one month display.

Simon Fraser Public Interest Research Group (SF-PIRG)
326 Transportation Centre, 604.291.4360 Tel, 604.291.5338 Fax, www.sfu.ca/~sfrig

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 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, www.sfsa.ca

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
Structure and Representation
The Student Society is comprised of every student attending SFU. The Society is composed of departmental student unions that elect a representative to Forum, the advisory body of the society. Each spring, students elect a representative from each Faculty, three at-large representatives and seven executives who, as the Board of Directors, set priorities and policies for 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 Student Services 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. Membership dues are broken down as follows (subject to change):

Student Activity Fee Breakdown

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<tr>
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<th>full time</th>
<th>part time</th>
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<tr>
<td>Simon Fraser Student Society membership fee</td>
<td>$24.35</td>
<td>$12.18</td>
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<tr>
<td>Student Society Building Fund/Capital Levy</td>
<td>$15.00</td>
<td>$7.50</td>
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<tr>
<td>Canadian Federation of Students provincial membership fee*</td>
<td>$3.50</td>
<td>$1.75</td>
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<tr>
<td>Canadian Federation of Students national membership fee*</td>
<td>$3.50</td>
<td>$1.75</td>
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<tr>
<td>Simon Fraser Public Interest Research Group</td>
<td>$3.00</td>
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<tr>
<td>Peak Publication Society**</td>
<td>$4.90</td>
<td>$2.45</td>
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<tr>
<td>CJSF — Campus Community Radio Society</td>
<td>$3.00</td>
<td>$1.50</td>
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<tr>
<td>Student Refugee — WUSC</td>
<td>$0.50</td>
<td>$0.25</td>
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<tr>
<td>First Nations Student Association</td>
<td>$0.75</td>
<td>$0.38</td>
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* fee adjusted annually based on the Consumer Price Index
** fee increase approved by referendum in spring 2003

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 affordable education.

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

Quad Books
Located at MBC 2260, 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 before and after exams where you can sell and buy used textbooks to save money.

Photocopying
The SFSS CopyRite, located MBC 2260, is a flexible, friendly environment which provides students with fast, cheap copying and printing services. CopyRite 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. Drop by TC 3013 to get involved.

Out on Campus
Out on Campus, the lesbian, bisexual, gay and transgendered collective of SFU provides resources and organizational support for the university community as well as advocacy and social events.

Out on Campus is comprised 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 site at www.sfu.ca/out-on-campus.

Ombuds Office
The Ombuds Office is 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 604.291.4563/5524, ombudsoffice@sfu.ca.

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 CopyRite. 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 Travel CUTS office at MBC 2270.

Food
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 Pub is a favorite 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.

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.

Atrium
This spacious licensed facility can be booked for social events including concerts and fundraisers. In addition, the student society rents space to food service outlets including Mr. Sub and Koya Japan.

SFU Community Trust
3100 Bennett Library, 604.291.3220 Tel, 604.291.3189 Fax, www.university.ca

The SFU Community Trust 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.

Statistical Consulting Service
K10557 Shrum Science Centre, 604.291.4670 Tel, www.stat.sfu.ca, statsc@stat.sfu.ca

The service, a component of the Department of Statistics and Actuarial Science, provides advice and assistance in the design of experiments, surveys, and analysis of all manner of data to university and community clients. The service draws on the expertise of statistics faculty and graduate students. The SCS has a full time director who is a qualified statistical consultant.

Student Programming Office
1150 Maggie Benston Student Services Centre, 604.291.3728 Tel, 604.291.5773 Fax, www.sfu.ca/ccs

New Student Orientation
www.sfu.ca/discover-sfu
Get a head start at SFU’s new student orientation, Thursday and Friday, August 28 and 29, 2003. Be ahead of the crowds to get your student card, go to the bookstore, and meet the people who will be in your classes. At orientation you will be greeted by the president, be entertained by a campus life drama, meet students from the same faculty, take a campus tour, and learn about the many services available to you. You may also attend special sessions about learning skills, academic planning, financial assistance, getting involved, and more. Orientation attendees are grouped with 15-20 other new students and one current SFU student mentor in the same area of study. Your mentor will answer questions and give advice at orientation and in your first semester.

The registration deadline is August 15, 2003. Late registrations are not accepted. Register for orientation on-line. Questions about starting school at Simon Fraser? E-mail us at orientation@sfu.ca.

Orientation is also offered in January and May for students starting classes in spring and summer semesters. Check the web site for the dates.

Volunteer Centre
www.sfu.ca/css/volunteer
Come in to see us, or check out our web site to find volunteer opportunities both on and off campus. Staff are available to answer your questions and to help you learn more about volunteering. Be sure to come to the annual volunteer fair in September in Convocation Mall.
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 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/index.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 and other academic libraries. On-line services form an essential element of this electronic library. A web-based catalogue, searches of commercial and public databases, electronic journals, and access to library files on the campus network are all available. Quiet study space is provided in the library.

The library collection supports the courses and programs offered downtown. It currently consists of 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 at the downtown campus. When 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, HP-lasi 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 – 5 pm Saturday, closed Sunday
The Himie Koshevoy Publishing Lab, located on the second floor at Harbour Centre, is equipped with 18 Macintosh G4 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, www.harbour.sfu.ca/psa/index.html, 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 recommendations 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.

Action Canada Fellowship Program
604.268.7961, actioncanada@sfu.ca, www.actioncanada.ca
Action Canada, a new national fellowship program affiliated with the Morris J. Wosk Centre for Dialogue, is housed at the Harbour Centre campus. Each year 20 young Canadians are selected for a program of leadership development and public policy study.

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 Gerontology
Post Baccalaureate Diploma in Humanities
Post Baccalaureate Diploma in Kinesiology
Post Baccalaureate Diploma in Public History
Post Baccalaureate Diploma in Social Policy Issues Graduate Diploma in Business Administration (on-line)

Additional undergraduate courses are also offered on a regular basis in business administration, international communication and other disciplines. For current offerings telephone 604.291.5000.

At the graduate level, six programs are offered at Harbour Centre at the present time – the executive master of business administration, the master of arts in gerontology, the master of arts in liberal studies, the master of publishing, the master of business administration in the management of technology, and the doctorate in educational leadership – with other programs under development.

Continuing Studies
604.291.5100 Tel, 604.291.5098 Fax, www.sfu.ca/ctudies
Dean
C. Yerbury BEd, MA, PhD (S Fraser)

Harbour Centre is the University initiative to support technological enterprise in BC. Comprising the entire seventh floor of the Spencer Building at Harbour Centre, its anchor participants are the Faculty of Business Administration and Continuing Studies in Applied Sciences. In addition it houses the Centre for Experimental and Computational Mathematics, Poly Lab, 7th Floor Media, Simon Fraser University/University of British Columbia Centre for the Study of Government and Business

W.J. VanDusen BC Business Studies Institute
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 are the Faculty of Business Administration and Continuing Studies in Applied Sciences. In addition it houses the Centre for Experimental and Computational Mathematics, Poly Lab, 7th Floor Media, 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 9 am to 4:30 pm, Monday through 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, hbook@sfu.ca
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 Crested sportswear and memorabilia, stationery and specialty gift items.

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
Dialogue Institute
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
7th Floor Media
Simon Fraser University/University of British Columbia Centre for the Study of Government and Business
W.J. VanDusen BC Business Studies Institute

TIME Centre
604.291.4984 Tel, www.sfu.ca/time
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Simon Fraser University Surrey

2400 Central City, 10153 King George Highway, Surrey, BC V3T 2W1, 604.268.7500 Tel, 604.268.7488 Fax, www.surrey.sfu.ca, surrey@sfu.ca

Director
T.W.Calvert BSc(Eng) (Lond), MSEE (Wayne), PhD (Carnegie Tech), P.Eng

Simon Fraser University Surrey is SFU's newest campus located at 2400 Central City, adjacent to the Surrey Central SkyTrain station. This campus currently offers undergraduate degrees in Information Technology and Interactive Arts, and a graduate program in Computing Arts and Design Sciences. The research facilities at SFU Surrey include labs focusing on information networking and media, interactivity research, usability research and shared virtual environments.

Undergraduate Program

Undergraduate Program Chair
R. Taylor BA, MA (Br Col)

Professors
J. Bowes AB (Hamilton College), MSc (Syr), PhD (Mich State)
R. Woodbury BArch (Car), MS, PhD (Carnegie-Mellon)

Associate Professors
J. Budd MVA (Alta)
D. Cyr BA (Vic, BC), MA (New Br), PhD (Br Col)
C. Gibson BA, MA (Br Col)
D. Doan BA (Regina), LLB (Qu)

Lecturers
R. Taylor BA, MA (Br Col)

Senior Lecturer
R. Taylor BA, MA (Br Col)

Program Specialization
At the end of TechOne, students enter one of the program specializations: Information Technology or Interactive Arts.

In the second, third and fourth years of study, students complete elective courses and collaborate on projects with other students to complete the degree program.

Information Technology
This major program may enable graduates to become an e-architect of new personal communications by designing and developing the software and hardware that fuel the digital age. SFU's Information Technology program provides skills to design and build future generations of e-business, web and personal/wireless communication products and technologies. With Information Technology, students can specialize in computer and communications engineering or software engineering. Each provides a wide variety of career opportunities ranging from small start-ups innovating new technology to larger corporations expanding their markets.

Computer and Communications Systems
Students in this stream might become leaders in digital innovation through a synthesis of telecom, signal processing and hardware fabrication. Others might design and develop new and unhackable computer systems and networks for the digital communications technologies that link the world. Some will focus on an amalgamation of the technologies used to create cell telephony, the Internet, remote yet collaborative virtual environments, GPS and interplanetary spacecraft.

Software Technology
From computer games to e-business programs to leading health care and education technologies, students might become designers of the software programs that propel us into the virtual age. Students will learn to expand user interactivity and functionality in software development projects, and to develop operating systems or software for computer animation, computer graphics, internet technologies or computer simulations. Students develop a thorough understanding of the current capabilities of both hardware and software as implementation platforms for the design and realization of intelligent systems.

Interactive Arts
Students can pursue artistic interests or media ambitions by bridging art and technology with SFU's Interactive Arts program. Designers, dancers, architects, painters, musicians, writers and even gamers can turn their passions into a successful high tech career. This program gives those students the knowledge needed to develop business and information technology skills.

Within Interactive Arts, students specialize in Interaction Design or Performance and Media Arts. Elective Options in computing and communications engineering, and in software engineering, also are
available at the Surrey campus. Electives can also be chosen from the broad range of courses that are available at the Burnaby Mountain or Harbour Centre campuses.

**Interaction Design**
This specialization is for students wishing to increase an audience’s interaction and enjoyment. Students might create interactive productions, design interactive media for robots, or design interactive sculpture or digital wearables. In addition to understanding the underlying technical and business issues related to these productions, students will learn how to analyse, generate solutions for and adapt to interactions needs of users, and how to respond to client, market, cultural and social demands.

**Performance and Media Art**
This specialization is for those who want to make art and media more realistic and engaging. Students might produce interactive media elements for film, video, television or stage. Participants will acquire the technical and analytical skills for creating a desired cultural outcome, and will acquire a firm grounding in the technical and production issues related to performance and media art now and in the future.

**Co-operative Education**
Participation in co-operative education is an option. See “Co-operative Education” on page 226.

**Courses**
Many of the following courses have prerequisites. At press time, this information was not available. Please check with an advisor or the semesterly Course Timetable and Registration Instructions for each course’s prerequisites.

**Business Administration BUS**
**BUS 130-3 Business in the Networked Economy I**
The management and operation of business, including the principles, concepts, ideas and tools used by managers. Management in the contemporary world of high technology is emphasized, featuring examples and cases involving high-tech firms. In addition, the course exposes students to international and local business issues, and to large companies as well as to smaller, entrepreneurial firms. (2-0-2) Students with credit for TECH 128, 129 and 130 may not take this course for further credit.

**BUS 131-3 Business in the Networked Economy II**
Introductory knowledge and skills for developing business goals, vision, direction and ultimately a successful business plan are emphasized. Marketing and financial planning in the context of development of a business plan is addressed, including elements of the marketing mix (product planning, market selection, proximity pricing and distribution), and key concepts associated with analysing financial resources. (2-0-2) Students with credit for TECH 131, 132 and 133 may not take this course for further credit.

**Computing Science CMPT**
**CMPT 341-3 Introduction to Computational Biology**
This course introduces students to the computing science principles underlying computational biology. The emphasis is on the design, analysis and implementation of computational techniques. Possible topics include algorithms for sequence alignment, database searching, gene finding, phylogeny and structure analysis.

**TechOne TECH**
**TECH 100-3 Fundamentals of Teamwork and Communication I**
Foundational skills in effective communication, team dynamics and information research are introduced and developed as needed in both virtual and face-to-face environments. (2-0-2) Students with credit for TECH 104, 105 and 106 may not take this course for further credit.

**TECH 101-3 Fundamentals of Teamwork and Communication II**
Building on the communication, teamwork and learning principles that form the basis of effective communication, this course refines and applies these skills to three important areas of technical communication: academic argumentation, co-operative presentations and professional portfolio development. (2-0-2) Students with credit for TECH 107, 108 and 109 may not take this course for further credit.

**TECH 114- History and Theory of Technology and Culture**
An examination of the historical development of technologies of writing, visualization and computing and their impacts on cultural development. Milestones in writing from phonetic and pictographic systems to the printing press and modern hypertext are examined. Optical technologies and how they have shaped the process of seeing itself will be explored, including the camera obscura, linear perspective, panoramas and stereoscopes. Changes in the methods of computation and how those changes affect cultures and subcultures will be explored, including the role of time, mathematics, memes and networks in shaping cultural evolution. (0-0-5) Students with credit for TECH 111, 112 and 113 may not take this course for further credit.

**TECH 117-3 Systems of Media Representation**
Systems of two dimensional, three dimensional and interactive visual representation are surveyed as they apply to both physical and digital media. Classical notions of 2D mark making and 3D linear perspective are introduced along with contemporary alternatives with digital media. Topics in interactivity include narrative concepts, color and composition as meaning, and modes of perception and reception. The course culminates with the development of an interactive time-based group project centered on multimedia, user interactions and medium of delivery. (0-3-1) Students with credit for TECH 118, 119 and 120 may not take this course for further credit.

**TECH 124-3 New Media Images**
The social and psychological effects of technological developments on contemporary art and design practices are explored. An introduction to basic semiotic and design terminology provides a foundation for discussing the cultural role of visual communications. Conceptual and structural frameworks for developing non-linear narratives are considered and implemented through basic digital video production and editing techniques. The role of network structures in shaping art and design practices are examined and developed in relation to interface design and web-based software applications. (0-3-1) Students with credit for TECH 121, 122 and 123 may not take this course for further credit.

**TECH 130-1 Business Trends and Challenges**
In this module an overview of important aspects of the New Economy and the High-Technology Environment is provided. Learners explore current business trends and challenges, organizational structures and virtual organizations, e-business, and business issues particular to the New Media industry.

**TECH 131-1 Entrepreneurship and Business Planning**
This module is designed to give learners a strong start in developing their business goals, vision, direction and ultimately a successful business plan.

**TECH 149-3 Introduction to Computer Systems**
A broad introduction to information technology, focusing on fundamental elements of computer architecture, basic structures for computer communications and networking, and social issues in the development and application of information technology generally. (0-2-3) Students with credit for TECH 154, 155 and 156 or any 100 level CMPT course may not take this course for further credit. CMPT 149 and TECH 149 are identical and students cannot take both courses for credit.

**Interactive Arts IART**
**IART 206-1 Programming Multimedia: Encoded Interactivity**
Designed to introduce students to the concepts involved in multimedia production. Multimedia is understood as interactive applications that the user engages through multiple channels of visuals, text and audio. The tools used are Director and Lingo.

**IART 207-1 Scripting in the Network Environment**
Reassessing the common understanding of multimedia, an understanding informed by the closed user/software interactivity of the CD-ROM technology of the mid 1990s, within the network context. Students will use Director and Lingo to explore the networked environment.

**IART 208-1 Authoring Multi-user Environments**
Developing a multiuser environment game in which participants interact online. Concepts and theories of multiuser interaction and interface will be applied to a project using Director’s multiuser server function.

**IART 210-1 Cultural Icons: Historical Perspectives**
Introduction to the interdisciplinary field of cultural studies and the historical backdrop of popular arts. Students investigate early sacred imagery and royal spectacle as well as traditions in which artistic practices are incorporated into everyday life.

**IART 211-1 The Evolution of Low Brow: Modern Popular Arts**
Exploring the history of popular arts, as intertwined with the rise of museums and world expositions. This history is further complicated by the emergence of photography and an international avant-garde.

**IART 212-1 All Mixed Up: Culture in the Age of Electronics**
With the advent of TV and film, popular arts gather momentum and prominence. This course explores the growing interpenetration of marketing, entertainment, and art, as reflected in key arenas of creative practice—including popular music and anime.

**IART 213-1 Digital Design Process, Language and Vocabulary**
Study of Visual Design as process, method and languages. The skills and knowledge of other disciplines are thus understood as knowable when this approach is applied to any design problem/situation. Students understand typography and space for on-screen and print graphics and communication design.

**IART 214-1 Digital Graphics and Visual Communication**
The primary language of communication design will be augmented and challenged by introducing ideas of the “post-industrial”, the popular and sub cultures. The accepted notion of interactivity will be explored in relation to participatory communication design models.
IART 215-1 Digital Environmental and Event Design
Students apply knowledge, skills, processes and methods to the context of complex urban and architectural situations and propose and develop innovative interactive experiences. Information spaces will test assumptions and expand the possibilities of communication, meaning and the quality of experience. Experience models open studies on brand, trust and e-loyalty.

IART 216-1 Drawing: Forms and Languages
An overview of the traditional forms and languages of drawing as a research element, a creative and critical context for developing questions, and as a tool for imagining solutions. Activities and projects in each unit offer possibilities for understanding new and emerging applications or modes of representation.

IART 217-1 Drawing: Anatomy and Gesture
Historical and contemporary approaches to representing human forms and identities. Related social and gender concerns are investigated to contextualize representations within a broader cultural framework.

IART 218-1 Drawing: Picturing Time
Opportunities to understand and apply drawing as a medium for visual thinking and conceptualization. This course focuses on projecting drawing through time, by applying traditional 2D animation techniques to new media.

IART 219-1 Animation: Modeling Identities and Forms
Forms Introduction to animation concepts both past, present and future. This first course concentrates on modeling techniques using 3D software packages such as 3D Studio Max. This course is part of a series of courses (219, 220, 221) that culminates in a collaborative, team-based experimental, research or narrative 3D animation project.

IART 220-1 Animating and Structuring Narrative
Introduction to the classical principles of animation, building on foundational understandings of narrativity, expression, gesture and movement. Using high-end 3D software packages, this course is part of a series of courses (219, 220, 221) that culminates in a collaborative, team-based experimental, research or narrative 3D animation project.

IART 221-1 Animation: Rendering Fictive Spaces
Students focus on completing a collaborative, team-based experimental, research or narrative 3D animation project using high-end 3D software packages. Emphasis on rendering and production while also introducing students to animation research.

IART 222-1 The Movement Image
Introduction to non-linear film editing and the fundamentals of film montage.

IART 223-1 Moving Images: The Camera and the Eye
Students will produce short film works that explore the relationship between film planning, shooting, editing, and the use of sound. The course includes the fundamentals of film continuity.

IART 224-1 Moving Images: Interaction, Interface, Installation
Students will produce and present a short film within a specific installation environment. This installation will explore the relationship between the conception of the film, audience interaction, and the space (physical, visual, auditory) within which it is presented.

IART 243-1 Sound Interaction: Significant Sound
The acoustic and psychoacoustic properties of our sense of space as provided by sound. Projects are done in the design and composition of audible space environments.

IART 244-1 Composing Audible Visual Images
Introduction to the theory and practice of audio in relation to visible narrative, sound as narrative, and sound as a temporal and spatial modulator. Programming techniques for audio-vision are introduced using Max/MSP/Jitter.

IART 245-1 The Audible Open Work
Exploring fundamental audio techniques for non-linear media production, including design, programming and composition of interactive behavior for audio-visual presentation/installation using the Max/MSP/Jitter programming environment. Programming and sensing techniques for audio and video control are introduced.

IART 310-1 Context for Cultural Production
After first establishing the context of post-industrial knowledge society, students analyse the contexts within which communication, interaction and reception occur and view all production as cultural. Concepts and experience design models are used to make concrete use of complex theory so that it can be applied in practice-based projects. Specifically the course connects ethnographic (such as sociology and anthropology) and textual research methods (such as literary theory and structuralist anthropology) in order to study subculture, style and audience that defines experience more holistically beyond User Experience analysis modes.

IART 311-1 Practices of Interactivity
Students consider the implications of "practice" as more than activity and consider the various social practices that are implied by networked interactivity and other contexts. Applied projects consider negotiated and oppositional meanings, and fragmentation and heterogeneity in user profiling. Students apply theory to a speculative cultural project that manifests as web interfaces.

IART 312-1 Reception, Experience and Use
Students consider significant shifts in communication models that affect the relationship with and experience of users and audiences. Meaning is considered through the lens of ethno-linguistics for the purposes of user-centered participatory approaches. Experience lifecycles, brand and experience models, and experience flows are used to develop a user-driven ubiquitous computing design project. What is emerging as cultural phenomena in the real world in unexpected places provide starting places for studying "the space of flows," what happens between point A and point B. We look here to find the shifts that indicate how technology is reconfigured and localized and how human experience is experienced.

IART 313-1 Thought Machines
Introduction to programming techniques for algorithmically driven media including deterministic, stochastic, and complex processes for controlling audible and visible displays. Readings and discussion are conducted in the historical development of interactive media.

IART 314-1 The Interactive Sensorium
Techniques of data capture using sensors and software processes for abstracting information from these interactive sources. Critical readings on issues of participant agency, identity and authorship are explored in cultural and technological contexts.

IART 315-1 Syn (Aesthetic) Images
Students explore the responsive side of the interactive assemblage. Using audio and video signal processing techniques, students design display systems that can be driven by the sensing, analysis and generative machines developed in IART 313 and 314. Critical issues of the poetics of site, space, time and presentation are read and discussed.

IART 316-1 Experience Design
IART 317-1 User-Centred Design
IART 318-1 Knowledge Design
IART 319-1 Electronic Theatre: Doubling in Performance
The historical relationship between the performer and the audience in art, from Dada to present. Projects will focus on developing and experimenting with performance techniques, methods and strategies. Particular emphasis will be placed on body traces: conceptual, imaginative, physical, topographical.

IART 320-1 Electronic Theatre: Virtual Performance
Performance Virtual representation of self and role-playing within networked environments (also known as online communities). Projects will explore notion of identity and the construction of personas in electronic theatre and multi-user environments in general.

IART 321-1 Electronic Theatre: Telematics in Performance
Students navigate and compile documentation of telematic work by artists and dancers before creating their own simple telematic installation. The students in teams address critical and aesthetic debates around telematics. Strategies for "staging" and audience reception are discussed.

IART 322-1 Arts Project: Processes and Authoring
Study of creativity theory and flow psychology to reflect on creative process. A long term complex design project is initiated in which to study both personal processes and the practice processes of professionals. Focus is placed on how form is generated and what drives concepts and programmatic design.

IART 323-1 Arts Project: Production and Distribution
Students will apply Flow psychology and primary generators to studying individual and team working process. Students will document a complex process and produce and communicate a complex challenging contextual design problem.

IART 324-1 Arts Project: Interface and Reception
Students propose a self-generated project and successfully define a creative problem: the single-most important step in any creative process. Have you correctly identified the problem? A comprehensive project proposal will result. Depth of project is now expected including user trials and scenarios that go beyond formal and theoretical resolutions. Projects must create new value through design and develop truly innovative solutions that humanize technology. Rigorous process and ideation will be undertaken on a course-long project.

IART 325-1 Foundational Narrative Concepts
Fundamental narrative concepts: story, plot, character, emotion, conflict, dramatic arc, resolution and discovery are explored. The student will apply these concepts in the critical analysis of works in several linear media forms.

IART 326-1 Multi-linear Narrative Structures
The aesthetics of interactive narrative environments (video games, hypertext, web). New analytical concepts will be introduced (such as immersion, spatiality, participation, agency). The student will develop a critical framework that incorporates these concepts into the basic narrative concepts of IART 325.

IART 327-1 Networked Narrative Environments
Narrative theories, structures, and processes native to networked environments. Narrative unravels and fundamental concepts such as character and plot are challenged. Instead, emphasis falls on dynamics of...
“dialogism,” mutability, and indeterminacy, and on emergent and ambient narratives.

IART 328-1 Kinesthetic Space: Experience Space
Rigorous process and ideation will be undertaken on a cross-disciplinary self-initiated project. A full prototype or proof of concept will be presented in a public forum. Students will encounter constructive criticism and reflect on the learning experience.

IART 329-1 Kinesthetic Space: Interpretive Space
The meanings embedded in space. Space is dynamic and full of meaning, not inert and empty. Space is inherently social. It’s defined by relationships and activities that operate through it. In turn, space helps determine the relationships and activities that unfold within it. It’s more than a simple container of “things.”

IART 330-1 Kinesthetic Space: In/Exterior Spaces
A very physical course, which tightens the focus directly around embodied kinesthetic experience through the integration of architectural models, theoretical paradigms and physical improvisation using haptics and other devices for traversing space. Experiments are documented phenomenologically.

IART 331-1 Extended Body: Senses and Systems
Introduces concepts of body interface, focusing on structuring interface systems based on models of mapping the body. Included are multi-sensory systems and theories and practices of embodiment. Students will construct an interface using video motion tracking.

IART 332-1 Emerging Body: Cyborgs and Cybernetics
Cybernetics introduces contemporary cyber and cybernetics theory in the context of body interface. Hayles’ theories of the post-human body provide an introduction to design explorations. Students design a wearable, portable or remote sensing input device using analog sensor technology.

IART 333-1 Improvisational Body: Design and Intent
Introduces theories of improvisation, and complexity theory to the development of body interface systems. Included are theories of enactment, awareness, intention, and indeterminacy. Students design an improvisational interface, which incorporates context-aware or intentional behaviors.

IART 401-1 Electronic Culture: Complexity
Connections between networked culture and sciences of chaos and complexity are explored. Field research and conferencing concentrate on the dynamics of evolving systems, visual/spatial models of complexity, and the status of scientific knowledge in electronic culture.

IART 402-1 Electronic Culture: Identity
Building on the study of complex systems, this course investigates identity in terms of evolution and self-organizing systems. What are the adaptive implications of our interactions with intelligent machines? Weblogs serve as case studies in the emergence of networked identity.

IART 403-1 Electronic Culture: Society
The complexity of networked culture grows exponentially along with the speed of information processing. This course explores implications for the economy and organizations, and for the conduct of war, privacy, and surveillance. Weblogs serve as platforms for research and dialogue.

IART 404-1 Gaming: Personal to Social: Games as Rules
Among the oldest, most widespread forms of “interactivity,” games can be understood as formal systems of rules. In this course, readings and critical discussion frame the process of designing games as formal systems, focusing on fundamental principles for structuring interactivity.

IART 405-1 Gaming: Personal to Social: Games as Play and Culture
Game rules give rise to play, which unfolds within specific cultural contexts. Combining game design with critical discussion, this course focuses on the emergence of play, the social and material dimensions of play, and on games as cultural artifacts.

IART 406-1 Gaming: Personal to Social: Gaming and Prototyping
Students work individually and in teams to develop game concepts and move them through a series of prototypes to arrive at a final product.

IART 407-1 Object Interaction Design
Building on previously developed skills in design process and computer programming, this course will explore issues of interaction between the viewer and responsive objects. The course will focus on a well-integrated approach to the creation and implementation of a sensor-based device that responds to a haptic input signal.

IART 408-1 Object Interaction Programming
Analysing and applying programming and construction techniques for robotics, while exploring micro-controllers, sensors and triggers.

IART 409-1 Object Interaction Behaviors
Study of complexity and behavior theory in relation to the development of a current prototype. Students will explore interaction models for mechanical objects and robots.

IART 410-1 Meta-Systems: Strategic Processes
Artifact as the product of mechanical media. Students will examine the strategic design processes that evolved to support creative development and production of functional and cultural artifacts and apply this knowledge to the analysis of a product case study (1980-1995).

IART 411-1 Meta-Systems: Crossing Portals and Boundaries
Artifact as the product of digital media. Students will explore the changes in technology and creative methodologies for problem solving brought on by the rise of digital media (1980 and 2000).

IART 412-1 Meta-Systems: Abstracting Out of Immersion
Artifact as experience. Students will explore new ideas, issues and techniques in creative problem solving as changes in technology lead to increased freedom with the introduction of interactivity and ubiquitous computing.

IART 413-1 Production for Interactive Installation: Pre-production and Research
Part of a series of three courses (IART 413, 414, 415) which assist students in developing work for circulation in professional art exhibition venues and explore the fundamentals of project development from proposal through to presentation. A series of workshops will introduce the principles of fabrication, and address specific techniques for articulating spatial arrangements and lighting. IART 413 addresses issues which arise during the pre-production phase of project development and planning. Students will establish a methodology for managing the production process from conceptualization to execution, including budgets, time lines, case studies, and artist statements.

IART 414-1 Production for Interactive Installation: Programming the Design of Experience
Addresses issues of production and fabrication, with particular emphasis on materials, surfaces, and spatial arrangements. Project teams will develop a series of installation prototypes and models to assist in the planning and visualization process.

IART 415-1 Production for Interactive Installation: Structuring Liminal and Boundary Space
Addresses site-specific concerns related to exhibit design and physical installation. Issues of public interaction, testing, durability, publication, and professional presence will be discussed. Students are expected to complete the proposed installation, and to present the work within a public context.

IART 416-1 Immersive Environments
Introduces students to both physical and virtual immersive environments and worlds. A large range of immersive possibilities will be explored as to both define immersive space and to begin to understand how to author immersive systems.

IART 417-1 Authoring Immersive Environments
Begins the planning and execution stage where students will explore real-time dramatic performance art in immersive environments. This course culminates in a public interactive narrative performance in IART 418. In this course we design, script, create actor roles, build 3d immersive sets, rehearse and document the plan of our class conceived immersive performance that delves into the blurring definitions of author and audience, fact and fiction, physical and virtual.

IART 418-1 Performance in Immersive Environments
Students will execute a public interactive narrative performance that combines environment, online audience and actors, dramatic structure and social community dynamics. Planning and setup for this performance occurs in IART 417.

Interdisciplinary INTD
INTD 210-1 Visualizing Project Management
After completing this course, students will understand the challenges and need for effective project management and will be introduced to common project organization structures, roles, methods of communications and approaches for building and sustaining effective teams.

INTD 211-1 Planning and Directing Projects
During this course, students will learn about major periods and phases that may be present in any given project and begin to be introduced to models for configuring and controlling projects. Students will understand that projects need to be explicitly designed to address customer end-user requirements, and learn how to organize a project team, establishing structure, defining team roles and selecting suitable personnel.

INTD 212-1 Managing and Implementing Projects
After completing this course, students will be able to track their projects against plans. They will learn to use information to keep their customer, senior management and team members informed, and to collaborate with project stakeholders to move the project steadily and reliably to the desired results and project outcomes.

INTD 213-1 Critical Awareness and Analysis
How is knowledge built? This course examines various tests of sound reasoning and testing new knowledge. We consider propaganda and perceptual fallacies as detriments to sound knowledge.
INTD 214-1 Creative and Critical Thinking: Being Creative
What is creativity and how can it be applied to individual work? Are there stages to the creative process? Learn techniques for improving your creativity.

INTD 215-1 Creative and Critical Thinking: Being Critical
Being Critical Discusses situations in complex systems and management that breakdown or become dysfunctional because appropriate strategies and anticipation of complex interactions go unrecognized. Working creatively in groups. Creativity and critical thinking pose special problems in groups and organizations.

INTD 305-1 Design: The Need for Community
Theory, history and practice of community formation, beginning with pastoral and ethnic communities of history and concluding with on-line communities. We consider geopolitical formations, utopian groups and "communities of mind" as found on the Internet.

INTD 306-1 Digital Interactive Community Operation
Examines how the general characteristics found in traditional community are maintained and transformed in the structure of virtual communities. In this respect, the goal is to identify what is common and unique in comparing the traditional and the virtual. Because of their central dependence upon technology, online communities often vary in consistent ways from their geo-political ancestors; yet, sociologically they may fulfill many of the same needs.

INTD 307-1 Digital Interactive Community Practicum
Students will work in a team with 2 or 3 others to design and implement a prototype virtual community. The goal will be to show the application of some of the principles that have been covered in INTD 305 and 306, including concepts such as social capital, identity, trust, regulation and individual freedom. You will be responsible for self-selecting teams, and choosing a purpose and platform for your community. You will then construct virtual on-line communities using software tools and computer networks. Additionally, you will oversee their operation in daily use.

INTD 310-1 Emerging Technologies and Planning
Gives students an overview of emerging project management methods and develops the skills necessary to negotiate and complete the planning and design phases of a technology-based project.

INTD 311-1 Emerging Technologies for Implementation
Students apply the principles of design and configuration management, track and manage a budget, and complete the implementation phase of a technology-based project.

INTD 312-1 Project Control and Acceptance
Students will finalize the completion phase of a technology-based project. This will include applying corrective actions, QA and testing, and product acceptance.

INTD 401-1 Integration Project I: Project Planning
Focuses on the project-management aspects of the integration project-team building, organization, planning, and project definition. Students will work with others to create a workable team structure, generate and evaluate innovative project ideas, select the strongest alternative, and produce a detailed project plan.

INTD 402-1 Integration Project I: Project Definition
Focuses on research and refinement of ideas leading to a substantial product concept. Working in teams, students will identify their audience, assess market opportunities, assess technical feasibility, generate user scenarios, refine ideas, and formulate a workable project concept.

INTD 403-1 Integration Project I: Product Design Development
The design development of a specific project concept. Working in teams, students will storyboard a revised user scenario, develop the design details, evaluate the concept, develop a narrative presentation, and solicit feedback from their prospective audience to help assess the viability of their work.

INTD 404-1 Integration Project: Feasibility Assessment
Re-evaluating the current design of the concept developed in INTD 403, 404, 405 with special consideration of the project management aspects necessary to complete the project by term end-organization, planning, milestones, critical dates, and resource allocation.

INTD 405-1 Integration Project: Prototyping
Development and production of an integrated prototype, which clearly identifies and demonstrates the features and operation of both the hardware and software components of the product concept.

INTD 406-1 Integration Project: Field Trials and Refinement
Students will develop a strategy for field testing and product evaluation, run the field trials, evaluate the feedback, and implement feasible product improvement and/or revise product specification and details for a second generation prototype.

Information Technology ITEC
ITEC 216-1 Electronic Circuits: Circuit Principles
Introduction to the building blocks of analog circuits, circuit terminology, elements and conventions, network terminology, and resistor networks. Students analyze, simulate, design, and test circuits.

ITEC 271-1 Electronic Circuits: Electronics
Students model and analyse RLC circuits and are able to find the transient, steady-state, and complete response of a circuit. Students also study frequency response and power concepts.

ITEC 281-1 Electronic Circuits: Circuits
Introduction to semiconductors, transistor circuits, and digital logic circuits. Students gain an understanding of signal processing, circuit analysis and circuit design.

ITEC 220-1 Introduction to Digital Systems/VHDL
Introduction to Boolean algebra and logic circuits. Combinational circuits and synchronous sequential circuits are studied with an emphasis on the electronic aspects of digital circuits design.

ITEC 221-1 Design of COMB/SEQ Circuits
Advanced techniques for designing combinatorial circuits and asynchronous sequential circuits are introduced with a discussion of a number of practical issues that arise in the design and test of real systems.

ITEC 223-1 Introduction to Information Theory
Introduction to information theory and to fundamental concepts of source and channel coding is provided. The course also covers basics of data transmission including transmission media, modulation techniques, error detection, and packet switching.

ITEC 224-1 Integrated Data Services and Networks
Internet working and network applications. After introducing the concepts of routing, switching, and protocol layering, the students review internet architecture, internet addressing, and TCP/IP layers and protocols.

ITEC 227-1 Signal Analysis in Time Domain
Introduction to the mathematical time-domain representations used in signals and systems. Linear time-invariant (LTI) systems are discussed with emphasis on the convolution-sum and difference equation representations for discrete-time systems and convolution-integral and differential equation representations for continuous-time systems.

ITEC 238-1 System Analysis in Frequency Domain
Presents mathematical techniques based on the Fourier representations used in the analysis and design of linear time-invariant (LTI) systems and frequency filters.

ITEC 239-1 Filter Design and Analog Communications
The tools of Laplace transform for continuous-time systems are developed. These tools form the basis of our discussion on the characterization and design of linear analog and discrete-time filters and equalizers required to meet prescribed frequency-domain specifications.

ITEC 240-1 Data Structures: Linear Data Structures
Learning to use, apply, and implement fundamental linear data structures such as arrays, stacks, queues and linked lists. They will also be introduced to O-notations, abstract data types (ADTs) and simple sorting.

ITEC 241-1 Tables, Trees and Recursion
Learning to use, apply, and mathematically analyse algorithms and data structures that use recursion, advanced sorting, binary search trees, and hash tables. Patterns for designing libraries of algorithms and data structures will also be introduced.

ITEC 242-1 Applied Algorithms and Data Structures
Students will learn to use, apply, and mathematically analyze more advanced algorithms and data structures, such as pattern-matching, and graph searching. Further patterns for designing libraries of algorithms and data structures will also be introduced.

ITEC 251-1 Managing the Personal Software Process
How to implement a process-based approach for developing software, and an introduction to all aspects of the software life-cycle and the major issues in software engineering.

ITEC 252-1 Software Engineering: Product Engineering
Students will revise the process-based approach for developing software learned in ITEC 251. This will involve defining, measuring and improving the way they work. They will apply these methods in the design and development of a practical software system.

ITEC 260-1 Principles of User Interface Design
Learning the basic concepts about user interface: the factors that make a good design; the basic principles to follow; how guidelines and standards can help you in designing interfaces; how to prepare and conduct tests to evaluate user interfaces. This will create a foundation on which we will build in ITEC 261-1, Designing Human-Computer Interfaces.

ITEC 261-1 Designing User Interfaces
Builds on knowledge from ITEC 260: Evaluation and Understanding the User Experience. In this course
you will gain hands-on experience in designing a user interface. First, we will concentrate on the user interface design process that you will use in your team project. You will learn practical advice for building user interfaces, guidelines for recent features. Finally, web-based user interfaces and social interfaces and agents are covered.

ITEC 271-1 Introduction to Computer Graphics

Gives an introduction to Computer Graphics. Software and hardware principles of contemporary computer graphics systems are discussed. An introduction to graphical data encoding, file formats and color theory is given. The course concludes with the introduction of elementary computational geometry (points, lines, and polygons) and their implementation in Java.

ITEC 272-1 Computer Graphics: 2D and 3D Transformations and Curves

Introduces the mathematical concepts of computer graphics. Linear transformation including translations and rotations about arbitrary points and axes in 3D space are discussed. Also, curves such asBezier curves and Splines are introduced. The course concludes with a discussion of algorithms for anti-aliasing and 3D viewing transformations.

ITEC 273-1 Computer Graphics: Rendering Techniques

Deals with rendering of 3D scenes on a 2D output device. Discusses algorithms for hidden line and hidden surface removal as well as simple data models for solids modeling. The course concludes with an introduction to illumination, shading, and inter-object reflections.

ITEC 274-1 Differential Equations

Addresses the main types of ordinary differential equations (ODE). Begins with first-order ODE and their applications, exponential growth and decay, motion, and electrical circuit. Continues with second-order ODE that are fairly simple but of great practical importance. By the end of this course, students will be able to model a real life situation using ODE.

ITEC 275-1 Linear Algebra II

Covers the basic concepts of linear algebra. Starts with the study of vectors and vector space and continues with linear transformations. Throughout this course students will use Matlab and Java applets to understand the concepts.

ITEC 276-1 Laplace and Fourier Transforms

Covers the basic concepts of Laplace and Fourier integral transforms and Fourier Series and their applications in the theory of signals and systems.

ITEC 277-1 Applied Math for IT: Stochastic Methods

Provides essential mathematical knowledge and develops skills in Probability Theory which are necessary for further learning in the Information Technology program. Included topics are random variables, random vectors, and stochastic processes.

ITEC 310-1 Applied Math: Logic, Sets, Functions

Introduces logic, sets, and functions, the cornerstones of discrete mathematics. While there is significant focus on the underlying theory, there is also a software project which provides natural links to sets and functions, and demonstrates the central role that logic plays in the foundations of mathematics and computer science.

ITEC 311-1 Applied Math: Relations and Graphs

Relations and graphs (including trees) play a central role in the analysis and synthesis of systems, algorithms, databases, computational processes, and networks. The course topics focus on properties of relations, graph algorithms and graph properties. Both theories in the form of proofs as well as practical projects, where graph algorithms are implemented in computer programs will be the learning outcomes of this course.

ITEC 313-1 Fundamentals of Systems Engineering

The goal of this course is to introduce you to the practice of systems engineering and its core processes including those focused on requirements, design, integration, and testing.

ITEC 314-1 Systems Development Methods

The goal of this course is to introduce you to various practical and emerging methods used to support requirements, design, integration, and testing processes; it also introduces you to a range of software and hardware specification and design methods, as well as several automated tools and support environments used to aid the systems engineering professional in the conduct of their practice.

ITEC 316-1 Microcontroller Architecture

Presents an overview of how microcontrollers are used in embedded systems and covers microcontroller architecture. Assembly language programming, timing concepts, and interrupt handling are learned and reinforced through a series of lab exercises.

ITEC 317-1 Microcontroller Applications

Describes input-output issues and investigates a number of I/O devices that are used in embedded systems. Students design, implement and test an embedded system during this course.

ITEC 319-1 Baseband and Bandpass Communications

Introduces the overall digital communication system and the tools used in analysing such a system. Students are introduced to transmit formatting, bandpass modulation and demodulation with an emphasis on the detection of the signal in the presence of noise.

ITEC 320-1 Digital Communications: Channel Coding

Introduces the subjects of intersymbol interference (ISI) and bandpass modulation with an emphasis on the detection of the signal in the presence of noise. Furthermore, it introduces the two basic error correction codes, Linear Block Codes and Cyclic codes.

ITEC 321-1 Synchronization and Spread Spectrum

Introduces synchronization of digital systems in particular the phase-locked-loop implementation for achieving carrier-synchronization; bit-synchronization; frame-synchronization; and network-synchronization along with an analysis of spread spectrum techniques and their application in such areas as multiple access, ranging, and interference rejection.

ITEC 322-1 Introduction to Computer Animation

This is the first section of an intermediate- to advanced-level computer graphics course. The emphasis is on technical aspects of 3D computer animation, introducing students to the basics of 2D and 3D computer animation and developing initial skills in 3D Studio MAX, a software tool commonly used in computer animation.

ITEC 323-1 Advanced Computer Animation Methods

Explores advanced computer animation methods and techniques and develops skills in implementing them in a self-contained production using a 3-D graphics software tool.

ITEC 325-1 Object-Oriented Analysis

Focuses on building practical requirements analysis and modelling skills using UML. Basic concepts of object systems, UML and development process are presented. Methods and processes covered include those used in building use case diagrams, class diagrams, system sequence diagrams and object contracts.

ITEC 326-1 Object-Oriented Design

Introduces interaction diagrams, patterns for assigning responsibilities and finishes the object-oriented design cycle by construction phase of mapping diagrams into the implementation code. Finally, the methods for mapping between UML class models and logical database schemas are presented.

ITEC 327-1 Object-Oriented Analysis and Design Project

Teams will be working on the project designing a complex system using object-oriented methodology. The course will involve system modeling and system implementation.

ITEC 328-1 Introduction to Operating Systems

Starts with an introduction to computer systems and modern operating systems. Introduces contemporary features of operating systems such as symmetric multiprocessing (SMP), Threads, and Microkernels.

ITEC 329-1 Operating Systems: Concurrency and Processor Scheduling

Introduces the various design issues that evolve when dealing with multiple processes. Problems that can arise in a multi programming environment are deadlock and starvation. We look at ways to prevent these from happening and also give a general discourse of processor scheduling algorithms.

ITEC 330-1 Memory Management, I/O and File Systems

Describes the various mechanisms used to manage main memory with a particular emphasis on virtual memory management. In addition, I/O devices and their management are discussed. The course concludes with a brief description of file systems and their management.

ITEC 331-1 Network Architecture and Infrastructures

Deals with the architecture and infrastructure of telephone, computer networks, and wireless networks; includes a review of queuing theory and its applications; plus an explanation of various network mechanisms at different network layers.

ITEC 332-1 Network Applications

Focuses on network programming and applications design, including a study of network application architectures including client-server, peer-to-peer, blackboard, and grid; using programming (Java/C++) and modeling (OPNET) explores the design, implementation, and workload characterization of network applications such as electronic mail, file transfer, remote login, web browsing to more advanced applications like streaming multimedia, IP telephony, and instant multimedia messaging.

ITEC 333-1 Network Protocols

Deals with network engineering, and analysis of a range of computer network protocols such as TCP/IP, DNS, DHCP, LDAP, and IPSec.

ITEC 334-1 DSP Systems Design: Signal Processing

Discusses Digital Signal Processing (DSP) in comparison to familiar analog processing techniques. After a brief review of discrete-time signal properties, concepts of Fourier Transform, Z-Transform, and the concepts of sampling and quantization are introduced and reviewed.

ITEC 335-1 DSP Systems Design: Digital Filters

Digital Filters FIR and IIR filter design are presented, along with frequency-domain analysis. DSP
implementation issues are discussed and DSP algorithms are designed, implemented and tested.

**ITEC 336-1 DSP Systems Design: DSP Applications**  
Covers DSP applications including FFTs, correlation, signal synthesis, music and speech applications. Students design, implement and test a DSP project.

**ITEC 337-1 Introduction to Databases**  
Practical, hands-on introduction to relational databases. It introduces the essential ideas and concepts of relational databases in a concrete and practical way, using many examples. It uses Microsoft Access 2000, but any relational database software could be used in its place (although the emphasis of certain units may need to be changed, depending upon the features provided by the product).

**ITEC 338-1 Designing Database Applications**  
Introduces the theory of relational databases. Many basic database concepts will be made more precise here, and some of the mathematical theory behind creating well-designed databases will be introduced. A database project is included.

**ITEC 339-1 Database Implementation Project**  
This is a project course. The goal is to work in a team to design and to implement an Access database that solves some interesting database problem (either one from a selected list or one of your own choice). Each week, teams will give status reports on their progress. The course ends with a demonstration of the final database.

**ITEC 401-1 Testing and Verification: Computer System Safety Design**  
Provides students with knowledge and understanding of safety issues when specifying, designing, testing, and maintaining a software or hardware product as a component of a safety-critical system. You will explore the most important concepts of system safety, including hazard analysis, failure modes and effect analysis, nature of faults and fault-tolerant techniques. In addition we will discuss rudimentary concepts of reliability engineering, illustrating the relation between system safety and reliability. Testing verification, validation and certification, including applicable industry standards, are also discussed.

**ITEC 402-1 Testing and Verification: Hardware Testing**  
Provides students with knowledge and understanding of testing issues as related to the hardware components of a system. The main concepts of testing are introduced, and testing of both combinational and sequential circuits are discussed. Design for testability is presented, with a description of how combinational and sequential circuits are discussed. Vectors, points, lines, planes, and frames are the essential objects upon which simple three-dimensional graphics and geometric operations are performed. Many introductory graphics texts treat this mathematics informally, presuming, for instance, familiarity with vectors and vector spaces, and introducing such concepts as the dot product at the point necessary to explain a particular graphics operation. This course constructs a series of mathematical structures: vector spaces, inner product spaces, affine spaces, Euclidean spaces and projective spaces. Each is related and each provides the mathematical machinery required to represent and manipulate one or more fundamental types of geometric object.

**ITEC 408-1 Geometric Modeling: Solid Modeling**  
Representing solid objects is a crucial attribute of any decent system that deals in simulations of the real world. This part of the course will introduce you to two principal methods for representing solid objects. One Constructive Solid Geometry, is based on thinking of an object as a collection of primitive objects that combine together under rules of composition. The other, Boundary Representation, is based on elements in n-1 space. Each of these basic schemes conveys representational and algorithmic advantages and disadvantages.

**ITEC 409-1 Geometric Modeling: Surface Modeling**  
Curves and surfaces have become fundamental objects in computer graphics, geometric modeling, and animation. The mathematics underlying curves in conceptually clear yet notationally dense. This course progresses from simple to complex representations for curves, starting with the deCasteljau algorithm for Bezier curves. The generalization of curves to surfaces is briefly reviewed.

**ITEC 413-1 Computer Security: Fundamentals**  
Elaborates on the basics in computer security. It also covers the mechanisms for other security features. The fourth unit deals with database security, and requires some general knowledge of databases. The project component includes writing an essay based on a concept of some broadly specified computer security issue.

**ITEC 414-1 Computer Security: Practice**  
Presents case studies of the most popular operating systems, and an analysis of a collection of mistakes that should not be repeated. There is also an overview of virus protection and security evaluation methods. The hands-on component is based on a project in which students investigate and compare security features of two different operating systems.

**ITEC 415-1 Computer Security: Distributed Systems Security**  
Builds on the knowledge and skills you have acquired while taking several other courses in the IT program area. More specifically, this course concentrates on distributed computer systems. It also investigates cryptography as the main technical means of ensuring security of such systems. The hands-on component is project-based. It is dealing with investigating various types of data encryption algorithms by developing computer programs that implement them.

Provides an introduction to the area of multimedia communications. We describe and distinguish multimedia signals from other types of signals, and discuss the need to convert analog multimedia signals into digital form for processing and transmission. The course provides a basic understanding of the concepts of information and compression, and provides an overview of existing multimedia formats and standards. We, finally, examine multimedia communication systems and their special requirements.

**ITEC 417-1 Multimedia Systems: Compression Standards**  
Provides a deeper, quantitative understanding of the multimedia signal characteristics. We look at sampling and quantization as means of converting the real-world signals to the digital format for processing, and review Random Processes, Linear Estimation, and Information Theory to create a framework for the development of signal compression theories. We also analyse selected compression algorithms for multimedia signals, and examine compression standards for various multimedia formats. As part of the course the students implement a simplified version of a compression standard of their choice such as JPEG or MPEG-Audio using Matlab.

**ITEC 418-1 Multimedia Systems: Multimedia Communication**  
Considers the topic of multimedia communications. Following the introduction to multimedia and the analysis of compression, in this course we examine the special requirements that multimedia signals place on communications networks. Protocols accommodating multimedia communications, such as video-conferencing, are analysed after a review of network architectures. Finally, multicaressing and the MBONE paradigm are examined.

**ITEC 419-1 Introduction to Computer Architecture**  
Covers the basic concepts, design, and organization of digital computers, and examines in detail the operation and performance criteria of each of the components of a computer system. The course is designed to provide a foundation in computer architecture so that students will be able to apply this knowledge to software engineering and future courses in high-performance computing.

**ITEC 420-1 High Performance Computer Architecture**  
Covers different design models for building a high-performance computer. The course also compares various implementations of high-performance computers, ranging from single processor machines to a cluster of processors. It is designed to provide a foundation for future courses in high-performance computing.

**ITEC 421-1 High Performance Computing and OS Support**  
Concentrates on high-performance computing implementations, and presents their advantages and disadvantages for solving particular problems. The course also describes various criteria for timing, profiling, and evaluating performance. This course applies theory and examines applied infrastructures that can be used to build high-performance computing systems.

**ITEC 422-1 Introduction to Computer Simulation**  
Introduces computer simulation fundamentals, tools and techniques. The aim is to provide an understanding of modeling and simulating issues to enable the student to apply related tools and techniques in simulating real-world systems. The hands-on components of the course will demonstrate...
how the same principles apply to very different areas, from models of simple technical devices to complex social systems, and how they can be implemented using advanced simulation software tools.

ITEC 423-1 Computer Simulation: Theory
Introduces computer simulation fundamentals, tools and techniques. The aim is to provide an understanding of modeling and simulating issues that will enable students to apply related tools and techniques in simulating real-world systems. The hands-on components of the course will demonstrate how the same principles apply to very different areas, from models of simple technical devices to complex social systems, and how they can be implemented using advanced simulation software tools.

ITEC 424-1 Computer Simulation: Project
ITEC 425-1 Web-Centred Technologies: Markup and Scripting Languages
Covers languages used for information exchange and presentation in web-based applications. You will master HTML, CSS, Perl and CGI, XML and XSLT, and will be able to choose the appropriate language for a particular problem.

ITEC 426-1 Web-Centred Technologies: Technologies for Enterprise Information Systems
Presents problems encountered in enterprise applications and introduces the web tier and enterprise tiers in addressing those problems. Socket communication, Servlets, JSP and EJB are covered in detail.

ITEC 427-1 Web-Centred Technologies: Distributed Web Technologies
Concentrates on distributed web technologies: their advantages and disadvantages for solving particular problems are presented. RMI, JINI, JavaSpaces, P2P, CORBA and .NET are covered in detail.

ITEC 491-1 Special Topics in IT 1: Introduction to Wireless Communication
Examines what is and is not possible with contemporary wireless systems, focusing on the underlying technologies, engineering principles, and applications, in a breadth-wise fashion.

ITEC 492-1 Special Topics in IT 2: Mobile Networking
Considers the topic of mobile networking. Networking basics are reviewed and the peculiarities of the wireless medium with respect to network communications are examined. Mobile networks are divided into three separate categories: Packet radio, LAN, and WAN-and representative architectures and protocols are examined for each category.

ITEC 493-1 Special Topics in IT 3: Wireless Engineering
Provides in-depth analysis of the wireless channel as a communications medium. Radio propagation impairments are analysed and compensation techniques such as equalization, diversity combining and adaptive antennas are investigated. The cellular concept is considered and cell design is examined. Finally, spread spectrum communications and CDMA are investigated.

ITEC 494-1 Special Topics in IT 4: Wireless Applications
Designed for people who want to understand the different technologies that can be used to develop wireless applications for handheld devices, and more importantly, how to use the technologies efficiently.

Management and Technology MTEC
MTEC 223-1 Strategic Management in the New Economy
Deals with the main factors that managers must take into consideration when assessing a company’s competitive advantage. In each unit, the emphasis is on straightforward presentation of concepts and techniques, accompanied by examples of Motorola and other high-tech companies. This course is divided into the following four parts: Overview of Strategic Management, Analysis of the External Environment, Analysis of the Internal Environment and SWOT Analysis and Competitive Advantage.

MTEC 224-1 Strategic Management: Value Chain and Core Competencies
Uses case analyses from the Information Technology and Interactive Arts industries to emphasize how a value chain analysis can help define core competencies and implement the right strategy. The course is divided into the following four parts: Value Chain Analysis, Introduction to Case Analysis, Formulating Strategies, and Implementing a Business Strategy.

MTEC 225-1 Strategic Management: Strategy Simulation
Gives students an opportunity to implement the decision-making process in formulating strategy and evaluating the consequences of their decisions through the use of simulation game. The course is divided into the following four parts: Introduction to the Simulation Game, The International Context, Core Competencies and Strategic Outsourcing, The E-Business Model.

MTEC 251-1 Organizational Behavior
Looks at individual behavior, motivation, and learning in organizations. Unit 1 explores how work is changing in fast paced contemporary companies and how organizational behavior theories support and explain change. More specifically, in Unit 2 various theories of motivation are presented, with emphasis on motivation in high tech environments. Unit 3 deals with the planning process, and outlines the premises upon which plans are developed. In addition, the topic of ethics is explored. Finally, Unit 4 is focused on the strategic management process, and the important role strategy plays in organizations, students explore these topics through online and class discussion, case analysis, and through an integrative essay.

MTEC 252-1 Leadership and Team Building
How companies are led and organized. In Unit 1 foundations of leadership and various leadership theories are explored. In addition, students gain a personal perspective of their own leadership style. Unit 2 is focused on communication. Students analyse how to communicate effectively, and consider barriers to communication. Teamwork has been a pervasive part of the learning experience at SFU. In Unit 4 teamwork is examined from a new perspective, that of a manager. Further, students explore how to lead productive teams in the work place. Finally, in Unit 4 organizing is considered, with emphasis on both traditional and virtual corporations. Students explore these topics through online and class discussion, case analysis, and through an integrative essay.

MTEC 253-1 Negotiations and Decision-Making
How managers deal with challenges present in organizations, such as conflict, power and politics, and requirements for ongoing change in order to survive. In Unit 1 sources of power in organizations are explored, and how power can be translated into political action within companies. Unit 2 is focused on the important area of change management. Then, in Unit 3 students examine conflict, including sources of conflict and how it can be managed. Finally, in Unit 4 the decision-making process is explored, including technological support for decision-making, as well as ethical issues involved in decisions. Students explore these topics through online and class discussion, case analysis, and through an integrative essay.

MTEC 310-1 E-HR: Strategic and Environmental Issues
Students are introduced to various human resource management functions. Emphasis is on linking human resources to a company’s strategic objectives. Job analysis is defined and related to human resource planning. Human resource management systems are reviewed. Learning is organized around a simulated company experience.

MTEC 311-1 Tech Professionals: Recruitment, Compensation, Retention
Focuses on attracting and retaining skilled knowledge workers. Topics include the recruiting and e-recruiting process, competitive compensation and benefit strategies, and selection, including effective interviewing techniques. Learning is organized around a simulated company experience.

MTEC 312-1 Tech Professionals: E-learning and Development
Students examine important areas of training and e-learning, career planning and development, performance review and management, and how to sustain the employee relationship. All areas are vital to managing employees within the organization so that individuals, teams, and the organization flourish. Learning is organized around a simulated company experience.

MTEC 313-1 E-Business Strategy and Models
Focuses on e-business strategies in the Internet economy and how to identify the key determinants of business success. You will learn about the ten competitive landscape-changing properties of the Internet, the Internet value network, and Internet business models.

MTEC 314-1 Customer Relationship Management
Looks at e-customer relationship management (e-CRM) and how CRM relates to strategy and operations. You will learn the functions of customer service, tracking and managing CRM data, and international aspects of eCRM.

MTEC 315-1 Online Marketing
Focuses on Internet marketing. You will apply a marketing strategy to an innovative product and demonstrate how you will target customers using technology.

MTEC 401-1 Managing Technological Innovation: Science, Technology and Change
This introductory course outlines the field of management of technological innovation, examines the relationship between science and technology, and assesses the nature of technological lifecycles and technological change. The course focuses on understanding some of the key issues involved in managing technological innovation as well as framing students’ thoughts around science, technology, and technological change. The content and applications are written for those who are, or plan to be, entrepreneurs and managers as well as technology specialists.

MTEC 402-1 Managing Technological Innovation: Models of Innovation
Examines technological innovation in the context of a dynamically changing environment. It outlines differing models used to describe the innovation process, examines various types of innovation, and the dynamics associated with the adoption and diffusion of innovations.

MTEC 403-1 Managing Technological Innovation: Managing Research and Development
Examines R&D at the level of the firm. It describes the various organizational structures used for managing R&D, how the flow of innovative ideas from outside the firm can be enhanced, and examines the role of R&D and product portfolios.
MTEC 404-1 Business, E-Commerce and Technology Law: Law Basics: The Groundwork
Business law will be a relevant part of your professional life once you have left SFU and have embarked on your careers. To help you gain competency in identifying legal issues, and working them out, this course presents interesting legal studies and real-life scenarios, and introduces some important legal principles. The assignments are relevant to real situations you may someday face. We will focus on contract law, the legal system and the application of principles governing contract and business law.

MTEC 405-1 Business, E-Commerce and Technology Law: E-Commerce and Business Law
MTEC 404 illustrated how business law will be relevant to your work experience. MTEC 405 introduces more substantive law relevant to technology. This course presents interesting legal studies and real fact scenarios. Whereas MTEC 404 provided an overview of some important legal principles, MTEC 405 delves deeper into the areas of business law and its applications to eCommerce, using real situations and informative readings for this purpose.

MTEC 406-1 Business, E-Commerce and Technology Law: Intellectual Property Law
MTEC 404 illustrated how business law is relevant to your professional future. MTEC 406 continues the process by introducing intellectual property laws (patents, copyright, trademarks and integrated circuit topographies) that are relevant to the new technology world by presenting interesting legal studies and real-life scenarios. We delve deeper into the areas of intellectual property law and its applications to eCommerce, using real situations and informative readings. The assignments are geared to be enjoyable and relevant. This course presents a range of IP legal scenarios and IP/business law principles.

Graduate Programs

Computing Arts and Design Sciences Program

Simon Fraser University Surrey, 2400 Central City, 10153 King George Highway, Surrey, BC V3T 2W1, 604.268.7500 Tel, 604.268.7488 Fax, www.sfu.ca/surrey/programs/graduate

Graduate Program Chair
R. Woodbury, BArch (Car), MS, PhD (Carnegie-Mellon)

Faculty and Areas of Research
J. Bizocchi – interactive narrative; critical analysis of interactive experience; the craft of game design; production aesthetics for large flat-screen video display; educational technology and distributed learning
C. Bonanni – internet economics; information economics; network economics; auction theory; game theory
J. Bowes – digital media and telecommunications policy; computer mediated communication and online commerce; technology transfer; minorities and media; history of technology
J. Budd – collaborative product development; interface design and navigation; interactive products; visualization; virtual and physical; digital literacy; electronic conferencing
T.W. Calvert – computer systems for the animation and choreography of human figures; networked multimedia systems for learning; the design and evaluation of human-computer interfaces for complex systems; computer graphics

D. Cyr – localization issues in online business; loyalty and trust in online business; strategic alliances and joint ventures
S. DiPaola – collaborative knowledge systems; interactive art expression systems; facial and character systems for animation and real-time interactivity; alternative and social user interfaces; 3D interactive avatar and agent collaboration systems
M. Dobson – interactive graphical representations for learning and communication; social activity theory in multi-user technology designs; organisational learning practices and tools; professional development and organisational change
T. Donnellon – intelligent interaction; interaction authoring tools; formalization of models
M.K. Hatala – knowledge representation and knowledge management; ontologies and semantic web; intelligent information retrieval; organizational learning; online learning
S. Kozel – live performance in mediated environments; philosophies of embodiment; motion capture and motion tracking systems; artificial life; discourses and practice; wearables: performance and design; Interactive installation
V. Kumar – artificial intelligence; networking; software engineering; educational technology; social computing.
V. Krylov – strategy computer games; computer simulation of competitive environments, such as sports, games and markets; using strategy computer games in education and training; applications of computer simulation to physiology and medicine
T. Leacock – project management and collaboration in online learning organizations; instructional design for online learning; cognitive psychology
J. McCracken – analysis, design, development and evaluation of online learning environments; phenomenographic research; conceptual change; student-centred content analysis
J. Nesbit – adaptive learning systems; collaborative learning and assessment; assessment of learning objects; distributed learning models
K. Newby – encoding practice; reflective practice; multi-modal installation; philosophy of art
T. Schiphorst – authoring methodologies; human computer interaction; wearable technology; multi-modal interfaces
M. Silverman – photographic practice, theory and history; nonlinear narrative; multidisciplinary collaborations; interactive installation; on-line learning environments
J. Tolmie – multimodal mathematical visualization; visual mathematics; experimental mathematics; human computer interface
L. Trippi – computational culture; emergent systems; meta-authoring tools; diagrammatic knowledge
R. Wakkary – interaction design - multi-user interaction; design methods in interaction and games; collaborative authorship; digital culture and online content; online learning
K. Wiese – bioinformatics; evolutionary computation and biocomputing; intelligent systems and optimization; online learning in post secondary education
R. Woodbury – design space exploration; ontological systems; online interpretations: repositories and galleries; online learning

Program Structure
The graduate program is based on interdisciplinary interests from two key disciplinary areas:

• Information Technology: concentrates on networked computing and communication systems and their use in business, industry, learning and society at-large.
• Interactive Arts: focuses on new forms of communication, collaboration and performance afforded by computing and communication technology.

This cohort program has its origins in the innovation and interdisciplinary goals of the former Technical University of BC. Students can either the technology or arts specialty learn from courses, faculty and other students outside of their stream. Shared interdisciplinary courses, innovative faculty and a research culture that emphasizes cross-disciplinary collaboration help assure a vibrant scholarly mix.

The program stresses several important themes:
• search for useful models of computation in and among its key disciplines
• concern for the theory, development, practice and management of new and emergent media
• a strategy of integration-the combination of disciplines to produce new knowledge and technology beyond the reach of any single disciplinary perspective
• collaboration and teamwork across disciplines, as a strategy for innovation, an object of research and as a primary mode of operation in research and teaching
• use of technology-mediated learning to enable students to use computing and digital media to amplify their own learning

The design of graduate programs, while adapted strongly to individual interests, start with a suite of shared courses on research methods, then take up cross-stream elective courses and end with completion of a masters project or doctoral dissertation. In short, course work moves from broad, shared interdisciplinary work to individual or team focus on specific research questions.

Degrees Offered
Students who complete the master’s program will be awarded a Master of Applied Science (Interactive Arts) or Master of Applied Science (Information Technology). Students who complete the doctoral program will be awarded the PhD.

Fields of Study, Research, and Research Facilities

SFU Surrey’s 24 research faculty conduct leading-edge research in a variety of areas including information networking and multimedia, technology-mediated learning, computer-based games, design science, electronic commerce, policy and knowledge management. Many of these interests are supported by significant grants from government and industry. Awards from the Canadian Foundation for Innovation and the BC Knowledge Development Fund, combined with private donations, are funding the development of four research labs. Designed to facilitate SFU Surrey programs and research, the labs provide advanced research and development facilities for the University community and collaborators.

Specialized Research Facilities
SFU Surrey occupies a modern, open plan facility purpose-built for instruction and research in information technology and interactive arts. Laboratories, faculty offices and graduate student study areas are adjacent and integrated to maximize interaction and collaborative work. Four specialized labs supported by cross disciplinary research clusters provide focus and facilities for student research.

Shared Virtual Environment Lab
Multi-dimensional sound and imagery, tactile sensations and computer-generated 3-D avatars are only a few of the creative research techniques being explored within the Shared Virtual Environment Lab. In the lab, technology is used to provide sensory cues of physical presence, an immersive virtual reality environment in which users can interact with others in similar spaces in Canada and around the world.
The InfoNet Media Lab provides a computer-based environment that supports:

- signal processing for multimedia applications
- image and video processing
- computer graphics and animation

The lab integrates advanced multimedia and networking technologies to understand and transform the way an individual communicates, works, teaches, learns, and plays.

**Interactivity Lab**

The Interactivity Lab supports joint research from computing sciences, performing arts, education, and the social sciences. The lab concentrates on innovative digital interfaces and interactivity solutions. Its goals are to develop new forms of interactivity and authoring tool methods, from small numeric-pad driven interfaces to full body, multi-sensory interaction.

**Electronic Commerce, Educational Technology and Community Informatics Usability Lab**

The EC3 Usability Lab emphasizes research that is based in the social sciences. It provides support for advanced statistical analysis, data sets, topographical analysis of the internet and analysis of other computer-mediated social networks. As well, it has controlled environments for experimental usability studies ranging from single subjects to groups. When fully developed, the lab will have advanced teleconferencing and shared virtual space inter-operable with other distinct research centres. This configuration supports research in electronic commerce, educational technology, usability and community informatics.

**GradLab**

GradLab has research, meeting and computer space dedicated to the graduate program including specialized media editing facilities. GradLab is adjacent to other SFU/Surrey research labs to link graduate instruction to major research endeavors. It provides Windows, Mac and UNIX OS platforms. Institution-wide wireless networking allows transparent connection of notebook computers.

**SFU Libraries**

Specialized reference services and specialist librarians for the graduate program are available. Natalie Gick is the Interactive Arts program liaison librarian while Gordon Coleman is the Information Technology program liaison librarian.

Numerous helpful Internet guides support research and thesis preparation. The University’s library system has collections relevant to computer science, engineering science, contemporary arts, business, education, mathematics and the arts. During its brief existence, the former TechBC developed a small but significant on-site specialized research collection.

**Regional Opportunities**

Ties with high technology industry, the New Media Innovation Consortium (NewMIC) and other Simon Fraser University programs offer additional facilities and synergies for graduate level research.

**MASc Program Admission**

The graduate programs in Computing Arts and Design Sciences are closely linked with the research faculty and labs located at SFU Surrey. Entry to the graduate programs will be subject to space availability and limited to those candidates whose research and study interests are we able to support with available faculty members and facilities.

**Minimum Entrance Requirements**

Applicants are required to have an undergraduate degree in a field related to the proposed program. For the Information Technology program, applicants must have a BSc in computer science, or a BASc in engineering (electrical communications, computer engineering).

For the Interactive Arts program, applicants must have a BFA in art, design or performing arts; or a bachelor in BA in communications, art, art history, architecture, linguistics, psychology, philosophy; or a BSc in computer science. The MASc in interactive arts would be most appropriate for those individuals who have shown an interest in multimedia.

Alternatively, applicants may hold an undergraduate degree in another related discipline. Applicants under this category are required to demonstrate the relationship between the discipline in which they hold their previous degree and this program, and to show how they would benefit from this program.

In addition, students must have achieved a minimum cumulative GPA of 3.0 or better at a Canadian university, or equivalent, in the undergraduate degree.

**English Language Proficiency**

Students must demonstrate proficiency in the English language through one of the following means:

- a previous undergraduate or graduate degree completed at a university where English is the applicant’s primary language of instruction.
- a minimum score of 570 on the paper-based TOEFL test with a minimum TWE score of 5.
- a minimum score of 230 on the computer-based TOEFL test with a minimum TWE score of 5.

**Portfolio/Interview**

Candidates who are being considered for admission may be required to submit a portfolio of their work and/or be required to attend a personal or telephone interview during the latter stages of the admissions process.

**Application Form**

Applicants must submit three copies of the application form, along with the $55 application fee. Please send a cheque or money order in Canadian funds made payable to Simon Fraser University.

**References**

All MASc applicants provide two reference forms or letters of reference written by individuals who can report fairly on academic ability and qualifications. References are sent directly to Graduate Admissions. The Referee Form may be used instead of, or in conjunction with, reference letters.

**Letter of Intent**

This is a statement of your research interests and scholarly goals. There should be an identified fit between this and the research programs offered by SFU at Surrey. Give some initial ideas on thesis or project work and perhaps some occupational aspirations following graduate work. Describe in reasonable detail in two or three paragraphs.

**Curriculum Vitae**

This details your professional work experience you have completed in the past five to eight years that is relevant to your proposed field of study and research interest.

**Application Deadlines**

- international applicants (outside North America): March 1
- US applicants: May 1
- Canadian applicants: June 1

The committee announces admissions decisions on a continuing basis from February through the third week of June. Students enter the program in fall term.

**Time Limits**

The graduate program in Computing Arts and Design Sciences has been approved for part time students. However, University regulations encourage all MASc students to complete their studies within six semesters and stipulate that students should not require longer than eight semesters, or six years, whichever is shorter.

**Advising and Supervision**

Each new student is assigned an interim advisor upon 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 student’s third semester. Although the graduate steering committee (GSC) will endeavor to provide interim advisors with expertise in the student’s stated area of research interest, there is no obligation on a student’s part to select his or her interim advisor as a senior supervisor.

**Degree Requirements**

Research methods courses provide a foundation in related research questions and an overview of key methodologies used to secure reliable knowledge. These are necessary to allow students to have a common basis to understand the range of program research. All entering students are obliged to complete INTD600, INTD601 and INTD602.

The research seminar is an important part of the program. During their studies, MASc students complete two credit hours. Students are encouraged to attend these recurring seminars (INTD603 and 604) after their requirement has been met.

**Projects and Theses**

All students complete a project or thesis following the completion of courses and receive approval by the supervisory committee of a suitable project proposal (IART 898 or ITEC 898). Projects must be research based and are subject to external examination or defense. Projects include but are not limited to traditional printed theses.

If the project does not mainly constitute a written, printed work, the student may present an alternative medium such as a CD-ROM, website, video or audio documentary, on-line software development, or other technologically based formats. These formats must satisfy both the format and archival requirements of the SFU libraries for theses, and must satisfy the conventions as set out in the graduate general regulations.

An master’s students shall present, discuss and defend their MASc project in an examination before their supervisory committee with one external examiner present as required by graduate general regulations.

The standards of scholarship (quality of work) set for the MASc are no less than those for the doctorate, except that the scale, scope and originality of the thesis/project may be less. Commonly, the master’s thesis or project shows refinement of a developed scholarly specialization, a useful replication of established note and in some cases a pre-testing or prototype of supporting ideas for eventual PhD research.

**Supervision**

A supervisory committee should be approved by the graduate steering committee at the start of the third semester. The normal size of an MASc supervisory committee is composed of two faculty members.

**Progress Review**

All graduate degree candidates will have a twice yearly formal review of their academic progress by the graduate steering committee.
Project Review and Approval

Commonly, projects are reviewed by the student’s supervisor and the supervisory committee prior to formal presentation. The committee thus seeks a balance between exam content that is common to all students and is specific to a student’s course of study. With the wide disciplinary range found among the program’s students and faculty, it is normal for each student’s supervisory committees to have a significant role in designing the examination for individuals. The graduate program chair is charged with assuring that the test meets high institutional standards for comprehensiveness and evaluation. The test will have written or recorded qualities that allow its prompt review in case of contested outcomes.

A dissertation proposal allows a collegial review of the proposed work, prudent development of the research design and approval of the dissertation by the supervisory committee and graduate program chair. The approval of the graduate program chair is done largely for oversight issues such as required ethics clearances and provision of adequate resources such as laboratory space. The dissertation proposal has two components: a research prospectus and a public presentation event with timely notification given to the campus community.

PhD Program

Admission

Applicants must possess a graduate degree in a field related to the proposed program of study. For admittance to the Information Technology program, students must hold an MSc in computer science, or an MASC in engineering (electrical, communications, computer engineering). For Interactive Arts program admittance, students must hold an MFA in art, design or performing arts, or an MA in communications, art, art history, architecture, linguistics, psychology, or philosophy, or an MSc in computer science. Alternatively, applicants may hold an undergraduate degree in another related discipline. Applicants under this category are required to demonstrate the relationship between the discipline in which they hold their previous degree and this program, and to show how they would be beneficial to this program. In addition, students must have achieved a minimum cumulative GPA of 3.0 or better at a Canadian university, or equivalent, in the master’s degree.

English Language Proficiency

Students must demonstrate proficiency in the English language through one of the following means:

- a previous undergraduate or graduate degree completed at a university where English is the applicant’s primary language of instruction.
- a minimum score of 570 on the paper-based TOEFL test with a minimum TWE score of 5.
- a minimum score of 230 on the computer-based TOEFL test with a minimum TWE score of 5.

Portfolio and Interview

Candidates for admission may be required to submit a portfolio of their work and/or be required to attend a personal or telephone interview during the latter stages of the admission process.

Application Form

Applicants must submit three copies of the application form, along with the $55 application fee. Please send a cheque or money order in Canadian funds made payable to Simon Fraser University. References All applicants to the PhD program must provide three completed reference forms or letters of reference. These are to be written by individuals who can report fairly on your academic and research ability. They are to be sent directly from the referee to the Graduate Admissions Committee. The application form may be used instead of, or in conjunction with, letters of reference. The Reference Form may be used instead of, or in conjunction with, letters of reference.

Letter of Intent

This statement of research interests and scholarly goals should show a connection that the student identifies between themselves and SFU at Surrey graduate programs. Students should give some initial ideas about thesis or project work and perhaps some occupational aspirations following graduate work. Students should also describe their interests in some detail in two or three paragraphs.

Curriculum Vitae

This details professional work experience completed in the past five to eight years that is relevant to the proposed field of study and research interests.

Application Deadlines

- international applicants (outside North America): March 1
- US applicants: May 1
- Canadian applicants: June 1

The committee announces admissions decisions on a continuing basis from February through the third week of June. Students enter the program in fall term.

Time Limits

The graduate program in Computing Arts and Design Sciences has been approved for part time students. However, University regulations require all PhD students to complete their studies within 12 semesters and should not require longer than 15 semesters or eight years, whichever is shorter.

Advising and Supervision

Each new student is assigned an interim advisor upon program admission. The student selects a senior supervisor (usually by the end of the first term) and, in consultation with this faculty member, selects one or two other faculty to serve on a supervisory committee by the beginning of the student’s third term. Although the graduate steering committee (GSC) will endeavor to provide compatible interim advisors with expertise in the student's stated area of research interest, there is no obligation on the student's part to select this individual as a permanent, senior supervisor.

Degree Requirements

All doctoral students complete course work, take a comprehensive exam to achieve candidacy, and submit a dissertation which demonstrates an ability to make a significant, original contribution to the computing arts and design field. Candidates normally satisfy the following requirements:

- All graduate degree candidates will have a twice yearly formal review of their academic progress by the graduate steering committee.
- PhD students are expected to complete INTD 601, 600 and 602.
- All doctoral students complete six graduate credit hours from disciplinary areas outside of their own, e.g. from ITEC, IART or ETEC. Within their specialty, students must complete 14 graduate credit hours.

Comprehensive Examination

The PhD requires a comprehensive examination that is testing for achievement in key areas, interdisciplinary, breadth of knowledge, specialty depth of knowledge, topic focus for dissertation work and general scholarly skills. This examination verifies that doctoral graduates are prepared for university careers of teaching and research as well as a range of other advanced scholarship in industry, government and non-governmental organizations. Part of this qualification is a mastery of disciplinary work to a high professional calibre. The comprehensive examination must, of necessity, adapt to individual student’s skills and focus, but to the extent possible, have a common evaluative baseline to assure uniformity and fairness to all.

With the consent of the supervisory committee and the graduate program chair, doctoral students may elect to take the comprehensive exam following course work completion, but no later than the beginning of the first semester of the third year of full-time study (or equivalent). Upon passing, the student is admitted to full degree candidacy. The comprehensive exam may be retaken once; a second failure will require program withdrawal.

The graduate program is responsible for oversight and administration of the comprehensive examination. It will ensure that the examination tests for each of the key criteria; that the examinations in a given year are fair in comparison; and that each examination is appropriate for the student being tested. The committee seeks a balance between exam content that is common to all students and is specific to a student’s course of study. With the wide disciplinary range found among the program’s students and faculty, it is normal for each student’s supervisory committees to have a significant role in designing the examination for individuals. The graduate program chair is charged with assuring that the test meets high institutional standards for comprehensiveness and evaluation. The test will have written or recorded qualities that allow its prompt review in case of contested outcomes.

A dissertation proposal allows a collegial review of the proposed work, prudent development of the research design and approval of the dissertation by the supervisory committee and graduate program chair. The approval of the graduate program chair is done largely for oversight issues such as required ethics clearances and provision of adequate resources such as laboratory space. The dissertation proposal has two components: a research prospectus and a public presentation event with timely notification given to the campus community.

PhD Dissertation

The PhD is the key means through which students make their contribution to knowledge, the hallmark of an advanced research degree. Doctoral candidates complete and defend a dissertation by showing an original contribution to their field. The standard of work expected is that of peer-reviewed work by accomplished scholars in their specialization. Candidates are encouraged to consider the professional and career implications of this major scholarly work (IART 899 or ITEC 899).

Dissertation Defense

The dissertation is defended by the candidate in a scheduled oral presentation before the supervisory committee, the graduate program advisor, and the university community. This is completed to the committee’s and graduate program advisor’s satisfaction in accordance with the graduate general regulations.

Progress Review

All graduate degree candidates will have a twice yearly formal review of their academic progress by the graduate steering committee.

Courses

Many of the following courses have prerequisites. At press time, this information was not available. Please check with an advisor or the semestery Course Timetable and Registration Instructions for each course’s prerequisites.

Educational Technology and Learning

ETEC

ETEC 601-1 Learning with Asynchronous Communications

This course will introduce graduate students to teaching and learning with asynchronous, computer-mediated conferences. It will survey related learning theory, research on effectiveness, design of learning activities, facilitation, assessment, and features of conferencing systems.

ETEC 601-1 Problem Based Learning

This course will introduce graduate students to teaching and learning with problem-based learning (PBL). Delivered using PBL, the course includes related learning theory, research on effectiveness, design of learning activities, facilitation, assessment, facilitation, and computer-mediated delivery.

ETEC 691-699-1, 2, 3 Directed Studies
Information Technology ITEC

ITEC 600-1 Advanced Database Systems
This course expands the knowledge of the database systems into the area of multimedia database systems and techniques used for indexing multimedia. Students will use advanced concepts and terminology of multimedia database systems. The focus is on the advanced database topics covering indexing mechanisms for multidimensional data, image databases, and text databases. Further the semi-structured data, XML and metadata standards are presented together with their application to multimedia databases and their querying.

ITEC 601-1 Computer Graphics
A condensed graduate course for IT majors, with the emphasis on technical aspects of 3-D computer graphics. Hands-on components include development of demo programs, some of those implementing advanced algorithms. Although students are allowed to use any programming language, Java is the recommended one. The course level is intermediate to advanced, discusses the core concepts of distributed operating systems, and enables students to specialize in mathematics background and strong programming skills. Students will acquire new skills in implementing major computer graphics concepts and methods whilst working on their individual projects. Some of these methods, such as smooth shading and rendering are rather advanced and require skills in developing efficient computer programs.

ITEC 602-1 Software Engineering Processes
The course builds on the knowledge of software engineering processes students may have acquired either from their previous study or via their practice in the software development. The course provides an overarching and formalizing view of the software engineering process and issues that impact on successful implementation. Starting with best and worst practices, the Capability Maturity Model and its critique are presented. Software development lifecycle with focus on the requirements process, architectural design and development phase are covered.

ITEC 603-1 Distributed Operating Systems
This course extends the fundamentals of operating systems and guides the students towards the recent advancements in distributed operating systems. This course develops a conceptual and practical understanding of distributed operating systems. It reviews the basic features of operating systems, discusses the core concepts of distributed operating systems, and enables students to specialize in specific topics.

ITEC 604-1 Stochastic Signal Processing
This course extends the fundamentals of operating systems and guides the students towards the recent advancements in distributed operating systems. This course develops a conceptual and practical understanding of distributed operating systems. It reviews the basic features of operating systems, discusses the core concepts of distributed operating systems, and enables students to specialize in specific topics.

ITEC 605-1 Adaptive Filtering and Estimation
In conjunction with the stochastic signal processing course, this course provides a unified introduction to the theory, implementation, and applications of statistical and adaptive signal processing methods. Focus is on the key topics of spectral estimation, signal modeling and adaptive filtering.

ITEC 606-1 Network Security and Cryptography
A practical survey of network security fundamentals, applications, and standards. The emphasis is on applications that are widely used on the Internet and for corporate networks, and on standards, especially Internet standards that have been widely deployed.

ITEC 607-1 Intelligent Interfaces
This course examines how intelligent interfaces can facilitate human-computer interaction and collaboration. It introduces theories and techniques for intelligent interfaces and looks at examples of multi-modal and conversational interfaces.

ITEC 608-1 E-Business Technology
This course examines E-Business protocols, such as auctions and fair division, from the perspective of game theory and computational complexity.

ITEC 609-1 Advanced Networking Protocols
This course critically analyses some of the networking protocols and synthesizes an integrated review of the architectural foundations of networking in terms of the underlying protocols.

ITEC 610-1 Wireless Communications
This course examines what is and isn’t possible with contemporary wireless systems, focusing on both the underlying technologies and applications. The course takes a breadth wise look at the spectrum of wireless communications with a scope for specific in-depth technological explorations.

ITEC 611-1 Image Processing
The processing of digital images is given mathematical context by the notion of experimental observation. This course introduces a selection of resulting techniques, including linear system theory and Fourier transforms, and an overview of the practical problems that they solve.

ITEC 614-1 3D Computer Animation
This graduate course introduces 3D animation concepts while immersing the students in a team based, interdisciplinary animation project. The students will create and update an in-house standalone animation resource that will be available to the school and future classes.

ITEC 615-1 Virtual Reality
This graduate course introduces 3D animation concepts while immersing the students in a team based, interdisciplinary animation project. The students will create and update an in-house standalone animation resource that will be available to the school and future classes.

ITEC 691-699-0 MASc Project/Research Paper
This graduate course introduces 3D animation concepts while immersing the students in a team based, interdisciplinary animation project. The students will create and update an in-house standalone animation resource that will be available to the school and future classes.

ITEC 698-0 MASC Project Research Paper
This graduate course introduces 3D animation concepts while immersing the students in a team based, interdisciplinary animation project. The students will create and update an in-house standalone animation resource that will be available to the school and future classes.

ITEC 699-0 PhD Thesis

Interactive Arts IART

IART 600-1 Performance in Media Practice and Theory
This course challenges students to expand their practical and theoretical approaches to performance by devising performance experiments with camera mediated telematic links and avatar-based MUEs (multi user environments) while exploring critical discourses around embodiment, virtuality, gender and communication.

IART 601-1 The Body: Practice and Theory
This course is designed to explore philosophical and critical approaches to performance and to challenge students to apply these ideas to responsive spaces, artificial life and wearables. Phenomenological skills for analysing new physical and technological hybrids will be cultivated.

IART 602-1 Non Linear Narrative
This course traces narrative concepts and processes, and their transformation across media/genres. Students investigate narrative dynamics, structures and aesthetics in linear and multi-linear media. The course develops analytical and critical skills through readings, discussions, and the evaluation of interactive narratives.

IART 603-1 Interface and Navigation
This course explores and critiques a range of contemporary design approaches to interface and navigation. Research projects are in the form of a design brief, which applies contemporary and historical models of interface, and explores interface mental models as defined by representation, design and production. Topics include emergent interfaces, gaming interface, emerging device design, cognitive theories of enactment and navigation.

IART 604-1 Electronic Culture
This course introduces key concepts in current discussions of electronic culture, concentrating on complexity, identity, economy and space and time; and explores their use as both analytical tools and frameworks for creative practice.

IART 605-1 Authoring Methodologies
A number of authoring methodologies will be examined in the context of new media. A collaborative project will then be designed and implemented using one or more of these techniques. Authoring Methodologies have broad applications in a variety of development contexts including interactive arts, IT, and management. The reading resources for the course are drawn from these three areas.

IART 606-1 Multimedia Programming
This course will provide an introduction to programming theory and techniques for audio, video, graphics and text manipulation. The concept of code as an artistic material and formal compositional process will be examined within a self-directed activity set.

IART 607-1 Designing Virtuality
This course explores and critiques a range of contemporary design approaches to the concept of virtuality. Topics include virtuality and materiality, information design, and post-cybernetic theory particularly in relation to representation, remote sensing and display, network environments and communities, augmented realities, and tele-presence.

IART 608-1 Experience Design
This course examines the emerging concept of experience design. Computing technology and its use has fundamentally changed design fields. It has emphasized the interaction and experience of the user. This course provides methods and tools for students to critically analyse and generate experience design artifacts and events.

IART 609-1 Design and Creative Methodologies
This course explores and critiques a range of contemporary creative and design methodologies. Topics include strategies from a variety of disciplinary practices including design process, scenario building, and theatrical structures. This includes improvisational processes, collaborative processes, user-centered processes in networked environments and communities, technologically mediated tools and environments used in the support of creative and design processes.

IART 611-1 Reception Analysis
The course introduces the learner to the terminology, concepts and techniques of reception analysis. The course includes several analytical approaches, but favors an understanding of the reader's active role in the construction of media meaning.

IART 612-1 Multimedia Applications
In this course students will explore multimedia applications to produce an interactive non-sequential work using graphics, sound, text, and typography. Through on-line collaborative exchanges, learners will research and analyse contemporary works and technical resources. Conceptual problem solving activities will be used in class to emphasize visual literacy and foster the development of a personal visual vocabulary.

IART 613-1 Kinesthetic and Active Space
Kinesthetic and Active Space explores convergences between physical, architectural, perceptual, invisible
and networked space from the starting point of human kinesthetic sensibility. This course takes a fundamentally dynamic approach to theoretical paradigms and grounds these in physical experimentation.

IART 614-1 History of Art and Technology
This course will provide students with an historical overview of the dynamic relationship between art and technology. It will show how human creativity gives rise to technical innovation and how those innovations shape cultural expression. Most importantly it will demonstrate how digital media is an extension of human mind/body/culture rather than something being imposed on it. Students will be strongly encouraged to study in teams.

IART 691-699-1,2,3 Directed Studies
IART 898-0 MASc Project/Research Paper
IART 899-0 PhD Thesis

Interdisciplinary INTD
INTD 600-1 Research Methods: Problem Formulation
The course outlines the research enterprise. It introduces concepts and methods by which research is structured, understood and conducted. Key concepts include levels of predictive power offered by different kinds of research, relationships between question and methodology, the structure of models and issues of validity and causation.

INTD 601-1 Research Methods: research Methodologies and Tools
The course has the dual purposes of introducing students to key methodologies used by researchers in the graduate program and providing hands-on experience with several basic research tools.

INTD 602-1 Research Methods: Anatomy of a Research Area
The course is a case study of a broad research area. Its goals are to show relationships between question and method and how results are used both within a line of inquiry and by other researchers working in the area.

INTD 603-1 Graduate Seminar
This is a weekly seminar featuring guest, faculty or graduate students presenting overviews of their current research. The goal of these presentations for graduate students is to help them analyse on-going research as a basis for formulating their own graduate program and thesis questions. By the conclusion of this seminar, graduate students should have a first draft of their program of study and a developed research (thesis) question.

INTD 604-1 Graduate Seminar
Graduate students attend a weekly research discussion with visiting and faculty researchers. The goal is to enable students to generalize their critical abilities to diverse research beyond one’s own ‘home’ specialty. Outcomes of this work are increased cross-disciplinary connections for framing research questions and proposals, and a better basis to engage teach research efforts. By the conclusion of this module, students should be able to provide cogent, reasoned critiques of research from varied disciplinary specialties.

Management and Technology MTEC
MTEC 600-1 Services Management
This course introduces graduate students to the various services related business models, both B2C and B2B, that are established and evolving in the realm of e-Business. The issues of integration of web based services with traditional brick and mortar models are also explored.

MTEC 601-1 Technology and Supply Chain Management
This graduate course introduces students to the central ideas of supply chain management. The web enabled approach is emphasized and compared with traditional methods. Contemporary best practices are researched and discussed.

MTEC 602-1 Developing New Products
This course explores the strategic and operational aspects of new product development including critical success factors. It also provides a focus on the pre-development phase of product innovation.

MTEC 603-1 Branding
This course focuses on the ways that brands acquire and sustain value in the marketplace. Students study the meaning, uses, processes, and methodologies for creating effective and winning brands. The evolution of brand value strategies is also explored.

MTEC 604-1 Internet Advertising
The focus is on the issues, theories, tools, and practice of marketing communications in the Internet marketplace and the role of Internet advertising to businesses. Students will acquire the analytical skills that are needed to plan, design, implement and evaluate Internet advertising campaigns.

MTEC 605-1 Management of High Tech Professionals
The course is focused on how to develop competitive advantage in e-business through leadership and the effective management of people. Topics examined include corporate culture, change management, learning organizations, and various human resource practices.

MTEC 606-1 Global Business in Technology Industries
The course is focused on key issues in conducting international business. Students study strategy formulation for international markets, as well as the important role of national culture in business. In addition, strategic alliances in technology companies are examined.

MTEC 607-1 Strategic Management of Innovation
This course reviews some fundamental concepts of strategy in the context of technological innovation, examines the role of core competencies in technology development, and identifies and discusses the various components or dimensions that make up a technology strategy. Case studies are used to illustrate theory with application in the e-business context.

MTEC 608-1 High Tech Entrepreneurship
In today’s age of rapid technological progress, ventures are being created daily to satisfy new business needs. The creation of new technology-based ventures is becoming a more popular career choice for science and technology professionals with entrepreneurial ambition. This is a fast-paced, hands-on course that takes the student through the key stages of new venture creation including researching the product opportunity, protecting the venture’s intellectual property, planning the venture’s seed and start-up stages, determining the financial needs and resources, developing the business plan and valuing the venture.

MTEC 609-1 E-Customer Relationship Management
The course is focused on the evolution of customer relationship management from mortar and brick establishments to the Web. Focus is on issues of e-loyalty and customer services, as well as current practices.

MTEC 610-1 Social Context of E-Business
The human element on the Web is important. In this course focus is on the development of trust in online communities, how virtual teams operate successfully, and ethical issues that impact online interaction, with particular emphasis on e-business.

MTEC 611-1 Knowledge Management Tools and Technologies
This course investigates the various information systems and technologies used for implementing knowledge management practices within an organization. It describes a framework for analysing these knowledge services (KSS). Industry examples of knowledge services are discussed in terms of infrastructure services, core services and packaged services.

MTEC 613-1 E-Business Strategy and Models
Effective strategy is central to e-business success. In this course, emphasis is on examination on various strategies and models as they apply in e-business. Issues, strategic choices and challenges are highlighted related to e-business implementation.

MTEC 691-699-1,2,3 Directed Studies
Undergraduate Studies
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 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 and completion of a specific joint honors program, which would normally consist of a total of at least 50 credit hours 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 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 and completion of a joint major program. The specific joint major requires at least 30 credit hours 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. To qualify for a specific minor, at least seven credit hours of upper division credit used toward the minor must have been completed through Simon Fraser courses.
Changing Programs
A student who elects to take a double major or a major-minor program may change his/her decision and graduate with a major only, provided that the 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(s) from an approved institution may complete a second or subsequent bachelor's degree at the University, subject to the following conditions and regulations.

The basic requirement for a further bachelor’s degree is the completion of the upper division requirements associated with a first bachelor's degree (except for the BEd degree – see “Faculty of Education” on page 196). Prior completion of lower division prerequisites may also be required or may be waived at the discretion of the department or program in which the further degree is being sought.

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 different from that subject.

Credit earned towards a previous degree or diploma may not be used toward a further bachelor’s degree. Transfer credit may be given for additional courses taken beyond the previous credential but prior to SFU admission. However, the normal upper division residency requirement applies: at least two thirds of the upper division course work for the degree must be completed at Simon Fraser University. Some faculties may have additional residency requirements.

Faculties may limit inter-faculty transfer for second degree students.

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 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 consists mainly of regular lower division courses; upper division courses may be included. The program should be the equivalent of between one half and one full year of university study (18 to 30 credit hours). See “Continuing Studies” on page 224 for further information regarding individual certificate programs. Credits applied to one certificate may be applied to major programs or minor programs or to a bachelor's degree under normal regulations governing these programs, but may not be applied to another Simon Fraser 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” on page 226.

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.

Undeclared
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. 'Undeclared' will not be recorded for any student who has successfully completed 61 or more credit hours.

Academic advising for undeclared students is the responsibility of Student Academic Resources.

Intended
This category identifies the specialization(s) the student aspires to enter in later SFU studies. This declaration may be made at the student's discretion 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 those who successfully complete 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 the 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 is automatically recorded for any student who, upon 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 designated under option A is the responsibility of Student Academic Resources, but undecided students are 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 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 Student Academic Resources for further advising.

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. For specific dates, see “Academic Calendar of Events” on page 7.

Application for Graduation/Granting of Degree, Certificate or Diploma
Each candidate for a degree, certificate, or diploma 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 “Academic Calendar of Events” on page 7 for deadlines to apply for or to cancel applications to graduate.

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 Procedure
In late April, an information booklet is sent to each graduate 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.
Definitions

Students
SFU does not classify students as either full time or part time although there are varying course load requirements for many types of financial aid. See "Financial Assistance and Awards" on page 60.

Qualifying Student
See "Graduate General Regulations" on page 309.

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 University admission under the general admission regulations but who wish to audit credit courses may be given entry as special audit students. Special application procedures apply; see "Continuing Studies" on page 224.

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 SFU should see "Admission and Readmission" on page 38.

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

Academic Year

Trimester
Simon Fraser University offers three full regular semesters 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 in a year. By attending continuously, it is possible for a student who entered from BC high school grade 12 (or equivalent) in the fall 2002 semester to graduate with a bachelor's degree at the end of the spring 2006 semester. Semesters are referred to by numbers or by names:

Example 2003
Semester 1
Spring, January to April, spring 2003 (2003-1)
Semester 2
Summer, May to August, summer 2003 (2003-2)
Semester 3
Fall, September to December, fall 2003 (2003-3)

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
Community: 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 progression is expressed in 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) 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.

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. Each course is identified by a subject name followed by a course number, the number of credit hours, and course title. ENGL 103-3, Introduction to Drama. The first course number digit represents the level of the course; the fourth digit indicates the credit hours. For example, ENGL 103-3 is a first level course offering three credit hours.

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 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 semester hours, credits, hours or credit hours. Requirements for credentials (e.g., degrees, diplomas and certificates) are partially expressed as credit hours. 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 credit hours 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 semester hours, credits, hours or credit hours. Requirements for credentials (e.g., degrees, diplomas and certificates) are partially expressed as credit hours.

Distance Education Courses
Many courses are available as distance education courses. The majority of these are print-based. Some may also have audio and/or video support. Increasingly, educational technologies (e.g. computer conferencing) are being incorporated as courses are developed and revised. 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/</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15</td>
<td>freshman</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>15</td>
<td>2nd year/</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>15</td>
<td>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></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>15</td>
<td>4th year/senior</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>15</td>
<td></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/</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15</td>
<td>freshman</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>15</td>
<td>2nd year/</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>15</td>
<td>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></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>18</td>
<td>4th year/senior</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Total 132 credit hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Admission and Readmission

Introduction
This section contains 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 admission requirements for the respective areas. Within each section, requirements are provided for secondary school, college, and university level applicants. Finally, Readmission 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 must apply for readmission (“Readmission and Re-registration” on page 49).
• 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.

How to Apply
To apply for admission, students should go to our website at www.reg.sfu.ca, which will link you to the Post-secondary Application Service of BC (PASBC). There, you can begin your application by entering basic academic and biographical data. From PASBC, you’ll move to the Simon Fraser part of the web application, and tell us about your intended program of studies. You can pay all application fees and document fees (if any) by credit card. If you’re a BC grade 12 applicant, you can also report your grades. Application and document evaluation fees may be sent at the time application is made or soon after. If payment is made later, please quote the reference number that is given to the applicant when the submission is acknowledged by the University.

Paper Application Form
Applications for admission may also be made on the forms provided by the Office of the Registrar or on a form downloaded and printed from our web site (see above).

Required Documents
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.

Applicants 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. Photocopies are not acceptable. Replaceable documents submitted with an application become the property of the University and will not be returned. Irreplaceable documents will be returned to the applicant if requested at the time of application.

Official translations, certified by an educational or embassy official, or made by a certified translator are required for records not in English or French. For applicants residing in BC, translations should be completed by a member of the Society of Translators and Interpreters of British Columbia (please view their website at www.stibc.org), or through Mosaic Translation Services at 604.254.0469.

Applicants should submit application forms and any available documents as early as possible but not more than twelve months before the semester they

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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.

Application Deadlines

<table>
<thead>
<tr>
<th>Semester</th>
<th>Application Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2004</td>
<td>September 30, 2003</td>
</tr>
<tr>
<td>Summer 2004</td>
<td>February 2, 2004</td>
</tr>
<tr>
<td>Intersession 2004</td>
<td>February 2, 2004</td>
</tr>
<tr>
<td>Summer Session 2004</td>
<td>April 30, 2004</td>
</tr>
<tr>
<td>Fall 2004</td>
<td>September 30, 2004</td>
</tr>
<tr>
<td>Spring 2005</td>
<td>January 31, 2005</td>
</tr>
<tr>
<td>Summer 2005</td>
<td>January 31, 2005</td>
</tr>
<tr>
<td>Intersession 2005</td>
<td>January 31, 2005</td>
</tr>
<tr>
<td>Summer Session 2005</td>
<td>January 31, 2005</td>
</tr>
</tbody>
</table>

Application Fee

Each time an applicant applies for admission or readmission, a $35 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 $50 is assessed for all applicants whose academic records, in whole or in part, originate outside of British Columbia. 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 BC 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 granted on admission on the basis of work at another recognized institution; transfer credits reduce the total required credits for an SFU degree, diploma or certificate. Transfer credit should not be confused with advanced standing. Transfer credit is often given without any concomitant advanced standing; the reverse may also be true.

Regulations

In most cases, total transfer and course challenge credit may not exceed 60 credit hours, and may not include more than 15 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 CGPA calculation. 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 be obtained at 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.

Please see “Courses at Other Institutions/Letters of Permission” on page 50 for more information.

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

Special transfer credit regulations apply to the bachelor of general studies degree, the bachelor of education degree, the bachelor of applied science degree in engineering science, honors degree programs 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 and “Study Abroad” on page 14.

An applicant with transfer credit is advised that the courses transferred, together with those subsequently taken at SFU, must meet the general and specific requirements of the faculty and department in which he/she chooses to major or honor. Some awarded transfer credit 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. The applicant should not assume that he/she will complete the degree with a number of credit hours equal to the difference between total hours required for the degree and transferred hours. Although this calculation will usually be correct for a student who remains within a field of study, it will not necessarily be correct for a student who changes fields.

Transfer credit is designated as type one, two, or three. Type one is assigned credit, used for an SFU equivalent. Type two is unassigned credit in a subject area, used for courses without an SFU equivalent, but which are acceptable to a department as fulfilling subject requirements for a general or honors degree in that department. For example, ‘BISC 3’ means that three credit hours in Biological Sciences have been granted. Type three is general elective credit, used for courses which are judged to be transferable but do not fulfill specific faculty/departmental requirements (other than Faculty of Arts and Faculty of Business Administration group requirements). General elective credit is counted toward the total required for the degree. Examples include ‘general elective – classical studies’ and ‘general elective – environmental studies.’ 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 credit for a D grade. The repeated courses will show on the student’s permanent record, but double credit will not be granted.

Advanced Standing

Advanced 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 resulting admission cut-off averages for admission are as follows.

<table>
<thead>
<tr>
<th>Basis of Admission</th>
<th>Limit</th>
<th>Resulting Minimum Acceptance Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC grade 12 graduation</td>
<td>1928</td>
<td>75%</td>
</tr>
<tr>
<td>grade 12 graduates from other provinces</td>
<td>87</td>
<td>75%</td>
</tr>
<tr>
<td>BC college transfer</td>
<td>685</td>
<td>2.80</td>
</tr>
<tr>
<td>degree holders and transfers from universities</td>
<td>346</td>
<td>3.00</td>
</tr>
<tr>
<td>other</td>
<td>230</td>
<td>n/a</td>
</tr>
<tr>
<td>Total</td>
<td>3276</td>
<td></td>
</tr>
</tbody>
</table>

Enrolment limits for any semester are subject to revision without notice.

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 University might choose to offer the applicant admission to a faculty that he or she did not choose. In this example, the student is offered entry to the Faculty of Arts (approved degree BA). The student may register in courses, and in a subsequent semester, may 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.
All Applicants

The following admission requirements are extracted from the more complete regulations approved by the 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; or
- 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; or
- graduate from a bachelor's or higher degree program at a recognized university in which the language of instruction and examination is English; or
- have resided for at least four years in an English speaking environment

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

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.

- IELTS (International English Language Testing System) with a minimum score of 6.5 on the Academic Modules, or
- TOEFL CBT (Test of English as a Foreign language 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
- TOEFL iBT with a minimum score of 207 and satisfactory 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 University but who do not completely meet the English language requirements. For applicants who are given conditional university admission, successful completion of the English Bridge Program leads to automatic admission to an undergraduate program in the following semester.

For more information, contact SFU International: fax 604.291.5880; sfu_international@sfu.ca; www.sfu.ca/international

Diverse Qualifications 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 (see “Personal Information Profile” below) 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.

Personal Information Profile

To complete your personal information profile, please send us the following:

- a description of your special accomplishments, special situation, hardships or difficulties, community service, etc. Be as detailed and explicit as possible; 250 words maximum.
- a clear description of your educational goals and the connection between your proposed program at Simon Fraser University and the attainment of those goals — usually three years — will be made with respect to admission criteria. Prospective students with a disability are encouraged to contact the Centre for Students with Disabilities.

Students with Disabilities

Academically qualified students who have a physical, mental health, sensory or specific learning disability are encouraged to attend Simon Fraser University. The University will ensure that applicants are not denied admission as a result of their disability and that, where appropriate, accommodation will be made with respect to admission criteria. Prospective students with a disability are encouraged to contact the Centre for Students with Disabilities at 604.291.3112.

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.

Matriculated students 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 programs currently available, see “Integrated Studies Program” on page 141.
### British Columbia and Yukon Applicants

Applicants from BC or Yukon may be admitted from:
- secondary school (see below)
- community or university college (see “Admission from BC and Yukon Community and University Colleges” on page 43)
- another university (see ‘BC University Transfer’ on page 44)

Several special categories of admission also exist for BC applicants (see “Special Categories” on page 44).

**Admission from British Columbia and Yukon Secondary Schools**

All applicants (except as noted) must graduate from secondary school before entering SFU.

Students may apply for general admission (Faculty of Arts requirements) or for direct entry to a number of programs as shown on the chart below.

Applicants must have:
- one course from list 1
- two from list 2
- two further courses from list 2 or 3 (see chart below).

Actual final percentage marks will be used whenever available. If not given, the following equivalents are used to compute the average (for BC high school admission only). A = 4.0 or 91%; B = 3.0 or 79%; C+ = 2.5 or 70%; C = 2.0 or 64%.

### Grade 11 requirements 2003-2004

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Communication</th>
<th>Computing Science</th>
<th>Engineering Science</th>
<th>General Studies</th>
<th>Kinesiology</th>
<th>Tech One</th>
<th>Arts</th>
<th>Business</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• English 11 or Français première langue 11</td>
<td>• English 11 or Français première langue 11</td>
<td>• English 11 or Français première langue 11</td>
<td>• English 11 or Français première langue 11</td>
<td>• English 11 or Français première langue 11</td>
<td>• English 11 or Français première langue 11</td>
<td>• English 11 or Français première langue 11</td>
<td>• English 11 or Français première langue 11</td>
<td>• English 11 or Français première langue 11</td>
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<td></td>
<td>• language 11</td>
<td>• language 11</td>
<td>• language 11</td>
<td>• language 11</td>
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<td>• language 11</td>
<td>• language 11</td>
<td>• language 11</td>
<td>• language 11</td>
</tr>
<tr>
<td></td>
<td>• principles of mathematics 11</td>
<td>• principles of mathematics 11</td>
<td>• principles of mathematics 11</td>
<td>• principles of mathematics 11</td>
<td>• principles of mathematics 11</td>
<td>• principles of mathematics 11</td>
<td>• principles of mathematics 11</td>
<td>• principles of mathematics 11</td>
<td>• principles of mathematics 11</td>
</tr>
<tr>
<td></td>
<td>(or applications of mathematics 11 and 12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(or applications of mathematics 11 and 12)</td>
</tr>
<tr>
<td></td>
<td>• science 11*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>science 11*</td>
</tr>
</tbody>
</table>

*science 11* = applications of physics 11 and 12, biology 11, chemistry 11, earth science 11, forests 11, IB environmental systems 11, principles of physics 11

### Grade 12 requirements 2003-2004 – admission average calculated on five best courses as follows

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Communication</th>
<th>Computing Science</th>
<th>Engineering Science</th>
<th>General Studies</th>
<th>Kinesiology</th>
<th>Tech One</th>
<th>Arts</th>
<th>Business</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>List 1</td>
<td>• one list 1 course</td>
<td>• one list 1 course</td>
<td>• one list 1 course</td>
<td>• one list 1 course</td>
<td>• one list 1 course</td>
<td>• one list 1 course</td>
<td>• one list 1 course</td>
<td>• one list 1 course</td>
<td>• one list 1 course</td>
</tr>
<tr>
<td>List 2</td>
<td>• two courses from list 2</td>
<td>• two courses from list 2</td>
<td>• principles of mathematics 12</td>
<td>• principles of mathematics 12</td>
<td>• principles of mathematics 12</td>
<td>• principles of mathematics 12</td>
<td>• principles of mathematics 12</td>
<td>• principles of mathematics 12</td>
<td>• principles of mathematics 12</td>
</tr>
<tr>
<td></td>
<td>• two additional list 2 or list 3 courses (as below)</td>
<td></td>
<td>• one of biology 12, chemistry 12, or principles of physics 12</td>
<td>• one of biology 12, chemistry 12, or principles of physics 12</td>
<td>• one of biology 12, chemistry 12, or principles of physics 12</td>
<td>• one of biology 12, chemistry 12, or principles of physics 12</td>
<td>• one of biology 12, chemistry 12, or principles of physics 12</td>
<td>• one of biology 12, chemistry 12, or principles of physics 12</td>
<td>• one of biology 12, chemistry 12, or principles of physics 12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• one additional list 2 or list 3 science course</td>
<td>• one additional list 2 or list 3 science course</td>
<td>• one additional list 2 or list 3 science course</td>
<td>• one additional list 2 or list 3 science course</td>
<td>• one additional list 2 or list 3 science course</td>
<td>• one additional list 2 or list 3 science course</td>
<td>• one additional list 2 or list 3 science course</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• one of geography 12 or history 12 or</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>List 3</td>
<td>• (if both courses are from list 3 they must be from different groups)</td>
<td>• one of comparative civilizations 12, IB theory of knowledge 12, or any list 3 social science course</td>
<td>• one social science or fine and performing arts course</td>
<td>• one additional course</td>
<td>• one fine and performing arts course (recommended) or one social science course</td>
<td>• one additional course</td>
<td>• (if both courses are from list 3 they must be from different groups)</td>
<td>• (if both courses are from list 3 they must be from different groups)</td>
<td></td>
</tr>
</tbody>
</table>

Note: Advanced Placement (APP) and International Baccalaureate (IB) courses may be used in place of equivalent provincially approved BC grade 12 courses. APP and IB courses are included in this chart only if they are not equivalent to an existing grade 12 course. Approved equivalent Programme Cadre and French Immersion courses are acceptable for admission. Locally developed courses, however, are not acceptable.
Admission and Readmission – British Columbia and Yukon Applicants

**Course Lists 2003-2004**

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Course List 1</th>
<th>Course List 2</th>
<th>Course List 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>biology 12, chemistry 12, English literature 12, Français communication et littérature 12, AP Spanish literature 12</td>
<td>geography 12, geology 12, history 12, principles of mathematics 12, principles of physics 12</td>
<td>AP calculus AB/BC 12, AP computer science A/AB 12, AP environmental science 12, AP statistics 12, IB computer science/studies 12</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>Humanities Group</td>
<td>Sciences Group</td>
<td>Social Sciences Group</td>
</tr>
<tr>
<td>Group</td>
<td>acting 12, arts 12, dance choreography 12, dance performance 12, directing and scriptwriting 12, drama film and TV 12, music composition 12, music composition and technology 12, stagecraft 12, visual arts 2D 12, visual arts 3D 12, visual arts media arts 12, writing 12</td>
<td>comparative civilizations 12</td>
<td>IB environmental systems 12, IB mathematics with calculus A/B</td>
</tr>
<tr>
<td></td>
<td>Languages: Arabic 12, French 12 or 12A, or Français langue seconde 12*, German 12, Italian 12, Japanese 12, Latin 12, Mandarin 12, Okanagan 12, Punjabi 12, Russian 12, Secwepemctsin 12, Spanish 12, Upper St’at’imcets 12</td>
<td>IB theory of knowledge (philosophy) 12</td>
<td>IB environmental systems 12, IB mathematics with calculus A/B</td>
</tr>
</tbody>
</table>

**New Faculty of Applied Science Admission Requirements**

Applicants meeting the new admission requirements will be considered admissible effective with the fall 2003 semester. However, applicants working towards the requirements published in the 2002/2003 Calendar will continue to be considered admissible until and including fall 2004. The new requirements will become mandatory for all applicants effective spring 2005.

**Grade 12 requirements 2005 – admission average calculated on five best courses as follows**

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Communication</th>
<th>Computing Science</th>
<th>Engineering Science</th>
<th>General Studies</th>
<th>Kinesiology</th>
<th>Tech One</th>
</tr>
</thead>
<tbody>
<tr>
<td>List 1</td>
<td>• one list 1 course</td>
<td>• one list 1 course</td>
<td>• one list 1 course</td>
<td>• one list 1 course</td>
<td>• one list 1 course</td>
<td>• one list 1 course</td>
</tr>
<tr>
<td>List 2</td>
<td>• two additional courses (if both courses are from list 3 they must be different groups)</td>
<td>• one social science or fine and performing arts course, or one list 2 humanities course</td>
<td>• one additional course</td>
<td>• one social science or fine and performing arts course</td>
<td>• one additional course</td>
<td>• one social science or fine and performing arts course (recommended) or one social science course</td>
</tr>
<tr>
<td>List 3</td>
<td></td>
<td>• principles of mathematics 12</td>
<td>• principles of mathematics 12</td>
<td>• principles of mathematics 12</td>
<td>• principles of mathematics 12</td>
<td>• one additional course</td>
</tr>
</tbody>
</table>

Note: Advanced Placement (APP) and International Baccalaureate (IB) courses are included in this chart only if they are not equivalent to an existing grade 12 course. Approved equivalent Programme Cadre and French Immersion courses are acceptable for admission. Locally developed courses, however, are not acceptable.

**Course Lists**

<table>
<thead>
<tr>
<th>Course List 1</th>
<th>Course List 2</th>
<th>Course List 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 12, Français première langue 12</td>
<td>Mathematics Group</td>
<td>Humanities Group</td>
</tr>
<tr>
<td>principles of mathematics 12, AP calculus AB/BC 12, AP statistics 12, IB mathematics with calculus A/B</td>
<td>English literature 12, Français communication et littérature 12, AP Spanish literature 12</td>
<td>principles of physics 12, AP environmental science 12, AP statistics 12, IB computer science/studies 12</td>
</tr>
<tr>
<td>Fine and Performing Arts Group</td>
<td>Sciences Group</td>
<td>Social Sciences Group</td>
</tr>
<tr>
<td>art foundations 12, dance choreography 12, dance performance 12, drama film and TV 12, music composition 12, theatre performance 12 (acting, directing and script development, technical theatre, or theatre management), studio arts 12 (drawing and painting, ceramics and sculpture, print-making and graphic design, fabric and fibre), visual arts media arts 12, writing 12</td>
<td>comparative civilizations 12</td>
<td>economics 12, journalism/media 12, law 12, AP comparative government and politics 12, AP psychology 12, AP US government and politics 12, IB business and organization 12, IB psychology, IB social anthropology 12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sciences Group</th>
<th>Social Sciences Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>calculus 12, forests 12, information technology 12</td>
<td>graduation 12, history 12</td>
</tr>
</tbody>
</table>

*Note: French Immersion courses are acceptable for admission. Locally developed courses are not acceptable.*
Minimum Admission Requirements

The minimum admission average will vary depending on the number of applications received, and on spaces available. For information on the grades achieved by recent successful applicants, please refer to www.reg.sfu.ca/adm/

Additional Information for BC Secondary School Applicants

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.

Advanced Placement or International Baccalaureate Exams

BC secondary school students taking these programs should see “Advanced Placement Program and International Baccalaureate” on page 48.

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 Ministry of Education grading scale.

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

BC Calculus Examination Certificate

All prospective SFU, University of BC, University of Northern BC 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 exam. Students who pass this exam will receive an SFU-UBC-UNBC-UVic Calculus Challenge Examination Certificate that permits them 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, Schedule

Each year a university will host the calculus challenge examination. 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.

Application to Write the Exam

Application to take the exam must be made to the mathematics department the university that is hosting the examination in that year (UBC for 2003, SFU for 2004).

Examination Information

The exam is three hours in duration. For further enquiries about writing the calculus examination and the Calculus Examination Certificate, contact: Math Challenge 151, Department of Mathematics, 8888 University Drive, Simon Fraser University, Burnaby, BC, V5A 1S6; 604.291.3332 Tel; 604.291.4947 Fax; or e-mail fabricius@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 an equivalent college course. 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.

Admission from BC and Yukon Community and University Colleges

BC community college students may apply for general admission (Faculty of Arts requirements) or for direct entry to a number of programs:

• Arts, Faculty of (General Admission); all departments and schools (see “Arts, Faculty of” on page 43) or for direct entry to the following programs:
• Business Administration, Faculty of (see “Business Administration, Faculty of” on page 43)
• Communication, School of (Faculty of Applied Sciences) (see “Communication, School of” on page 43)
• Computing Science, School of (see “Computing Science, School of” on page 43)
• Engineering Science, School of (see “Engineering Science, School of” on page 43)
• Kinesiology, School of (Faculty of Applied Sciences) (see “Kinesiology, School of” on page 43)
• Science, Faculty of; all departments and schools (see “Science, Faculty of” on page 44)

Arts, Faculty of

Students must complete at least one full year (30 credit hours) of transferable work with a minimum average of 2.00 or 60%. Up to 60 credit hours of transfer credit will be awarded for acceptable passed courses.

Applicants who met the University’s admission requirements after completing grade 12 may be admitted if they present three or more transferable courses. 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 in a provincially-examinable course.

Admission is highly competitive. Most transfer students enter the University’s Faculty of Arts before they are approved into the Faculty of Business Administration (‘Faculty of Business Administration’ on page 191). The admission target for fall 2003 is approximately 25 new students.

Communication, School of

Admission requirements are the same as those for the Faculty of Arts (see above).

The admission target for fall semester 2003 is approximately 20 new students.

Computing Science, School of

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, students must complete at least 30 credit hours of transferable credit including seven courses that receive the following transfer credit:

• PHIL 001 or three credits in English
• two of MACM 101, 201 MATH 151, 152 and 232
• two of CMPT 101, 150, 201, 250 and 275
• three credits in biological sciences, chemistry, kinesiology or physics
• three credits in anthropology, archaeology, communication, Canadian studies, criminology, economics, history, political science, psychology, sociology or women’s studies

Admission will be based on a grade point average calculated on the best seven courses satisfying these requirements. All seven 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 course previously taken.

Engineering Science, School of

Students planning to enter the BASc degree program must include at least 30 credit hours in transferable science or engineering courses. Admission is highly competitive. Students must apply directly to the School of Engineering Science as well as to the University.

Information Technology/Interactive Arts

Interested BC community college students should contact 604.268.7444 for further information.

Kinesiology, School of

Students planning to enter the BSc (Kinesiology) degree program must complete at least 30 semester hours of transferable credit.

Admission is competitive. A total of approximately 120 students are approved into the kinesiology major program per year. Most students who wish to be kinesiology majors are typically admitted to the Faculty of Arts, or to the Faculty of Science first, and then they apply to kinesiology after achieving a criterion grade point average in a specified set of courses. Please see “Internal Transfer” on page 136 for details.
However, a small number of students may be admitted directly to the kinesiology major program based on excellent grades in courses which transfer to Simon Fraser University as:
BISC 101-4
MBB 221-3
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)
A student who either has not completed all of these courses at a college or has not achieved the criterion grade point average in these courses at college may be admitted to Simon Fraser University as an intended kinesiology major in another faculty.

Science, Faculty of
Admission is competitive. Students planning to enter the BSc degree program must fulfill the Faculty of Arts requirements, plus have secondary school courses or college transfer credit courses:
- Principles of mathematics 12 (or equivalent) with a minimum grade of C+
- Two of grade 12 biology, chemistry, physics, geology, or geography (or equivalents) with a minimum grade of C+ in each
SFU accepts a C minimum grade if the student’s college credit transfers to the equivalent grade 12 course (e.g. PHYS 120 transfer credit is equal to physics 12).

The admission target for fall semester 2003 is approximately 50 new students.

Transfer Credit Guide
A transfer guide listing all first and second year (lower division) transferable courses and the Simon Fraser University equivalents is accessible through the British Columbia Council on Admissions and Transfer website at www.bccat.bc.ca

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 a minimum 2.0 admission GPA. This policy is extended to graduates with an Associate degree from the BC Open University and the Institute of Indigenous Government who apply to SFU to commence studies in fall 2003 or thereafter. Commencing in the Fall semester of 2004, the minimum admission average for Associate degree students will be allowed to float above 2.00 and will be established each semester at 0.25 GPA points less than that required for regular transfer students.

Transfer credit will be given for all individually transferable courses. When the individually assigned credit from all sources totals less than 60 credit hours, additional general elective credit will be assigned to bring the transfer credit total to 60 hours.

BC 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 60% (2.0) average. Other requirements are the same as those for students transferring from a BC 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
- Applicants who have been required to withdraw from the transferring institution or whose status, if they were attending Simon Fraser University, would be on Academic Probation will be admitted only if they have completed a further year (30 credits) or more of transferable work, with at least a 3.00 GPA.
- Simon Fraser University supports the ‘Pan-Canadian Protocol’ on transferability of first and second year courses from any recognized Canadian university.

Applicants must send copies of detailed course outlines to assist with the evaluation of transfer credit.

Visiting Students
Students of other universities may apply for admission to take specified courses for subsequent transfer back to the ‘home’ university. Applicants should apply in the normal manner and will be evaluated as University transfer applicants (see above). No transfer credit or registration priority is awarded to visiting students.

BC 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. Admission is competitive.

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. Applicants must meet one of the following residency qualifications (documentary evidence should be submitted). They must have
- been born in BC, or
- been a resident of BC for the six months prior to the proposed date of entry to the University, or
- resided in BC for a total of five years at any time.

Mature Student Entry
Applicants aged 23 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 Admission Policy” on page 40). 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 attempted 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 lead times 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.
Applicants from Other Canadian Provinces

Canadian applicants may be admitted from:
- secondary school (see below)
- college or university (see “Applicants from Canadian Colleges/CEGEP” on page 46)

BC applicants should see “British Columbia and Yukon Applicants” on page 41.
Information concerning the International Baccalaureate Program and the Advanced Placement program can be found on page 48.

Canadian High School Requirements

General Admission Requirements
All applicants must be pursuing studies leading to high school graduation. Graduation is required prior to the start of the student’s first semester.

The following General Admission Requirements (Faculty of Arts) table will help to determine the high school courses required for general admission (Faculty of Arts) to Simon Fraser University for applicants from all provinces in Canada except BC.

Applicants must have
- one course from list 1
- two from list 2
- two further courses from list 2 or 3 (see chart below).

Direct Entry Admission into SFU’s direct entry programs is highly competitive. Applicants must meet the general admission requirements, as shown below in the table, and, as part of those requirements, should have completed the following prerequisite course(s).

Business Administration
- one grade 12 or equivalent mathematics course

Communication
- no change from chart requirements

Computer Science
- one grade 12 or equivalent course in mathematics, two science courses, and one social science course

Engineering Science
- one grade 12 or equivalent courses in mathematics, chemistry, and physics (a senior computer science course is recommended)

Kinesiology
- grade 12 or equivalent courses in biology, mathematics, chemistry and physics (a senior computer science course is recommended)

Science
- one grade 12 or equivalent course in mathematics, and at least two of biology, chemistry, physics, geology and geography

Minimum Admission Average
See “Minimum Admission Requirements” on page 43.

General admission requirements (Faculty of Arts)
Admission average calculated on five grade 12 or equivalent courses: one course from List 1, two from List 2, two further courses from List 2 or 3.

<table>
<thead>
<tr>
<th>Province</th>
<th>List 1 includes AP and IB acceptable courses</th>
<th>List 2 see AP and IB transfer credit tables for acceptable courses</th>
<th>List 3 see AP and IB transfer credit tables for acceptable courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta, Nunavut, Northwest Territories</td>
<td>English, Français</td>
<td>biology, chemistry, world geography, western world history, mathematics 31, pure mathematics, physics, science, social studies</td>
<td>art 31, art (general), general music, drama, social studies, languages 30/31, cultural and physical anthropology, philosophies of man, international politics, experimental psychology, applied sociology</td>
</tr>
<tr>
<td>Manitoba</td>
<td>English: literature, English: transaction, English: language and literary forms, English: language and transactional forms, Français</td>
<td>biology, chemistry, English or French courses not used in List 1, world geography: a human perspective, world issues, advanced mathematics, pre-calculus mathematics, introduction to calculus 45A, statistics and probability 45A, physics</td>
<td>economics, law, computer science, languages, western civilization, physical science, drama, music, psychology 41G</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>English, Français</td>
<td>biology, chemistry 121/2, Canadian literature, environmental science 122/3, Canadian geography, world issues, Canadian history 121/2, mathematics 121-3, advanced mathematics, calculus, physics 121/2</td>
<td>visual arts, media studies, music 122, theatre arts, economics, journalism, political science, computer science, languages, law, native studies</td>
</tr>
<tr>
<td>Newfoundland and Labrador</td>
<td>English language 3101, Français 3220</td>
<td>biology, chemistry, thematic literature, literary heritage, environmental science, world geography, global issue, geology, world history, mathematics, advanced mathematics, calculus readiness 3105, statistics 3104, physics</td>
<td>art/design, video/film arts 3220, theatre arts 3220, advanced writing 3103, global economics 3103, computer technology, languages, folk literature, earth systems 3209</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>English, Français</td>
<td>biology, chemistry, Canadian literature, geography, global geography, Canadian geography, history, global history, mathematics, advanced mathematics, pre-calculus mathematics, physics</td>
<td>art, music, economics, law, political science, computer related studies, languages</td>
</tr>
<tr>
<td>Ontario</td>
<td>core English, core Français</td>
<td>biology, chemistry, studies in literature, Canadian and world issues: a geographic analysis, world geography: human patterns and interaction, Canada: history-identity-culture, world history: the West and the world, geometry and discrete mathematics, advanced functions and introductory calculus, mathematics of data management, physics</td>
<td>visual arts, dance, music, dramatic arts, the writer’s craft, analysing current econ issues, environment and resource management, Canadian and international law, Canadian and world politics, aboriginal governance: emerging directions, issues of indigenous peoples in a global context, individuals and families in a diverse society, challenge and change in society, issues in human growth and development, computer engineering, science, geomatics, computer and information science, exercise science, earth and space science, food and nutrition science, communications technology, languages, classical civilization, philosophy: questions and theories</td>
</tr>
<tr>
<td>Ontario (old curriculum)</td>
<td>core OAC English (language and literature recommended) or OAC Français</td>
<td>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, music, economics, law, sociology</td>
<td>other OAC courses to meet OSSD requirements Note: admission average calculated on OAC English or Français and the three best courses in list 2 excluding visual art, drama, music, economics, law, sociology</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>English, Français</td>
<td>biology, chemistry, geography, global studies, history, algebra, advanced mathematics, physics, PEI history</td>
<td>intro economics, advanced politics, individuals in society, oceanography, animal science, computer studies, geometry, music, law</td>
</tr>
<tr>
<td>Quebec</td>
<td>English A and B</td>
<td>biology, chemistry, history, Canadian studies, mathematics A, B or C, calculus, physics</td>
<td>arts education, native studies: Canadian studies, social studies, language, computer science, dance, drama, theatre arts, visual art, information processing, law, psychology, forestry</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>all courses are 30 unless indicated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
International Applicants

International applicants may be admitted from secondary school, from a college, from a university, or an institution of higher learning in their own country. Refer to those sections that follow. A partial list of admission requirements for first year entry only follows.

Admission to Simon Fraser University is extremely competitive so the following requirements are the minimum that are required for application. Due to enrolment limitations, a high standing (equivalent to 3.5, B+ or 85%, or higher) is required for admission. Some schools offer programs that comply with international rather than national rules (i.e. International Baccalaureate, European Baccalaureate, etc.). Students from these schools will be evaluated by international standards. See “Advanced Placement Program and International Baccalaureate” on page 48.

The University admits new international students to not more than 10% of each year’s entry. Academic Documents

Students must arrange to send official transcripts of academic records from all schools and colleges attended to Simon Fraser University. Replaceable documents will not be returned to the student; other documents will be returned by mail or to the student personally, on request. If the student’s documents are not in either English or French, SFU requires an official translation, certified by an educational official of the student’s country, an official of a Canadian Education Centre, or a Canadian consular or embassy official. Translations made by the student, relatives, or friends will not be accepted. For international applicants residing in BC, translations should be completed by a member of the Society of Translators and Interpreters of British Columbia (please view their website at www.stibc.org), or through Mosaic Translation Services at 604.254.0469.

Requirements by Country

Argentina

Bachillerato Especializado on an academic program with a minimum score of 7/10 (good), but normally 8/10 (very good) is required.

Australia

Matriculation with a minimum C+ standing as defined by the home state university, but normally a B+ is required. A competitive Universities Admissions Index (UAI) is required:

- Australian Capital Territory: ACT Year 12 Certificate plus UAI
- New South Wales: Higher School Certificate (HSC) plus UAI
- Queensland: Queensland Year 12 Studies and the award of an Overall Position plus UAI
- Tasmania: Certificate of Education (from 1993) plus UAI
- Victoria: Victoria Certificate of Education (VCE) plus UAI
- Western Australia: Certificate of Secondary Education (CSE) plus UAI
- South Australia: South Australian Certificate of Achievement (SACE) plus the Senior Secondary Assessment Board of South Australia (SSABSA: maximum score is 70).

Bangladesh

Higher Secondary Certificate (HSC)/Intermediate Certificate with a minimum second division standing (45%-59%/B), but normally first division standing (60%-100%/A) is required.

Brazil

Certificado de Conclusao de 2° Grau or Diploma De Segundo Grau with minimum score of 7/10, but normally require 8/10 plus results of Concurso Vestibular (university entrance exam).

China

See People’s Republic of China.

Colombia

Bachillerato with a minimum average of 67%, but normally require 85%.

France

Diplôme de Bachelorie de l’Enseignement du Second Degré with minimum standing of 12/20 (assez bien), but normally 14/20 (bien) is required.

Germany

One of Abitur, Zeugnis der Allgemeinen Hochschulreife, Zeugnis der Reife OR Reifezeugnis, with a minimum score of 3.5 (maximum 1.0) in the Abitur, but normally 2.2 (maximum 1.0) is required.

Greece

Apolytirion (Lykeion) with a minimum overall average of 14/20, but normally require 17/20.

Hong Kong

Hong Kong Advanced Level Examination (HKALE) with a minimum of 18 points on A levels (transferable or non-transferable) but normally 20 points for Arts and 18 points for Science is required. Other faculty/departments will evaluate on an individual basis. Advanced Level point system: add the points from A level subjects, using the following values:

<table>
<thead>
<tr>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>D</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

Indonesia

Sekolah Menengah Atas (SMA) or Sekolah Menengah Umum (SMU) and the results of the EBTANAS with a minimum score of 7/10 but normally 8/10 is required.

Iran

Diplom (National High School Diplom) and pre-university year (concours) with a minimum score of 14/20 but normally require 17/20.
Japan
Kotogakko Sotsugyo Shomeisho (Upper Secondary School Leaving Certificate) with a minimum grade of 3.5/5, but normally 4/5 is required.

Kenya
Kenya Certificate of Secondary Education (KCSE), minimum average of C+, but normally require B+.

Korea (Republic of)
Immungye Kodung Hakkyo (Academic High School Diploma) with a minimum average of 67% (C+), but normally 85% (B+) is required. Require either the Scholastic Achievement Examination for College Entrance (SAECE) or the Academic Aptitude Test (AAT).

Note: Students who have completed the Junior College Diploma will be evaluated on an individual basis.

Malaysia
Sijil Tinggi Persekolahan Malaysia (STPM) ( Malaysian Higher School Certificate) with a minimum C+ average on five academic subjects, but normally B+ is required.

Mexico
Bachillerato on an academic program with a minimum of 8/10, but normally 9/10 is required, plus results of University Entrance Examinations.

Netherlands
Voorbereidend Wetenschappelijk Onderwijs (VWO Certificate) with a minimum overall standing of 7/10, but normally 8/10 is required.

New Zealand
New Zealand University Bursaries/Entrance Scholarship Examination, with a minimum average of C+, but normally B+ is required.

Norway
Vitnemål Fra Den Videregående Skole (Certificate of Upper Secondary Education) with a minimum standing of 4/6, but normally 5/6 is required.

Pakistan
Intermediate (IC) or Higher School Certificate (HSC) with a minimum C average (50-59), but normally a B (60-69) average is required.

People’s Republic of China
Senior Middle School Graduation Diploma with superior standing and a minimum score of 70% in the National College Entrance Examinations (NCEE).

Philippines
High School Graduation Diploma (10 years) plus two years of University study with a minimum C+ standing, but normally B+ is required.

Russian Federation
(formerly Union of Soviet Socialist Republics)
Svidetel’stvo o Sredнем Obrazovanii (Certificate of Secondary Education) or Attestat O PolnomSrednom Obradosvanii (Upper Secondary Education) with a minimum score of 3.5/5, but normally 4/5 is required, plus results of University Entrance Examinations.

Singapore
Singapore GCE Advanced Level with a minimum of 18 points (transferable or non-transferable), but normally 20 points for Arts and 18 points for Science is required. Other faculty/departments will evaluate on an individual basis. Advanced level point system: add the points from A Level subjects, using the following values:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Level</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A</td>
<td>10</td>
</tr>
<tr>
<td>B</td>
<td>A</td>
<td>8</td>
</tr>
<tr>
<td>C</td>
<td>A</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>A</td>
<td>4</td>
</tr>
</tbody>
</table>

South Africa
Senior with Matriculation exemption. Four of the mandatory six subjects must be on higher grade (HG) subjects, with a minimum average of C (60%) but normally require a higher average.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Level</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A</td>
<td>10</td>
</tr>
<tr>
<td>B</td>
<td>A</td>
<td>8</td>
</tr>
<tr>
<td>C</td>
<td>A</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>A</td>
<td>4</td>
</tr>
</tbody>
</table>

Sweden
Avgångsbetyg (Matriculation Certificate) with a minimum of 3.5/5, but normally 4/5 is required, plus results of the Hogskoleprov (Swedish Scholastic Aptitude Test).

Switzerland
Maturitätszeugnis/Certificat de Maturité/Baccalauréat/Attestato di Maturità (Federal Maturity Certificate) and/or the Kantonal Maturitá/Maturité Cantonale/Maturità Cantonale (Cantonal Maturity Certificate) with above average grades. Different grading scales used (1-6, maximum 6-1, maximum 10; or 6-1, maximum 1).

Taiwan
Senior High School Leaving Certificate with a minimum B (70-79%) standing on an academic program, but normally A (80-100%) is required. Senior secondary education must have been completed at a senior high school, not a senior vocational school. Note: may be admitted on completed junior high school followed by a five year program.

Thailand
Matayom 6 (M6) with minimum 2.5/4, but normally 3/4 is required plus results from the Written Entrance Exam (WEE).

Ukraine
Atestat pro Povnu Zagal’nu Serdsniu Osvitu (Certificate of Complete General Secondary Education) grade 12, with a minimum score of 3.5, but normally 4/5 is required.

United Kingdom
General Certificate Examination Advanced Level (A-Level), with a minimum of 18 points (transferable or non-transferable), but normally 20 points for Arts and 18 points for Science is required. Other faculty/departments will evaluate on an individual basis. A Level point system: add the points from A Level subjects, using the following values:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Level</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A</td>
<td>10</td>
</tr>
<tr>
<td>B</td>
<td>A</td>
<td>8</td>
</tr>
<tr>
<td>C</td>
<td>A</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>A</td>
<td>4</td>
</tr>
</tbody>
</table>

United States
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 ≥ 1200 or ACT ≥ 26). Other factors will be considered, such as honors, rank in class, and advanced academic courses (e.g. international baccalaureate, advanced placement program).

Other Countries
If your country is not listed above, please refer to our Admission Guide for International Students or follow the links from www.reg.sfu.ca.

International University or College Transfer
See “BC University Transfer” on page 44.

International University Degree Holders
See “BC University Degree Holders” on page 44.
Advanced Placement Program and International Baccalaureate

A student who has completed the IB diploma will typically be admitted subject to a minimum overall score of 30. Simon Fraser University grants transfer credit for some higher level subjects that are passed with a grade of 4 or higher, to a maximum of 30 credit hours. We do not grant transfer credit for subsidiary level subjects. Students with an incomplete or partial IB program will be considered for admission on the basis of other secondary school graduation, and will be granted transfer credit for those higher level subjects with a grade of 5 or higher.

International Baccalaureate Transfer Credit

<table>
<thead>
<tr>
<th>IB Examination</th>
<th>Level</th>
<th>SFU Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>biology; general</td>
<td>HL</td>
<td>BISC 101 (4), 102 (4)</td>
</tr>
<tr>
<td>business and management</td>
<td>HL</td>
<td>individual assessment</td>
</tr>
<tr>
<td>chemistry</td>
<td>HL</td>
<td>CHEM 121 (4), 122 (2)</td>
</tr>
<tr>
<td>classical languages</td>
<td>HL</td>
<td>individual assessment</td>
</tr>
<tr>
<td>computer science</td>
<td>HL</td>
<td>CMPT 101 (4), CMPT (2)</td>
</tr>
<tr>
<td>dance</td>
<td>HL</td>
<td>(to be announced)</td>
</tr>
<tr>
<td>design and technology</td>
<td>HL</td>
<td>(to be announced)</td>
</tr>
<tr>
<td>economics</td>
<td>HL</td>
<td>individual assessment</td>
</tr>
<tr>
<td>English (language A)</td>
<td>HL</td>
<td>ENGL (3)</td>
</tr>
<tr>
<td>environmental systems</td>
<td>SL</td>
<td>no credit</td>
</tr>
<tr>
<td>film</td>
<td>HL</td>
<td>(to be announced)</td>
</tr>
<tr>
<td>geography</td>
<td>HL</td>
<td>GEG 100 (3), 111 (3)</td>
</tr>
<tr>
<td>history</td>
<td>HL</td>
<td>HIST 225 (3), HIST (3)</td>
</tr>
<tr>
<td>history; Islamic</td>
<td>HL</td>
<td>HIST (3)</td>
</tr>
<tr>
<td>information technology</td>
<td>SL</td>
<td>no credit</td>
</tr>
<tr>
<td>A global society</td>
<td></td>
<td></td>
</tr>
<tr>
<td>language A (various)</td>
<td>HL</td>
<td>GE (6) Name of Language A except for English A = ENGL (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>French language A = FREN (3) or (6) depending on placement test</td>
</tr>
<tr>
<td>language B (various)</td>
<td>HL</td>
<td>GE (6) Name of Language B except for English language B = no credit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>French language B = FREN (3) or (6) depending on placement test</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Italian B = ITAL 100 (3) 101 (3)</td>
</tr>
<tr>
<td>mathematical methods</td>
<td>SL</td>
<td>no credit</td>
</tr>
<tr>
<td>mathematical studies</td>
<td>SL</td>
<td>no credit</td>
</tr>
<tr>
<td>mathematics, further</td>
<td>SL</td>
<td>no credit</td>
</tr>
<tr>
<td>mathematics</td>
<td>HL</td>
<td>MATH 151 (3) with a score of 6 or 7</td>
</tr>
<tr>
<td>music</td>
<td>HL</td>
<td>individual assessment</td>
</tr>
<tr>
<td>philosophy</td>
<td>HL</td>
<td>PHIL (6)</td>
</tr>
<tr>
<td>physical science</td>
<td>HL</td>
<td>no credit</td>
</tr>
<tr>
<td>physics</td>
<td>HL</td>
<td>PHYS 101 (3), 102 (3)</td>
</tr>
<tr>
<td>psychology</td>
<td>HL</td>
<td>PSYC 100 (3), 102 (3)</td>
</tr>
<tr>
<td>social and cultural</td>
<td>HL</td>
<td>no credit</td>
</tr>
<tr>
<td>anthropology</td>
<td>HL</td>
<td>FPA (3) theatre, FPA 150 (3)</td>
</tr>
<tr>
<td>visual art</td>
<td>HL</td>
<td>FPA (6)</td>
</tr>
</tbody>
</table>

Advanced Placement Program Transfer Credit

<table>
<thead>
<tr>
<th>AP Exam</th>
<th>IB Exam</th>
<th>SFU Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>Grade</td>
<td>Percentage</td>
</tr>
<tr>
<td>3–5</td>
<td>0–2</td>
<td>70</td>
</tr>
<tr>
<td>6</td>
<td>3–5</td>
<td>90</td>
</tr>
</tbody>
</table>

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.
Readmission and Re-registration

Students who have previously attended, who have 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 www.reg.sfu.ca/calendar for information about fees.

The following conditions will require readmission before registering in further courses.

• 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 enroll 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 Simon Fraser University 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(s). Registration is open only to those who have been admitted or re-admitted to the University, or who are eligible to re-register. An exception is that special audit students need not be formally admitted before registration (see “General Information” on page 35).

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 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 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 “Continuing Studies” on page 224.

Information about how to register and details concerning the day, time, place and instructor for courses is provided in the Course Timetable and Exam Schedule (www.reg.sfu.ca/register.html). The University reserves the right to change 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 admission admission. If admitted, the student receives instruction on the procedure 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” on page 53), 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” on page 38).

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 graduating semester is as follows:

- Applied Sciences, Arts, Business Administration or Science – 18 hours
- Engineering Science – 22 hours (permission of the director is required for course loads below 15 hours)
- Education – 20 hours

Intersession 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 Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 371-5 (if taken in summer semester)</td>
<td>5 equals</td>
<td>5</td>
</tr>
<tr>
<td>ARCH 372-5 (if taken in eight week intersession or summer session)</td>
<td>5 equals</td>
<td>10</td>
</tr>
<tr>
<td>Total Course Load</td>
<td>10 equals</td>
<td>15</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 Faculty of 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 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.

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 who requires specific courses 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. Courses taken at Simon Fraser University for which a student has already received transfer credit from another institution will count within the current limit of five duplications. 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.

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 apply to duplicate transfer courses. The implementation of this policy will not affect the method of calculating grade point averages. See also “Credit for the Semester” on page 54.

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 and limits on duplication of courses and duplicate transfer credit, 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 see “Admission and Readmission” on page 38 for transfer credit information.
For information concerning maximum transfer credit pertaining to Education (EDUC) 401/402, 405, see "Transfer Credit" on page 196.

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 see "Transfer" on page 141.

Students who are pursuing a bachelor of applied science degree in engineering science should see "School of Engineering Science" on page 131.

Students participating in formal exchange programs may receive exchange credit for courses completed at the host university with a passing grade.

**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 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 course(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 of the sequence, the department may indicate "successful" in the preceding course(s) of the sequence in which the student is registered for challenge. If the student does not satisfactorily complete the course at the 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 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. Auditing 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, see "Undergraduate Fees" on page 57.

**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 University Health Services or off-campus medical facilities. Students who require coverage equivalent to that offered by the Medical Services Plan of BC, or any other plan, government or private, must provide proof of adequate coverage.

**Course Changes**

You are urged to read the tuition refund policy and penalties for dropping courses very 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 (www.reg.sfu.ca/register.html). Failure to attend classes does not constitute withdrawal from a course. Course(s) 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 (www.reg.sfu.ca/register.html) 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 (www.reg.sfu.ca/register.html).

**Normal Course Change Period**

Regular Semester – Class Days 1-5: Courses may be added or dropped or tutorial times changed using the registration system 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, course challenge 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 added 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 via the web or telephone registration systems. Courses dropped within this period will be automatically recorded with a WD notation on the student's academic record. Students can apply to drop courses for extenuating circumstances at this time and if approved, the notation will be WE rather than WD.

During the sixth to twelfth week of classes a course or courses may be dropped only in extenuating circumstances, if approved. There will be a notation WE on the student's academic record for specific
courses dropped. Applications must be made to the Office of the Registrar, Assistant Director, Student Academic Affairs. Requests arising after the twelfth week, or requests relating to courses taken in a previous semester, are referred to as ‘retroactive’ and follow the same procedures as above but may take longer to adjudicate.

**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 apply following the same schedule as outlined above. Specific semester dates can be found in the Course Timetable and Exam Schedule (www.reg.sfu.ca/register.html).

If the application for withdrawal is approved, 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. 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 (www.reg.sfu.ca/register.html) 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 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.
Academic Honesty and Student Conduct

Academic Honesty
All University community members share responsibility for academic standards and the 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 misrepresented 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 on the Web via www.sfu.ca/policies/teaching/index.htm.

Penalties for Acts of Academic Dishonesty
Penalties imposed by the University for academic dishonesty 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 and the senate committee on disciplinary appeals (policy T10.03). This policy is available in the Library or any department office, or on the website www.sfu.ca/policies/teaching/index.htm.

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 (www.reg.sfu.ca/register.html) mailed each semester to students eligible to register. Students must check the exam schedule when planning course selections. Students are reminded that final examinations may be scheduled at any time during the examination period and that students should avoid making travel or employment arrangements for this period. The student is not allowed to register in courses with conflicting examination times.

Each student is expected to participate in work assigned during the semester. The marks obtained for work during the semester may be used in determining the final standing for the course. A passing grade in any examination does not ensure a passing grade for the course.

Students who miss examinations because of illness or for compassionate reasons are required to obtain a physician's certificate or other supporting documents in order to obtain consideration in the course. Such documents must be filed with the department chair or registrar within four days of the date on which the examination was to have been written. A student may not rewrite (or write, in the case of courses where rewriting is not allowed) a paper unless he/she re-registers for the course and participates in the course as required by the instructor.

In-class final examinations are not to be held before the beginning of the official examination period. Take-home examinations cannot be due until the commencement of the official examination period.

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>Good performance</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>Satisfactory performance</td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>Unsatisfactory performance (fail)</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>otherwise complete course</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>Did not write final exam or otherwise complete course</td>
<td>2.67</td>
</tr>
<tr>
<td>C+</td>
<td>Did not write final exam or otherwise complete course</td>
<td>2.33</td>
</tr>
<tr>
<td>C</td>
<td>Satisfactory performance or better (pass, ungraded)</td>
<td>2.00</td>
</tr>
<tr>
<td>C-</td>
<td>Withdrawn</td>
<td>1.67</td>
</tr>
<tr>
<td>D</td>
<td>Audit</td>
<td>1.00</td>
</tr>
<tr>
<td>F</td>
<td>Credit without grade</td>
<td>0.00</td>
</tr>
</tbody>
</table>

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 department chair 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 semester lectures for which such standing is requested. Courses for which aegrotat standing is awarded are not included in the GPA calculation.

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 course 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 DE notation 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. The DE notation must be submitted by the instructor with a recommended length of deferral and approved by the chair. All unchanged DE notations will be converted automatically to F after the fifth day of classes of the semester immediately following the one in which the notation 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. 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 student to complete the course. Different time periods are in effect for intersession and summer session. (For more complete details refer to “Course Drop Period” on page 51.) For semester specific dates, refer to the Course Timetable and Exam Schedule (www.reg.sfu.ca/register.html).

### Credit for the Semester
All credit earned will be graded, regardless of the grade point average (GPA) 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. If 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 records, and are included in the calculation of the semester GPA. The cumulative GPA computed for semesters completed prior to fall semester 1979 includes duplicate courses. Duplicate courses are not included in the GPA when it is computed for graduation purposes. See “Duplicate Transfer Credit” on page 50.

### Reconsideration of Grades
Students who intend to appeal a course grade are cautioned that poor grades given on the basis of thorough checking 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 department chair, 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 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 (excepting those credit hours assigned to course with a final grade/notation of P, W, CC, AU, AE or CR).

<table>
<thead>
<tr>
<th>Letter</th>
<th>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>
<td>12.00</td>
</tr>
<tr>
<td>Course 2</td>
<td>A+</td>
<td>4.33</td>
<td>3</td>
<td>12.99</td>
</tr>
<tr>
<td>Course 3</td>
<td>B-</td>
<td>2.67</td>
<td>3</td>
<td>8.01</td>
</tr>
<tr>
<td>Course 4</td>
<td>C</td>
<td>2.00</td>
<td>3</td>
<td>6.00</td>
</tr>
<tr>
<td>Course 5</td>
<td>F</td>
<td>0.00</td>
<td>4</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>39.00</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 by 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 fall 1979 or thereafter and which have been assigned a final grade equal to or higher 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 credit hours assigned for those courses, counting only the higher grade in courses that have been duplicated.

### Standing Required for Continuance
The following procedures are in effect beginning summer semester 2003.
Every student is expected to maintain an acceptable standard of scholarship. Specifically, a student must maintain a minimum CGPA of 2.00. A student who
does not do so shall be considered to be performing unsatisfactorily in his/her studies.

- upon first admission to Simon Fraser University, a student shall be placed in good academic standing; academic performance shall be evaluated on Simon Fraser University courses that have assigned grades (‘assigned grade’ include grades A+ through to D, F, and N, but exclude P, W, CR, AE, CC, DE, GN and AU).
- formal evaluation of academic standing happens only if a student has accumulated a minimum of nine credit hours in courses having assigned grades.

Academic Alert
A student whose semester grade point average (SGPA) falls below 2.00, but who is not placed on any of the academic standings given below, shall receive an ‘academic alert’ notification and shall be advised to seek guidance at the Academic Resource Office.

Academic Probation
A student who has a CGPA of less than 2.00 shall be placed on academic probation (OAP). A student on academic probation may not register in a course overloads. A student on OAP standing may not receive a ‘letter of permission’ to attend another university or college.

Required to Withdraw
A student may be required to withdraw (RTW) after one or more semesters on academic probation (see ‘outcomes for a student on academic probation’ below). A student on RTW standing may not receive a ‘letter of permission’ to attend another university or college.

Extended Withdrawal
A student may be placed on extended withdrawal (EW) after she/he is required to withdraw (RTW), if readmitted and subsequently is on academic probation for one or more semesters (see Outcomes for a Student on Academic Probation below). A student on EW standing may not receive a ‘letter of permission’ to attend another university or college.

Outcomes for a Student on Academic Probation
A student on academic probation shall be evaluated at the end of each semester. If at the end of the semester
- the SGPA and the CGPA are each 2.00 or higher, the student shall be in good academic standing;
- the SGPA is 2.00 or higher, but the CGPA is less than 2.00, the student shall continue on academic probation;
- the SGPA is less than 2.00, but the CGPA is 2.00 or higher, the student shall continue on academic probation. (This could occur if a student repeats a course.);
- both the SGPA and the CGPA are less than 2.00, the student shall be required to withdraw (RTW) from the University or, if previously required to withdraw (RTW), shall be placed on extended withdrawal (EW).

Readmission after Required to Withdraw
A former student who is required to withdraw (RTW) shall be eligible for readmission if she/he completes 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 (see ‘acceptance GPA below’), whichever is higher
- 30 or more credit hours with the acceptance GPA*
  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.)

Readmission of Students on Extended Withdrawal
A former student on extended withdrawal (EW) shall be eligible for readmission if she/he completes 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
- 48-59 credit hours with a minimum 2.75 GPA or with the acceptance GPA (see acceptance GPA below), whichever is higher
- 60 or more credit hours with the acceptance GPA* and one or more courses which complete a degree or certificate.
- a completed two 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.)

Acceptance GPA
The acceptance GPA refers to the minimum admission GPA in effect for that semester for British Columbia college transfer students, according to enrolment limitation measures. The acceptance GPA may vary.

Readmission Deadlines
Deadlines for consideration shall be the same as for other students seeking readmission (see “Application Deadlines” on page 39).

Duplicate Courses for Readmission
A repeated course attempt which was passed with a C grade or higher prior to leaving SFU will not count in the credit hour or GPA calculations for readmission.

Final Grades Evaluated for Readmission
Evaluation for readmission is based only on final grades (i.e. courses in progress are not evaluated).

Transfer Credit on Readmission
Credit for transferable courses shall be granted on readmission, subject to a C minimum grade in each course, and subject to normal transfer credit limits.

Standing on Readmission
If readmitted, a student who was previously involuntarily withdrawn from the University (RTW or EW) is placed on academic probation (OAP) and shall again be subject to the conditions described above.

Grade Point Averages Needed for Graduation
Graduate point averages (GPAs) used for graduation are the minimum GPAs that must be achieved to satisfy the requirements for a degree or other credential. The
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 (also Policy T10.03):

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 Office 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: Michael Dinning, Director, Campus Community Services

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 resubmit 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
• 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

Tuition Fee Schedule

Simon Fraser University assesses undergraduate tuition fees in accordance with a schedule of fees based primarily on the number of credit hours in which the student enrolls. Various special fees may be assessed by the University in certain circumstances or for specific purposes. All fees are subject to change, subject to provincial legislation and board of governors approval.

| Normal credit (per credit hour) | $123.70   | Differential Tuition Fee for International Students | $457.10 |
| 200, 300 and 400 level BUS courses (per credit hour) | $165.00   |                                     | $498.40 |
| 200, 300 and 400 level CMPT and ENSC courses (per credit hour) | $136.10   |                                     | $469.50 |
| Course challenge (per credit hour) | $123.70   |                                     | $457.10 |
| Audit (per credit hour) | $61.85    |                                     | $228.55 |
| Co-op practicum (per semester) | $524.00   |                                     | $524.00 |

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, he or she is either a citizen of Canada or has the status of a permanent resident of Canada.

2. The differential tuition for international students 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, 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 or more years or 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 except in the case of field schools. All participants in field schools will be assessed all fees established for that field school.

6. Fees are not transferable from one semester to another.

7. 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 tuition fee schedule.

Student Services and Recreation-Athletics Fees

The Student Services Fee (SSF) and Recreation-Athletics Fee (RAF) are assessed to all students registered for credit courses that are offered at the Burnaby Mountain, Harbour Centre and Surrey campuses according to the table below. These fees are not assessed to students aged sixty years or more who are Canadian citizens, or who have permanent Resident status in Canada. Those registered in audit courses, designated 'off-campus' courses, or distance education courses do not pay these fees.

<table>
<thead>
<tr>
<th></th>
<th>SSF</th>
<th>RAF</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three or fewer credit hours</td>
<td>$30.42</td>
<td>$25.35</td>
<td>$55.85</td>
</tr>
<tr>
<td>Intersession only</td>
<td>$36.04</td>
<td>$25.35</td>
<td>$61.39</td>
</tr>
<tr>
<td>Summer session only</td>
<td>$36.04</td>
<td>$25.35</td>
<td>$61.39</td>
</tr>
<tr>
<td>Four or more credit hours</td>
<td>$38.04</td>
<td>$50.70</td>
<td>$88.74</td>
</tr>
<tr>
<td>Any combination of intersession, summer session, summer semester</td>
<td>$38.04</td>
<td>$50.70</td>
<td>$88.74</td>
</tr>
</tbody>
</table>

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. For a breakdown of the student activity fee, see "Simon Fraser Student Society" on page 15.

<table>
<thead>
<tr>
<th></th>
<th>$85.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designated 'off-campus' courses only</td>
<td>$29.26</td>
</tr>
<tr>
<td>*3 or fewer credit hours</td>
<td>$29.26</td>
</tr>
<tr>
<td>Summer session courses only</td>
<td>$29.26</td>
</tr>
<tr>
<td>*Intersession courses only</td>
<td>$29.26</td>
</tr>
<tr>
<td>Any combination of intersession, summer session, summer semester</td>
<td>$85.50</td>
</tr>
</tbody>
</table>

Special Fees

<table>
<thead>
<tr>
<th>Application</th>
<th>$35.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payable for each application for admission or reapplication.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Documents Evaluation</th>
<th>$50.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>This non-refundable fee is assessed for applicants whose academic records originate outside BC, and are required for admission, transfer credit or advance standing. It is waived if the documents originate from a secondary school located in Canada or if the applicant is participating in an exchange program between SFU and another institution. The fee is also assessed for a second or subsequent admission application or for a re-admission application if that application includes secondary school documents from outside Canada or post-secondary documents from outside BC if these documents have not been evaluated previously.</td>
<td></td>
</tr>
</tbody>
</table>

Library/Identification Card Replacement | $16.50 |

<table>
<thead>
<tr>
<th>Replacement for an Original Degree, Diploma or Certificate Parchment</th>
<th>$21.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence Application</td>
<td>$35.00</td>
</tr>
<tr>
<td>Graduation*</td>
<td>$35.00</td>
</tr>
<tr>
<td>Granting of a degree</td>
<td>$20.00</td>
</tr>
<tr>
<td>Award of certificate or diploma for late application to graduate</td>
<td>$20.00</td>
</tr>
</tbody>
</table>

International Program

For students who have been selected and have accepted the offer to participate in an international program, the following fees are applicable:

<table>
<thead>
<tr>
<th>Formal exchange programs participation</th>
<th>$150.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>International field school administration</td>
<td>$150.00</td>
</tr>
</tbody>
</table>

*Persons aged sixty or more years and who are Canadian citizens or have permanent resident status in Canada are exempt from this fee.

Universal Transit Pass

The U-Pass fee is $92.00 per semester. The following students are exempt from this fee:

- Students who are not assessed Simon Fraser Student Society fees (see "Student Activity Fee" on page 57)
- Students who do not reside in the Greater Vancouver Regional District (GVRD) and who do not attend any classes offered by Simon Fraser University (Burnaby, Surrey, Harbour Centre campuses) within the GVRD
- Students who are registered with TransLink as handyDART users or hold a valid Transit Pass
- Students who hold a valid U-Pass issued from another post-secondary educational institution

Please note, this information was accurate at the time of printing, but may be subject to change without notice.

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 videos 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 SFU 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 ................................................. $400

Biological Sciences
BISC 306, 308, 416 ................................................. $78
BISC 310, 404 ............................................................. $60

Contemporary Arts
FPA 130, 131, 290, 390 ........................................... $75
FPA 176 .................................................................... $30
FPA 230, 231, 430, 432 .............................................. $100
FPA 252 .................................................................... $20
FPA 261, 393 ............................................................. $50
FPA 263 ..................................................................... $50
FPA 374 ..................................................................... $25

Distance Education
All courses offered through the Centre for Distance Education are assessed a $40 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 100, 403 ............................................................. $50
EASC 101 ................................................................. $20
EASC 102 ................................................................. $10
EASC 204, 401, 409, 410 ........................................ $30
EASC 206 ................................................................. $200
EASC 301, 303, 404 .................................................. up to $100
EASC 304 ................................................................. $40
EASC 305 ................................................................. $80
EASC 306 ................................................................. up to $400
EASC 308, 313, 413, 418, 419 ................................ $200
EASC 402 ................................................................. up to $150
EASC 404 ................................................................. up to $100
EASC 408 ................................................................. up to $250
EASC 411 ................................................................. $100
EASC 416 ................................................................. up to $50

Education
EDUC 330, 428, 430, 476, 477, 489, 495 ............... $20
EDUC 452 .................................................................. $46

Education Professional
EDPR all 300 and 400 level courses ............................ $20

Environmental Science
EVSC 491 .................................................................. $200

Geography
GEOG 213, 453 .......................................................... $50
GEOG 253, 323, 385, 417 ........................................ $15
GEOG 264, 441 ............................................................ up to $10
GEOG 313 .................................................................. $40
GEOG 353, 416 .......................................................... $35
GEOG 364 ................................................................. $30
GEOG 412 ................................................................. $80
GEOG 426 ................................................................. $60
GEOG 427 ................................................................. up to $50
GEOG 497 ................................................................. $2,500 - $3,000

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
SAS364 .................................................................. $40
SA 371 ....................................................................... $100 per semester

Fee Appeals
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.

Account Balance
When a change is made to any part of your registration, your account balance will be affected. This new balance will be calculated overnight by our computer system and will be available the next day. Please make sure that you check for your new account balance before paying your fees.

Students can obtain account balance information through the student information system.

Payment of Fees
Regardless of the payment method, always provide your SFU student number with all financial transactions. The SFU student number is the only account reference that the University uses so it is very important to include this information.

There are several methods to pay your fees.

Bank of Montreal
Together with payment, take the tuition fees payment form to any branch of the Bank of Montreal (form is enclosed with the registration materials that are mailed to every eligible student, or can be copied from the Course Timetable and Exam Schedules publication that is published every semester and is mailed to every eligible student).

Internet Banking
If you have access to Internet banking, just add Simon Fraser University to your list of payments.

Telephone Banking
To initiate this method of fee payment, make enquires at your financial institution.

In-Person
Using cash, cheque or debit card, visit the Cashier's Office (Burnaby campus) or Information and Registration Services (Harbour Centre and Surrey campuses) in person to pay your fees.

Burnaby Campus Drop Box
You can pay your fees with only a cheque or money order (made payable to Simon Fraser University) by depositing this in the drop box located in the Maggie Benston Student Services Centre (top level). This method of payment is available 24 hours a day, 7 days a week. Please do not enclose cash.

Canada Post Mail
You can mail us a cheque or money order. However, the University does not accept responsibility for payments that are lost in the mail. Please do not mail cash.

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 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 must submit to the Cashier's Office the properly completed forms and payment for the total amount of the student activity fee, athletic fee and student services fee.

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
To cancel your entire registration, you must use the registration system to drop each of your courses.

To avoid financial penalties, you must drop all courses by the deadlines given in the Course Timetable and Exam Schedule publication.

Non-payment of outstanding fees does not constitute cancellation of registration 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 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. 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.

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, www.reg.sfu.ca/faq

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 Intercolligate 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 Programs

University Entrance Scholarships

Student Recruitment, Office of the Registrar, Maggie Benston Centre, 604.291.4970 Tel. general enquiries, 604.291.4722 Fax, www.reg.sfu.ca

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

The scholarships described below reflect our current program. For complete descriptions and information applicable to students entering in the fall of 2004, please refer to the entrance scholarship brochure and application material, available in late fall 2003.

All scholarship applicants should have high academic standing — a minimum 90% grade average is required. 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 entrance scholarships, except for international awards including International Summit and Stanley Morisse Memorial Scholarships. All scholars must meet certain academic and registration requirements for complete disbursement of funds. Obtain details and applications from Student Recruitment, or www.reg.sfu.ca

For Canadian Secondary and High School Students; Application Required

The final application deadline for September entry is February 28th. Earlier application is encouraged. Scholarship winners who live outside BC will receive a one-time travel allowance of $1000. Winners who live within BC but outside the Lower Mainland will receive a one-time travel allowance of $500.

$34,000 Simon Fraser Scholarships
Recognize high academic achievement. Distributed over two semesters. Students may qualify for the Open Scholarship, following the end of the scholarship disbursements. Contact Student Recruitment.

$24,000 Gordon M. Shrum National Scholarships
Recognizes high academic standing and commitment to school and community service, volunteer activity, arts, or athletics. Distributed over eight semesters. The following consists of $3,500 distributed over two semesters. Students may qualify for the Open Scholarship, following the end of the scholarship disbursements. Contact Student Recruitment.

$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 achievement and potential in a particular area of study. Distributed over four semesters. Students may qualify for the Open Scholarship, following the end of the scholarship disbursements.

For Canadian Secondary and High School Students; No Application Required

No applications are required for the following scholarships; all entering Canadian secondary school and high school students are considered automatically. Each scholarship consists of $3,500 distributed over two semesters. Students may qualify for the Open Scholarship, following the end of the scholarship disbursements. For more information, contact Student Recruitment.

$3,500 Jack Diamond National Entrance Scholarships
Recognize academic and athletic excellence. Potential candidates for the Jack Diamond Scholarships are identified by Simon Fraser University, and nominated by our director of Recreation and Athletics.

$3,500 Kenneth Strand National Scholarships
Recognize academic excellence.

$3,500 Summit Scholarships
Recognize academic excellence and potential.

$3,500 Tadeusz Specht Memorial Scholarships in Applied Sciences
Recognize academic merit. Awarded to students entering the Faculty of Applied Sciences and pursuing studies in the fields of kinesiology or other health-related sciences.

$3,500 Tadeusz Specht Memorial Scholarships in Science
Recognize academic merit. Awarded to students entering the Faculty of Science and pursuing studies in biology, microbiology, chemistry, biochemistry, or other health-related sciences.

For BC college students; Application Required

$10,000 Honourable William M. Hamilton Scholarship
Recognize high academic achievement and leadership potential. Distributed over four semesters. Students may qualify for the Open Scholarship, following the end of the scholarship disbursements.

The $3,500 Ken Caple Scholarships
Recognize outstanding academic performance. Distributed over two semesters. Students may qualify for the Open Scholarship, following the end of the scholarship disbursements.

$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. Students may qualify for the Open Scholarship, following the end of the scholarship disbursements.

BC College scholarship application deadlines: April 30 for admission to the fall semester, September 30 for the spring semester, and January 31 for the summer semester.

For International Scholarships; Application Required

$4,500 International Summit
Recognizes academic excellence and potential.

Gordon M. Shrum International Entrance Scholarship
Criteria: Academic excellence; international baccalaureate from a United World College; school involvement; community service; leadership, volunteer activity; participation in the arts or athletics
Minimum average: IB score 38/42
Value: $40,000 plus tuition
Number: six

Other Entrance Scholarships

For additional information on the following scholarships, please contact Paul Godman, Student Recruitment, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A 1S6, Canada. 604.291.4970 Tel: paul_godman@sfu.ca

$16,000 Lloyd Carr-Harris Foundation Entrance Scholarship in Business Administration
This award is offered to an entering high school student of the highest academic standing who also obtains direct admission into the Faculty of Business Administration. The award is distributed over eight semesters.

Columbia College Entrance Scholarship
This award provides financial support for an alumni of Columbia College who will be attending Simon Fraser University. The award may be disbursed over one or two semesters, pending interest income from the endowment fund. Applicants must have graduated from Columbia College and be registered at Simon Fraser and show distinct promise of achievement at the undergraduate level. Applicants must also provide a letter of application and resume summarizing all awards, medals and prizes, leadership initiatives, and service as well as two letters of reference and certified copy of school transcript. Submit all documentation to Financial Assistance at Simon Fraser University by May 30th.

Dr. Gordon L. Diewert Memorial Entrance Scholarship
A scholarship will be awarded in the fall semester to a graduating student from New Westminster Senior Secondary School, who is planning to pursue a major in kinesiology at Simon Fraser University. Applicants must have a record of community service, involvement in athletics and a high academic standing. The successful applicant will be recommended by the scholarship and bursary committee of New Westminster Senior Secondary School.

Mona F. East Memorial Entrance Scholarship
This fund provides a scholarship annually for the student who is graduating from Similkameen Secondary School with the highest standing and who will be attending Simon Fraser University. The amount of the award will vary, depending upon the accrued interest of the fund.

Stanley Morisse Memorial Scholarship
The Stanley Morisse Memorial Scholarship is awarded to a student transferring from the University of Cyprus or a Cypriot secondary school. The amount of the award is determined by the amount of interest earned on the endowment.

Phi Theta Kappa International $3,500 Summit Scholarships
Up to three entrance scholarships valued at $1,750 in each of the three admission semesters (fall, spring, and summer) for Phi Theta Kappa members with a minimum 3.75 GPA. Students who maintain a minimum 3.75 GPA may then qualify for the PTK Scholarship valued at the domestic tuition rate (currently $77 per credit hour based on registration in the next semester). The student also receives a $500 travel grant in the first semester of registration. A minimum of 30 credit hours required. No citizenship restrictions. Part-time students and students with a previous bachelor’s degree are not eligible. All figures quoted in Canadian dollars.

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 fund. 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 presentation at a meeting of the Rotary Club of Vancouver Sunrise.

Entrance Awards for Secondary School Students
Lohn Foundation Entrance Award
Program Code: UEOA-057
Value: $5000
Awarded: Fall

The award is offered based on financial need to entering high school students with a minimum 80% admission average and demonstrated commitment to volunteer activities. To be considered eligible, candidates should demonstrate their involvement in unpaid volunteer activities by providing their resume and cover letter describing their volunteerism, the length of service and time-commitment dedicated to such interests and including a letter of reference from a supervisor of the candidate’s volunteer work.

Scholarships for Continuing Students
Regulations
The following regulations govern all university, private and endowed scholarships for continuing students over which the University has jurisdiction. Many are made possible by generous donations.

• A minimum 3.50 CGPA is required to be eligible for a scholarship.
• The student must be registered in a minimum of nine credit hours of normally graded courses in the semester of eligibility, unless otherwise stipulated. Challenge, audit and credit free courses are not considered. Students who register in fewer than nine credit hours or subsequently drop below nine hours may have their scholarships cancelled.
• The student must have completed at least nine credit hours of normal graded courses at the University to be considered for most private and endowed scholarships.
• A student holding an ongoing SFU 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 University Account. Outstanding University debts will be deducted from the scholarship funds before a cheque for the credit balance is issued.
• The student must apply on the Simon Fraser University Private Scholarship 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, scholarships are tenable only at Simon Fraser University.
• Candidates are permitted to hold concurrently more than one academic award only with the permission of Financial Assistance.
• Scholarships are tenable for the semester indicated and will not normally be deferred. Students who do not register in the semester for which the scholarship is granted forfeit the award. To be considered for future private or endowed scholarships, students must reapply.

Open Undergraduate Scholarship Program
The Undergraduate Open Scholarship recognizes 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 and 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:
• successfully completed at least 24 SFU credits
• 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. (The minimum CGPA requirement for eligibility has been set at 3.70 in recent semesters.)
• 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 fall 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. International undergraduate students are eligible on the same basis as other students.

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.

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.

In fiscal 2002/03, the scholarship was paid at a rate of $85 per credit hour for normally graded courses in the semester. It is anticipated that the rate will be at least $85 per credit hour for fiscal 2003/04.

Scholarships for All Students

Hy Asienstat Scholarship
Program code: UEOA-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: UPSSO-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 Administration, 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: UEOA-253
Value: $500
Awarded: Fall, Spring, Summer

Terms of reference: Undergraduate students who meet the minimum scholarship regulations.

Japanese-Canadian Centennial Scholarship
Program code: UPSSO-255
Value: $750
Awarded: Fall, Spring

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.

Raytheon Canada Limited Scholarship for Native Students
Program code: UPSSO-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: UEOA-254
Value: $850
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 Pumps Inc. Undergraduate Scholarship
Program code: UPSSO-286
Value: $1000
Awarded: Spring

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.

Terasen Pipelines (Trans Mountain) Inc. Scholarship
Program code: UPSSO-248
Value: $1000
Awarded: Spring

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: UESO-526
Value: $1000
Awarded: Spring
Terms of reference: Awarded to an undergraduate student in any faculty based on scholastic merit.

Vancouver Korean Canadian Scholarship Foundation Scholarship
Program code: UPSO-294
Value: $1000
Awarded: Summer
Terms of reference: Granted to an undergraduate student in any faculty based on academic excellence.

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: $575
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 Sciences, 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: $650
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.

Elma Krbavac Undergraduate Scholarship in Computing Science
Program code: UESO-322
Value: $500
Awarded: Fall
Terms of reference: To an undergraduate student in Computing Science based on high academic standing and demonstrated volunteer involvement. Candidates should demonstrate their involvement in volunteer activities by providing such details in a resume and cover letter with their application.

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. Applications should be submitted to the Director, School of Communication by January 2 (Spring Award) or by September 1 (Fall Award).

Payer World Scholarship in Communication
Program code: UPSO-301
Value: $1000
Awarded: Spring
Terms of reference: The scholarship will be awarded based on academic merit in the Spring semester to a student in any year with a declared Communication major.

Basil Peters/High Tech Exchange Group Scholarship
Program code: UESO-239
Value: $500
Awarded: Spring
Terms of reference: The scholarship is given, based on academic merit, to upper level students in engineering science program studying in the areas of high frequency electronics. The scholarships will be made by the senate undergraduate awards adjudication committee on the recommendation of the School of Engineering Science.

Ravinder Purewal Memorial Scholarship in Computing Science
Program code: UPSO-291
Value: $500
Awarded: Summer
Terms of reference: Awarded annually to a second, third or fourth year student in the School of Computing Science.

Raytheon Canada Limited 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
Program code: UESO-242
Value: $200
Awarded: Fall
Terms of reference: A Computing Science major, who has completed 60 credit hours at Simon Fraser. 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.

Scotiabank Student Scholar in the Faculty of Applied Sciences Award
Program code: UESO-311
Value: $1500
Awarded: Summer
Terms of reference: Award will be granted to a Faculty of Applied Sciences student with at least 90 credit hours who exemplifies the aspects of a well-rounded student scholar; academic excellence and community involvement. Academic excellence is based on academic merit as determined by cumulative grade point average (cgpas). Community involvement may be service to the university community or the community at large.

Silent Witness Scholarship in Computing Science
Program code: UPSO-295
Value: $1500
Awarded: Summer
Terms of reference: To a fourth year student in Computing Science based on academic excellence.

Standard Broadcasting Corporation Limited Scholarship
Program code: UESO-325
Value: $1000
Awarded: Spring
Terms of reference: The scholarship will be offered, based on academic performance, to full-time students in the Information Technology and Interactive Arts programs at the SFU Surrey Campus.

TransCanada PipeLines Limited Scholarship in Communication
Program code: UPSO-298
Value: $2500
Awarded: Fall
Terms of reference: To a full-time undergraduate student who is entering their graduating year of study in the School of Communication on the basis of academic achievement. To be considered eligible, candidates should demonstrate their commitment to their community through involvement in volunteer activities by providing documentation of such activities and a covering letter.

Paul and Helen Trussell Science Scholarship Fund
Program code: N/A
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 Master’s 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. Apply to Science Council of British Columbia.

www.scbc.org/programs/scholarship_trussell.html
University Women's Club of Vancouver Women in Science Scholarship
Program code: UESO-260
Value: $1175
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.

Scholarships for Arts Students
Father Michael Bach Memorial Scholarship
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: $1150
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 Simon Fraser University course work, and must also include a resumé 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: $1250
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 Criminology. 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: $550
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. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the director, School for 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.

Hadasass-WIZO Scholarship in Women's Studies
Program code: UPSO-292
Value: $200
Awarded: Summer
Terms of reference: One scholarship of $200 based on academic merit will be awarded to a full-time student in the Department of Women's Studies.

Dr. Alfredo E. Hurtado Memorial Scholarship
Program code: UPSO-274
Value: $850
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 awards 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: $275
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: $1000
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.

Liberal and Business Studies Program Scholarship
Program code: UPSO-297
Value: $1500
Awarded: Spring
Terms of reference: Granted on the basis of academic performance, to a student whose tuition fees are not being subsidized by an employer. Candidate will be nominated by the Academic Director of the Liberal and Business Studies Program consultation with the Liberal and Business Studies Academic Steering Committee.

Jerry and Belle Lundie Memorial Scholarship
Program code: UPSO-231
Value: $500
Awarded: Spring
Terms of reference: Available to 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. 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: $1000
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 in Gerontology
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.

Scotibank Student Scholar in the Faculty of Arts Award
Program code: UESO-312
Value: $1750
Awarded: Summer
Terms of reference: Award will be granted to a Faculty of Arts student with at least 90 credit hours who exemplifies the aspects of a well-rounded student scholar; academic excellence and community involvement. Academic excellence is based on academic merit as determined by cumulative grade point average (cgp). Community involvement may be service to the university community or the community at large.

Mr. and Mrs. Erwin Sommer Scholarship in Geography
Program code: UESO-308
Value: $700
Awarded: Summer
Terms of reference: A student in the Faculty of Arts with at least 90 credit hours who exemplifies the aspects of a well-rounded student scholar; academic excellence and community involvement. Academic excellence is based on academic merit as determined by cumulative grade point average (cgp). Community involvement may be service to the university community or the community at large.
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
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

Accenture Scholarship in Business Administration
Program code: UESO-323
Value: $850
Awarded: Spring
Terms of reference: To a full-time undergraduate student who is in their third year of study in the Faculty of Business Administration. To be considered eligible, candidates should have completed one 300 level Management Information Systems course, demonstrate their involvement in extracurricular or volunteer activities and interest in information technology by providing their resume and cover letter specific to these interests, and include a letter of recommendation from a Management Information Systems or Computing Science faculty member with their application.

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 Foundation Scholarship in Business Administration
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: UESO-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.

Faculty of Business Administration Alumni Scholarships
Program code: UESO-316
Value: $500
Awarded: Summer
Terms of reference: Scholarships will be granted on the basis of academic performance to students in the Faculty of Business Administration.

Certified Management Accountants Society of BC – William C.C. Easton Scholarship
Program code: UPSO-244
Value: $1500
Awarded: Spring
Terms of reference: To a graduating student attaining the highest mark 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: $550
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: $550
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: $1125
Awarded: Fall, Spring
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.

Great-West Life Scholarship in Business Administration
Program code: UESO-324
Value: $850
Awarded: Fall
Terms of reference: The award will be made to a full-time undergraduate student who is in their fourth year of study in the Faculty of Business Administration on the basis of academic performance and demonstrated volunteer involvement. To be considered eligible, candidates should demonstrate their involvement in volunteer activities by providing their resume and cover letter specific to these interests.

Honourable William M. Hamilton Memorial Scholarship
Program code: UESO-305
Value: $2000
Awarded: Fall, Spring, Summer
Terms of reference: The scholarship is based on academic merit and will be awarded to a student entering the Faculty of Business Administration at SFU with at least 30 credit hours.

Bruce Howe Memorial Scholarship in International Business
Program code: UESO-310
Value: $550
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 Business Administration Co-Op Education Scholarship
Program code: UPBO-562
Value: $2000
Awarded: Spring
Terms of reference: To a full-time undergraduate student in the Faculty of Business Administration Co-operative Education Program (CA stream). Candidates should have completed at least one practicum work semester after being accepted into the Co-operative Education program before eligibility is determined. The scholarship will be granted on the basis of academic performance, with consideration given to improved academic performance, and reports of practicum work performance. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of candidates by the Co-ordinator, Business Administration Co-operative Education Accounting Program.

ICABC Desmond O’Brien Memorial Scholarship
Program code: UPSO-227
Value: $2000
Awarded: Spring
Terms of reference: To a full-time undergraduate student in the Faculty of Business Administration. The student will have completed 75 to 105 semester credit hours inclusive, including the semester of application, and must have at least 9 hours of accounting courses. The scholarship will be granted on the basis of academic performance.

ISACA Vancouver Chapter Scholarship
Program code: UESO-300
Value: $500
Awarded: Summer
Terms of reference: The ISACA scholarship will be awarded to the top student of the year in BUS 426, an auditing course. The award will be made by the Senate Undergraduate Awards Adjudication Committee.
Terms of reference: Granted, based on academic merit.

**Maria Kuchar Accounting Scholarship**
Program code: UESO-263
Value: $3000
Awarded: Fall

Terms of reference: Maria Kuchar Accounting Scholarships of approximately $3000 awarded in two disbursements, will be awarded in the fall semester to 3rd or 4th year undergraduate student in the Faculty of Business Administration majoring in Accounting. When possible, preference will be given to a female student.

**Robert H. Lee Scholarship in Business Administration**
Program code: UESO-271
Value: $1300
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: 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 Jerry and Belle Lundie who served Simon Fraser University on its Board of Governors.

**Mr. Sub Scholarship in Business Administration**
Program code: UPSO-296
Value: $500
Awarded: Summer
Terms of reference: To a full-time student in the Faculty of Business Administration majoring in Business Administration with a Finance concentration. This scholarship is based on academic merit.

**Robert Rogow Scholarship**
Program code: UESO-527
Value: $1700
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.

**Scotibank Student Scholar in the Faculty of Business Administration Award**
Program code: UESO-313
Value: $1750
Awarded: Summer
Terms of reference: Award will be granted to a Faculty of Business Administration student with at least 90 credit hours who exemplifies the aspects of a well-rounded student scholar; academic excellence and community involvement. Academic excellence is based on academic merit as determined by cumulative grade point average (CGPA). Community involvement may be service to the university community or the community at large.

**Shell Canada Limited Scholarship in Business Administration**
Program code: UESO-264
Value: $1100
Awarded: Fall
Terms of reference: A full-time undergraduate student enrolled in the co-op program of the Faculty of Business Administration.

**Sunbritte Business Association Scholarship in Business Administration**
Program code: UESO-525
Value: $650
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.

**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.

**Westminster Savings Barry Butler Memorial Scholarship**
Program code: UPSO-299
Value: $2500
Awarded: Fall
Terms of reference: The scholarship will be awarded in the fall semester to an outstanding third or fourth year undergraduate student in the Faculty of Business Administration on the basis of academic performance.

**Grant Wilson Memorial Scholarship**
Program code: UESO-288
Value: $2750
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 Wintrip Memorial Endowment Scholarship**
Program code: UESO-251
Value: $175
Awarded: Spring
Terms of reference: An endowment fund has been established in memory of Mrs. Lorraine Wintrip, 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: $1500
Awarded: Fall, Spring, Summer
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: $600
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 and Gary Chapman Memorial Scholarship in Education**
Program code: UESO-518
Value: $2250
Awarded: Summer
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: Two awards will be made to the most promising students based on academic standing prior to entry into the Professional Development Program (PDP), although teaching performance may be considered. One scholarship will be awarded to a student who enters the PDP in the fall semester and one to a student who enters PDP in the spring semester. The awards will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Faculty of Education.

**Ethel Barbara Tuck Undergraduate Scholarship in Education**
Program code: UESO-321
Value: $1500
Awarded: Fall, Spring, Summer
Terms of reference: Granted on the basis of outstanding academic performance to undergraduate upper division students who intend to pursue careers teaching children or youth and wish to develop skills in aiding pupils who have reading difficulties. The application should include a discussion of the student’s interest in teaching remedial reading.

**Scholarships for Science Students**

**R. Bruce Coles Memorial Scholarship**
Program code: UESO-263
Value: $500
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: A student who has demonstrated overall excellence in the Department of Mathematics and Statistics. Nomination required from the Chair of Mathematics. This scholarship has been established by Dr. and Mrs. D.P. Goel in memory of Mrs. Shakuntala Goel.

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.

MacKenzie and Feimann Limited Scholarship
Program code: UESO-270
Value: $700
Awarded: Spring
Terms of reference: A full-time undergraduate student who is registered in second, third, or fourth year of study, majoring in either chemistry or biochemistry in the Faculty of Science. Applicants must demonstrate exceptional ability and not be recommended for an NSERC Summer Research Scholarship.

Ron MacLeod Scholarship in Environmental Science
Program code: UESO-307
Value: $775
Awarded: Spring
Terms of reference: Granted to a third or fourth year student in the Environmental Science Program on the basis of academic performance. The application should include a letter from the student describing his/her commitment to and interest in environmental science.

William and Amelia McMahan Scholarships
Program code: UESO-233
Value: $1150
Awarded: Fall
Terms of reference: Students who are enrolled in full course programs in the Faculty of Science, preferably in the physical sciences. Applicants should have completed at least 30 hours in two of the last three semesters in which they were enrolled.

Faculty of Science Alumni Scholarships
Program code: UESO-320
Value: $500
Awarded: Summer
Terms of reference: Scholarships will be granted on the basis of academic performance to students in the Faculty of Science.

Scotiabank Student Scholar in the Faculty of Science Award
Program code: UESO-315
Value: $1750
Awarded: Summer
Terms of reference: Award will be granted to a Faculty of Science student with at least 90 credit hours who exemplifies the aspects of a well-rounded student scholar; academic excellence and community involvement. Academic excellence is based on academic merit as determined by cumulative grade point average (CGPA). Community involvement may be service to the university community or the community at large.

Mr. and Mrs. Erwin Sommer Scholarship in Geography
Program code: UESO-308
Value: $700
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: $600
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 further 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: N/A
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 Master’s 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. Apply to Science Council of British Columbia.

University Women’s Club of Vancouver Women in Science Scholarship
Program code: UESO-260
Value: $1175
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: UFPSO-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: Spring
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
Bill De Vries Athletic Award
Program code: UEAA-052
Value: $35
Awarded: Fall, Spring, Summer
Terms of reference: Awards will be given to students in good academic standing in any faculty who have demonstrated high standards of leadership and performance as a member of a varsity team. Academic accomplishment may be considered in selection of the recipient.

Howie Larke Scholarship in Sport Information
Program code: UEAA-052
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: Two full time undergraduate student involved in sport information. The scholarship will be based on academic merit.

Simon Fraser University Athletic Scholarships
Program code: UUAO-102
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: Two scholarships valued at $1,000 each are available to students who demonstrate outstanding and sustained athletic performance on an intercollegiate team. Student must be registered in nine credit hours and have a minimum CGPA of 3.5 based on completion of 60 hours at Simon Fraser University. Consideration will be given to exemplary leadership and contributions to the enhancement of the athletic specialty in which the student is involved.

Simon Fraser University Track and Field Alumni Scholarship
Program code: UEAA-042
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: Based on academic merit and will be awarded to a student who is a member of the SFU Track and Field team.

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.

- Bursaries are a supplemental source of funding for students in high financial need. Students are expected to find their primary funding through other

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sources such as government student loan or grant programs, part-time work, savings, family, etc.

• Both undergraduate and graduate students are eligible unless otherwise indicated.

• Students must have a demonstrated financial need.

• Students must have a minimum CGPA of 2.00 to be eligible for bursaries.

• Undergraduate students must be registered in a minimum of nine semester hours of normal graded courses in the semester of application, unless otherwise indicated. Challenge, audit, and credit free courses will not be 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. Students who do not register or subsequently change to on-leave 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 Association of SFU Annual Bursary

Program code: UPBO-683
Value: $500
Awarded: Fall
Terms of reference: The Alumni Association of SFU bursary provides an annual bursary of $500 in the Fall to five students, one in each of the five faculties (Applied Sciences, Arts, Business Administration, Education and Science) and a $500 bursary to a student athlete. The bursary is based on financial need.

Alumni Scholarship and Bursary Endowment Fund

Program code: UEOB-584
Value: $500
Awarded: Fall
Terms of reference: The Alumni Scholarship and Bursary Endowment Fund has been established by the Alumni Association of SFU to provide financial aid to undergraduate students. The bursary is based on demonstrated financial need and satisfactory academic performance.

David Armstrong Memorial Bursary

Program code: UEOB-699
Value: $1200
Awarded: Fall
Terms of reference: An undergraduate student in the co-op program. The bursary is based on demonstrated financial need and satisfactory academic performance.

Laura (Pat) Band and Richard W. Band Bursary for First Nations Students

Program code: UEOB-540
Value: $400
Awarded: Fall, Spring, Summer
Terms of reference: The bursary is granted in any semester based on financial need and community service to a student who is a member of the Squamish, Fort Langley, or Cheam First Nations and who have demonstrated volunteer involvement in service to the university or the community at large.

The bursary may be granted to graduate or undergraduate students in all disciplines and fields of study. The successful student will have completed a minimum of 30 credits and will have achieved a minimum cumulative GPA of 2.33. The application should include a discussion of the student’s volunteer involvement in community activities and confirmation of the student’s status in the Squamish, Fort Langley, or Cheam First Nations.

Bel-Par Industries Limited Bursary

Program code: UEOB-684
Value: $700
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 former employees of Bel-Par Industries or who are children or legal dependants of employees.

Birk FAMILY Foundation Bursary

Program code: UPBO-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.

Louis Philippe and L. Pierre Bonneau Memorial Bursary

Program code: UEOB-682
Value: $500
Awarded: Spring
Terms of reference: Bursaries will be awarded annually in the spring semester to undergraduate students in any faculty who are in satisfactory academic standing and demonstrate financial need.

The Honourable Angelo E. Branca and Mrs. Branca Bursary

Program code: UEOB-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 are full-time registered students 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: Confederanza Italo-Canadian and friends, Mr. J. Diamond, Mr. J. Segal, Mr. Ben Wosk.

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

Program code: UEOB-587
Value: $550
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: UEOB-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: UEOB-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: UEOB-713
Value: $750
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: UEOB-732
Value: $2000
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance.

Chancellor’s Undergraduate Bursary

Program code: UEOB-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: UEOB-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.

Confraternization Italo Canadese Bursary

Program code: UEOB-591
Value: $400
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 Bursary

Program code: UEOB-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: UOBO-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.

De Jong/MacDonald Bursary
Program code: UEOB-670
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.

Father Della-Torre Bursary
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.

Gordon R. Diamond Bursary
Program code: UEBO-535
Value: $1000
Awarded: Summer
Terms of reference: To undergraduate students in any faculty on the basis of demonstrated financial need and good academic standing.

Dr. Jack Diamond Bursary
Program code: UEBO-815
Value: $1000
Awarded: Summer
Terms of reference: To provide a bursary to a student in any faculty with satisfactory academic performance and demonstrated financial need.

Enchant @ SFU Bursary
Program code: UEBO-603
Value: $500
Awarded: Summer
Terms of reference: Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance for undergraduate students in any faculty.

Erm Fiorillo – Hal Davis CKNW Orphan’s Fund Bursary
Program code: UEBO-851
Value: $3000
Awarded: Fall
Terms of reference: An entering student from a secondary school in the Vancouver School District. In the 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

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-840
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.

Dr. Ben Gillison Bursary
Program code: UEBO-640
Value: $500
Awarded: Fall
Terms of reference: Second, third or fourth year students in any undergraduate program. In recognition of Dr. Gillison's work, evidence of community service will be considered in making the award.

Hamber Foundation Bursary
Program code: UPOB-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: $325
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: $1000
Awarded: Fall, Spring
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.

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: $1100
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: UEBO-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) Bursary
Program code: UEBO-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
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
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: $450
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: UEOB-666  
Value: $1500  
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**  
Program code: UEOB-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: UEOB-735  
Value: $400  
Awarded: Spring  
Terms of reference: 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.

**Nikitman/Chan Bursary**  
Program code: UEOB-737  
Value: $1000  
Awarded: Fall, Spring, Summer  
Terms of reference: 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 of discipline. The recipient will be a single parent with preference given to entering students.

**Evelyn J. Oliver Bursary**  
Program code: UEOB-682  
Value: $500  
Awarded: Fall, Spring  
Terms of reference: To undergraduate students who are single parents. Bursaries will be granted to students holding satisfactory academic records and providing evidence of financial need in the continuing pursuit of their undergraduate studies.

**Opsimath Club Bursary**  
Program code: UEOB-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 Opsimath Club is an organization of senior (60 years) students.

**Stephen Palmu Memorial Bursary**  
Program code: UEOB-566  
Value: $100  
Awarded: Fall, Spring  
Terms of reference: The award will be given with initial preference to Native Indian students from anywhere in the Province of BC, who are pursuing courses of study leading to a Bachelor's degree in any department at Simon Fraser University. The award will be made primarily on the basis of need, but in the case of several applicants having equal need, scholastic achievement shall be the deciding factor. Bursary established by Mrs. Mamie E. Palmu.

**Margaret Anne Paterson Bursary**  
Program code: UEOB-527  
Value: $700  
Awarded: Summer  
Terms of reference: The bursary will be given annually in any semester to an undergraduate student in any faculty. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance. The recipient should be attending university as a mature student at least 5 years after leaving secondary school.

**Vancouver Foundation – George Pensom Bursary**  
Program code: UPBO-579  
Value: $1000  
Awarded: Fall  
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”. Permanent Bursary Endowments provide annual bursaries in perpetuity from the earned income, and have been established by the following: Belkin Packaging Limited Permanent Endowment Fund

**Gretta Bowmer Memorial**  
Estate of Hans Christiansen
Mark and Phae Collins Fund (Vancouver Foundation)
Ted Cohen
Dr. Jack Diamond
Downs/Archambault
Drop-in Centre Permanent Endowment Bursary
David A. Freeman
Ellen Mary Greenaway
John R. Hecht
Stephen Hinchcliff Memorial
A. Koch (Bella Koch Memorial)
Dr. W. Koerner
I.L. Kostman
Mrs. Katherine Leshgold
Samuel D. Leshgold
Dr. R.A. Palmer
Mr. and Mrs. N.L. Rothstein
M.M. Waterman
In Memory of Mrs. M.M. Waterman
Ben Wosk
Mr. and Mrs. Ben Wosk 40th Wedding Anniversary

**IODE Evelyn Price Memorial Bursary**  
Program code: UEOB-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: UEOB-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: 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: UEOB-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: $2600  
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 Assistance.

**Saskexpo ‘86 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 Ltd Bursary**  
Program code: UEOB-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 Administrative/Union Pension Plan Bursary**  
Program code: UEOB-721  
Value: $1500  
Awarded: Fall  
Terms of reference: Granted to a student in any faculty on the basis of demonstrated financial need and satisfactory academic performance.
Mrs. Rosalie Segal Endowment Fund for Students With Special Needs
Program code: UEBO-604
Value: $500
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’ Co-ordinator.

Stanley Siyevniiper Bursary
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 Siyevniiper.

Simon Fraser Student Society UCB Pub Bursaries
Program code: UPBO-571
Value: $800
Awarded: Spring
Terms of reference: Students with special or emerging financial need with preference to those students who may not otherwise be able to attend Simon Fraser University. Applications are open to part-time, beginning or continuing students as well as international students.

Simon Fraser University 10th Anniversary Endowment Bursary
Program code: UEBO-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 CGPA of 2.00.

Simon Fraser University Bursary Endowment Fund
Program code: UEBO-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.

Simon Fraser University 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.

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 Open Bursaries
Program code: UUBO-500
Value: $500
Awarded: Fall, Spring, Summer
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: UEBO-521
Value: $450
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: UEBO-669
Value: $1000
Awarded: Fall, Spring
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 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
Program code: UEBO-656
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 Smee Bursary
Program code: UEBO-606
Value: $800
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: UPBO-572
Value: $525
Awarded: Fall, Spring
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: UEBO-738
Value: $500
Awarded: Fall, Spring, 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: UEBO-690
Value: $800
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.

TCG International Undergraduate Bursaries
Program code: UEBO-644
Value: $1500
Awarded: Fall
Terms of reference: The bursaries will be granted to undergraduate students in any faculty 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: UEBO-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: UUBO-550
Value: variable
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.

University Women’s Club of Coquitlam Bursary
Program code: UPBO-573
Value: $750
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.

University Women’s Club of Vancouver Bursary
Program code: UPBO-575
Value: $985
Awarded: Spring
Terms of reference: A female student in any faculty enrolled in any program of study leading to a degree. The basis of the award is demonstration of financial need and satisfactory academic standing.

Roger Ward Award for Students With a Learning Disability
Program code: UEBO-536
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: To a full time undergraduate student(s) with a learning disability who is registered for services at the Centre for Students with Disabilities and is experiencing financial need. The award will be granted on the basis of demonstrated financial need and satisfactory academic performance.

Western Businesswomen’s Association Bursary
Program code: UEBO-705
Value: $800
Terms of reference: This fund has been established to assist undergraduate or graduate female students who 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.
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.

Morris J. and Dena Wosk Bursary
Program code: UEBO-712
Value: $1000
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: UEBO-710
Value: $1000
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: UEBO-516
Value: $1000
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance.

Canadian Federation of University Women – North Vancouver Bursary
Program code: UPBO-574
Value: $1000
Awarded: Fall, Spring
Terms of reference: Third or fourth year students majoring in Science or Applied Sciences. Students must be Canadian citizens and graduates of Burnaby Senior Secondary School. Financial need and satisfactory academic standing is required.

Hugh Clark Memorial Bursary in Engineering Science
Program code: UEBO-694
Value: $600
Awarded: Fall
Terms of reference: To an 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).

Delcan Corporation Bursaries
Program code: UPBO-667
Value: $1000
Awarded: Spring
Terms of reference: Undergraduate and Graduate students registered full time 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.

Engineers’ Wives’ Association Bursary
Program code: UEBO-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.

Ancie and Arthur Fouks Bursary in Publishing Studies
Program code: UEBO-526
Value: $1000
Awarded: Fall
Terms of reference: One or more bursaries will be awarded annually in the Fall semester to a student enrolled in a degree program in Publishing Studies. Awards may also be given to graduate students undertaking a Master Program in Publishing Studies. Student must have a minimum of 85 credit hours. The successful applicant should have financial need, a satisfactory academic standing and a demonstrable intent to pursue a career in the publishing industry. Applicants must submit to the Publishing Studies Program Committee a resume, including education and work history, and at least one short sample of professional, academic or business writing or portfolio piece to be considered for the award.

JimMar Bursary in Engineering Science
Program code: UEBO-538
Value: $500
Awarded: Summer
Terms of reference: Bursaries will be granted to undergraduate students in the Faculty of Applied Sciences majoring in Engineering. The bursary is granted in any semester based on demonstrated financial need and satisfactory academic performance.

Ralph Kerr Memorial Bursary
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.

Tom Mallinson Bursary in Communication Studies
Program code: UEBO-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: UEBO-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: 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.

Kazuya Shinayashiki Memorial Bursary in Computing Science
Program code: UEBO-515
Value: $1000
Awarded: Summer
Terms of reference: An undergraduate student in computing science with financial need.

Sierra Systems Bursary in Computing Science
Program code: UEBO-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: UEBO-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: 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.

Vancouver Foundation Health Science Bursaries
Program code: UPBO-578
Value: $500
Awarded: Fall, Spring
Terms of reference: The bursary assistance program is limited to full-time students studying in Health Sciences. The funds are directed to students who have completed at least two years of post-secondary education and can demonstrate financial need. Areas of study include any of the following: Pre-Med program, Kinesiology, Biomedical Engineering, and Gerontology.
Bursaries for Arts Students

B.C. Shopping Centre Association Bursary
Program code: UEBO-684
Value: $1000
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to an undergraduate student of the Certificate in Urban Studies.

BOMA Undergraduate Bursary in Urban Studies
Program code: UEBO-715
Value: $1000
Awarded: Fall, 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.

IOE Burquitlam Chapter Bursary
Program code: UEBO-561
Value: $275
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: $900
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: $550
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
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: Fall, Spring, Summer
Terms of reference: Granted to undergraduate students majoring in English. The bursary is granted in any semester based on demonstrated financial need and satisfactory academic performance.

Laurence Mervyn Cox Bursary in English
Program code: UEOB-541
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: Based on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students majoring in English. Preference will be given to students accepted to the honors program in the Department of English and to Canadian citizens or permanent residents of Canada.

Charles Drugan & Rose Anne Doonan Bursary in Labour History
Program code: UEOB-542
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: The bursary will be granted to a graduate or undergraduate student pursuing research in Labour History in the Faculty of Arts. Bursaries will be based on the basis of demonstrated financial need and satisfactory academic performance.

English Faculty Honours Bursary
Program code: UEOB-730
Value: $500
Awarded: Summer
Terms of reference: On the basis of demonstrated financial need and satisfactory academic performance, to an undergraduate student in the English Honours 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-689
Value: $1200
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-850
Value: $500
Awarded: Fall
Terms of reference: To an undergraduate student in Criminology, on the basis of demonstrated financial need and satisfactory academic performance. The recipient may be a Canadian citizen or permanent resident of Canada.

IATSE-Motion Picture Technicians Union Local 891 Bursary
Program code: UPBO-694
Value: $2000
Awarded: Summer
Terms of reference: Granted to full-time undergraduate students in the School for Contemporary Arts majoring in film or theatre. The bursary is granted in any semester based on demonstrated need and satisfactory academic performance.

ICBC/Brian Jones Memorial Bursary in Criminology
Program code: UEOB-524
Value: $750
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students in the School of Criminology.

Valerie Ann Kilby Memorial Bursary
Program code: UEOB-685
Value: $700
Awarded: Fall
Terms of reference: An upper level undergraduate student majoring in Psychology. Preference will be given to a student who graduated from Centennial Secondary School in Coquitlam. The bursary will also be based on financial need and satisfactory academic standing in the continuing pursuit of studies.

Keith Gilbert Loughlin Bursary in Gerontology
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.

MATCH International Centre Bursaries in Honour of Rosemary Brown
Program code: UEOB-607
Value: $625
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to full-time undergraduate or graduate students in the Department of Women’s Studies.

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, B.C., 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
Program code: UEOB-601
Value: $400
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, B.C., 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.
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 on 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: UEBO-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: UEBO-714
Value: $500
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: UEBO-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.

Margaret A. Mitchell Bursary in Women’s Studies
Program code: UEBO-688
Value: $2500
Awarded: Fall
Terms of reference: An undergraduate female student in second, third or fourth year who is majoring in Women’s Studies. 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.

Kelly O’Hagan Memorial Bursary
Program code: UEBO-683
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: An undergraduate student enrolled in the Latin American Studies Field School. One or more bursaries will be awarded biennially on the basis of financial need and satisfactory academic standing. Departmental nomination/recommendation is required.

Dr. Margaret Ormsby Bursary in History
Program code: UEBO-719
Value: $850
Awarded: Fall
Terms of reference: Granted to undergraduate students in the Department of History based on demonstrated financial need and satisfactory academic performance.

Rosslyn and Mary Penney Bursary in the Faculty of Arts
Program code: UEBO-700
Value: $500
Awarded: Spring
Terms of reference: Awarded to an undergraduate student in the Faculty of Arts in their second, third or fourth year of study. The bursary will be granted to a student who is physically challenged. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance.

Helen Pitt Bursary in Visual Arts
Program code: UPBO-567
Value: $500
Awarded: Fall
Terms of reference: The Helen Pitt Bursary in Visual Arts will be awarded based on satisfactory academic standing and demonstrated financial need to second, third or fourth year full-time undergraduate students with an approved major or extended minor in visual arts. Please note that students receiving the secondary scholarship are not eligible to receive a bursary from the funds as well.

George and Muriel Rogers Bursary in the Faculty of Arts
Program code: UEBO-534
Value: $950
Awarded: Summer
Terms of reference: To an entering or returning undergraduate student in the Faculty of Arts. Preference will be given to a female student who is continuing her education after an absence of several years. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance.

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.

Donald H.M. Ross Faculty of Arts Bursary
Program code: UEBO-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: UEBO-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.

Retail Loss Prevention Association of British Columbia/Deborah Singer Memorial Bursary
Program code: UPBO-605
Value: $1000
Awarded: Summer
Terms of reference: To an undergraduate student in Criminology who is in satisfactory academic standing and demonstrates financial need.

3M Canada Company Bursary in Business Administration
Program code: UPBO-601
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: $550
Awarded: Fall
Terms of reference: An undergraduate student in the Faculty of Business Administration with a concentration in Finance. The bursary will be granted on the basis of demonstrated financial need and a satisfactory academic record.

Keith and Betty Beedie Foundation Bursary in Business Administration
Program code: UEBO-698
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 bursary will be granted on the basis of satisfactory academic performance.

Faculty of Business Administration Alumni Bursaries
Program code: UEBO-531
Value: $500
Awarded: Summer
Terms of reference: Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Faculty of Business Administration.

Chien’s Cultural Foundation Bursary
Program code: UEBO-707
Value: $550
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.

Connor, Clark & Lunn Bursary
Program code: UPBO-684
Value: $1000
Awarded: Fall
Terms of reference: To undergraduate student in the Faculty of Business Administration with a concentration in International Business who is in good academic standing and experiencing financial need.

Maurice S. Dodge Bursary
Program code: UEBO-720
Value: $1250
Awarded: Fall
Terms of reference: Given to a third or fourth year student majoring in Business Administration with an Accounting or Finance concentration. The bursary will be granted to a student in good academic standing who is in financial need.

A. John Ellis Bursary in Business Administration
Program code: UEBO-711
Value: $1000
Awarded: Spring Summer
Terms of reference: Undergraduate students in the Faculty of Business Administration. The bursary will be awarded based on financial need and a satisfactory academic standing.
Executive Women International Bursary  
Program code: UEBO-684  
Value: $550  
Awarded: Fall  
Terms of reference: Undergraduate female student enrolled in the Faculty of Business Administration in the second, third or fourth year of studies and who has a satisfactory academic record and financial need.

Aird Dundas Flavelle Memorial Bursary  
Program code: UEBO-659  
Value: $1200  
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.

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.

Ivanhoe Cambridge 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 for students majoring in Economics, or the Sciences, including Mathematics and Statistics.

Robert Rogow Bursary in Business Administration  
Program code: UEBO-727  
Value: $1000  
Awarded: Spring  
Terms of reference: Granted to undergraduate students in the Faculty of Business Administration based on demonstrated financial need and satisfactory academic performance.

J. Rose Memorial Bursary  
Program code: UPBO-683  
Value: $1500  
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: $500  
Awarded: Summer  
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance.

Bruce and Lis Welch Bursary in Business Administration  
Program code: UEBO-717  
Value: $1200  
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.

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 Beaty Memorial Bursary in Education  
Program code: UEBO-519  
Value: $700  
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  
Program code: UEBO-985  
Value: $150  
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 Association Undergraduate Bursary in Education  
Program code: UEBO-703  
Value: $1000  
Awarded: Fall  
Terms of reference: 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 Alumni Bursary  
Program code: UEBO-533  
Value: $500  
Awarded: Summer  
Terms of reference: Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Faculty of Education.

Faculty of Education Special Bursary  
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.

JimMar Bursary in Education  
Program code: UEBO-539  
Value: $500  
Awarded: Summer  
Terms of reference: Bursaries will be granted to undergraduate students in the Faculty of Education majoring in Engineering. The bursary is granted in any semester based on demonstrated financial need and satisfactory academic performance.

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: $750
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-680
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.
VanCity Credit Union (Teacher’s Savings) Bursary
Program code: UPBO-638
Value: $500
Awarded: Fall, Spring
Terms of reference: To a student in any year of the Bachelor of Education, or the Professional Development Program in the Faculty of Education. Applicants must be a member or the son or daughter of a member of the VanCity Credit Union. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance.
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 Dobbs 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: $100
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-658
Value: $750
Awarded: Fall, Spring
Terms of reference: Third or fourth year students majoring in Science or Applied Sciences. 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, Summer
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 programs 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 and Graduate students registered full time 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
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: $675
Awarded: Fall
Terms of reference: A female student who is majoring in Mathematics and who has completed at least two full-time semesters at Simon Fraser University.
Oakley Family Endowed Bursary in Science
Program code: UEBO-736
Value: $450
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.
Faculty of Science Alumni Bursaries
Program code: UEBO-528
Value: $500
Awarded: Summer
Terms of reference: Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Faculty of Science.
SFU Molecular Biology and Biochemistry Student Union Bursary
Program code: UPBO-608
Value: $100
Awarded: Spring
Terms of reference: The bursary will be granted annually in the spring semester to a student with an approved major in MMA. The bursary is based on financial need and satisfactory academic performance.
Irene May Surbery 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 graduate of the Resource Management Program. A departmental recommendation is also required.
Urea Formaldehyde Foam Insulation Association Bursary
Program code: UEBO-607
Value: $250
Awarded: Fall, Spring
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: UPBO-578
Value: $500
Awarded: Fall, Spring
Terms of reference: The bursary assistance program is limited to full-time students studying in Health Sciences. The funds are directed to students who have completed at least two years of post-secondary education and can demonstrate financial need. Areas of study include any of the following: Pre-Med program, Kinesiology, Biomedical Engineering, and Gerontology.
### Bursaries for Student Athletes

**Ed McDougall Memorial/SFU Softball Alumni Bursary**

- **Program code:** UEBO-520
- **Value:** $450
- **Awarded:** Fall, Spring, Summer
- **Terms of reference:** The Ed McDougall Memorial/SFU Softball Alumni Endowment Fund provides annual awards in any semester up to a maximum of $600 per applicant from a portion of the income earned on the endowment. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to students who are members of the SFU Women’s Varsity Softball team. Applications should include confirmation of the students’ membership on the SFU Varsity Softball team.

**Jane Norman Memorial Bursary in Women’s Soccer**

- **Program code:** UEBO-652
- **Value:** $750
- **Awarded:** Fall, Spring
- **Terms of reference:** An undergraduate student involved in the Simon Fraser soccer program. Awards are based on financial need and a satisfactory academic record. A recommendation is required from the Director of Athletics.

### Awards for the University Community

**Awards are given in recognition of distinguished intellectual, cultural, social or athletic contribution to university life. Awards usually consist of monetary remuneration but may also come in the form of a prize or medal. Many of the following awards have been made possible by generous donations.**

### Regulations for Academic and Service Awards

The following regulations govern all prizes, medals or other awards made possible by generous donations.

- **Undergraduate students must have achieved a minimum CGPA of 2.00 during the semester of their graduation.**
- **Graduate students are eligible unless otherwise indicated.**
- **Unless otherwise stated, awards are tenable only at Simon Fraser University for the semester indicated on the notice and may not be deferred.**

### Awards for All Students

**Alumni Association Outstanding Student Leadership Award**

- **Program code:** UPAAO-167
- **Value:** $2000
- **Awarded:** Summer
- **Terms of reference:** Granted to a student in any faculty who is in his/her 3rd or 4th year with a minimum of thirty (30) credit hours completed at SFU. The recipient will have demonstrated a combination of outstanding academic achievement and outstanding performance or leadership in another endeavour at SFU or in the broader community. The achievement may be in athletics or the arts, in service to the University or to the community at large. Nominations, including a letter and resume from the nominee and a supporting letter from an individual who can speak to the achievements of the nominee, should be sent from the chair or director of the nominee’s department or school to the Registrar. The award will be made by the Senate Undergraduate Awards Adjudication Committee. Presentation of the Alumni Association Outstanding Student Leadership Award will take place at the annual Outstanding Alumni Awards Ceremony. Nominations or applications should be forwarded to the Director, Student Academic Resources by April 15th.

**BC Bearing Engineers Limited Award**

- **Program code:** UEAO-538
- **Value:** $250
- **Awarded:** Fall
- **Terms of reference:** Granted to a co-op student in any faculty who is doing his/her work term(s) in Latin America, including Mexico. The Award is intended to offset travel and/or living expenses for the period of time (not exceeding one year) spent in Latin America, or Mexico. If more than one student applies for the award, then the best CGPA will be the deciding factor. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the recommendation of the director, co-operative education.

**B.C. Sugar Achievement Award**

- **Program code:** UEAO-526
- **Value:** $4350
- **Awarded:** Summer
- **Terms of reference:** Granted to a 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 recipient’s field; accomplishment(s) related directly to responsibilities and activities at SFU. Nominations 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-001
- **Value:** $1100
- **Awarded:** Summer
- **Terms of reference:** The Herring Prize will honor 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.

**Alexander Fraser Award in Piping and Drumming**

- **Program code:** UEAO-011
- **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:** N/A
- **Value:** $200
- **Awarded:** Fall
- **Terms of reference:** Simon Fraser University undergraduates, who have completed at least 30 credit hours and who are registered for courses in the current academic year (September-April) must be eligible for the award. Essays should be typed and be no longer than 2500 words. Essays must be submitted to the Director, Institute of Humanities.

**Governor General’s Silver Medals**

- **Program code:** UPAAO-001
- **Awarded:** Summer
- **Terms of reference:** The Governor General’s Silver Medals will be awarded to the students who achieve the highest academic standing upon graduation from a bachelor’s degree program. The two students, from different faculties, with the highest CGPA will be awarded the medals.

**Hong Kong University BC Alumni Award**

- **Program code:** UEAO-048
- **Value:** $850
- **Awarded:** Spring
- **Terms of reference:** A Co-op student in any faculty who is doing his/her work term(s) in Hong Kong. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Hong Kong University BC Alumni Award Committee on the recommendation of the co-operative education program director.
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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, mainly 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:
- have completed a minimum of 30 semester hours at Simon Fraser University by the end of the semester being evaluated
- 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: $500
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. Nominations or applications should be forwarded to the Director, Student Academic Resources by April 15th.

Iain Ormsaig MacKinnon Memorial Award
Program code: UEAO-045
Value: $2125
Awarded: Fall
Terms of reference: The award is granted to an undergraduate student who plays the bagpipe either as a solo musician or as part of any pipe band and has a CGPA of 2.5+. Applications for the award should include a letter of reference from an appropriate individual discussing the applicant’s activities as a solo piper or participation in a pipe band.

Muslim Students’ Association Award
Program code: UPAO-183
Value: $100
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 $600 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 by April 15th. The Prize will be made by the Senate Undergraduate Awards Adjudication Committee.

Dr. M. Sheila O’Connell Prize for Children’s Literature
Program code: UEAO-534
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.

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 cultural and related events. Applications or nominations may be made through Financial Assistance, by April 15th, 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: $1000
Awarded: Summer
Terms of reference: An award of a gold medal and $1000 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: $1500
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 Award
Program code: UEAO-027
Value: $400
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 should be forwarded to the Director, Student Academic Resources by April 15th.

William A. (Bill) Stewart Volunteer Leadership Award
Program code: UEAO-049
Value: $600
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. Nominations or applications should be forwarded to the Director, Student Academic Resources by April 15th.

TIE – Vancouver Award For Entrepreneurship
Program code: UPAO-188
Value: $500
Awarded: Fall
Terms of Reference: Awards will be granted to third or fourth year students in any faculty who have evidenced or achieved some level of entrepreneurial activities. Applicants must include documentation supporting their entrepreneurial endeavors. The award winner will be invited to meet representatives of Tie-Vancouver.

Dr. Abe Unrau Memorial Co-op Prize
Program code: UEAO-339
Value: $325
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 Award
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. A nomination from the Director of Student Recruitment is required.

Roger G. Welch Alumni Prize
Program code: UEAO-172
Value: $825
Awarded: Summer
Terms of reference: An alumnus/alumni of Simon Fraser University pursuing a degree program or a post baccalaureate diploma. The prize will honor or recognize students who have demonstrated leadership, citizenship and dedication in service to the University community. Participation in 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. Nominations or applications should be forwarded to the Director, Student Academic Resources by April 15th.
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Awards for Applied Sciences Students

Mark and Nancy Brooks Computing Science Innovation Award
Program code: UEOA-052
Value: $675
Awarded: Fall
Terms of reference: Granted to a Computing Science student in good academic standing who demonstrates exceptional accomplishment, promise or innovation in the area of computing science outside classroom work. The application should include a description of the interest or innovative ideas that student is considering. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director, School of Computing Science.

Communication Alumni Endowment Award
Program code: UEOA-155
Value: $1000
Awarded: Summer
Terms of reference: A third or fourth year undergraduate student in Communication who submits the best essay in the University community in particular to the school. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director, School of Communication.

Computing Science Graduation Award
Program code: UEOA-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 Award
Program code: UEOA-042
Value: $2000
Awarded: Fall, Spring
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 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. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of 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 award 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. Applications for the award should be submitted to the Director of the School of Computing Science by January 2 (spring award) or by September 1 (fall award).

Electronic Arts Inc. Award of Excellence in Computing Science
Program code: UPAO-186
Value: $500
Awarded: Summer
Terms of reference: Valued at $500, will be given to the top graduating student in Computing Science. The award recipient will be invited to visit the Electronic Arts (Canada) Inc. Studio. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director of the School of Computing Science.

Engineering Science Undergraduate Student Project Award
Program code: UEOA-535
Value: $100
Awarded: Fall, Spring, Summer
Terms of reference: 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 to industry, an implementation schedule including a deadline 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 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.

Engineering Undergraduate Student Society Award
Program code: UEOA-512
Value: $250
Awarded: Fall, Spring
Terms of reference: An undergraduate student in Engineering Science who has demonstrated service to the Engineering Science undergraduate student body. Students must be in good academic standing to apply for award. Preference will be given to those students who have not previously received the Award. Applications for the Award should be made to the Director of the School of Engineering Science. The application should include a letter from the student of the EUSS discussing the student’s involvement in and service to the Engineering Science student body. In addition, any member of the Engineering Science Undergraduate student body may nominate a recipient to the Director of the School of Engineering Science. The Director will consult with the EUSS prior to making the recommendation. The award will be made by the Senate Undergraduate Award Adjudication Committee on the nomination of the Director of the School of Engineering Science.

National Bank Financial Award in Kinesiology
Program code: UEOA-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 90 course credits and work towards a BSc 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 minimal 5 hours per week in each of two semesters. Suitable candidates on completion of two 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 Directors of the School of Kinesiology and announced on the 1st of September.

Radio Station CHMB AM1320 Award in Communication
Program code: UEOA-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. Applications should be submitted to the School of Communication by January 2. 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: UEOA-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). Applications should be submitted to the School of Communication by January 2. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director, School of Communication.

Ken Spencer SFU Business/Engineering Venture Plan Competition
Program code: UPAO-191
Value: $100
Awarded: Fall
Terms of reference: The Ken Spencer SFU Business/Engineering Venture Plan is organized as part of undergraduate courses in offered in both the Faculty of Business Administration (BUS 477), and the Faculty of Applied Sciences (ENSC 201). To ensure that the venture plan includes technical and business aspects, teams must consist of at least one undergraduate student from each of the Applied Sciences (Engineering) and Business Administration faculties. A Management of Technology MBA student with an engineering degree will be selected to assist the course instructors by providing mentorship to the competitors. This mentor will provide technical expertise and guide students as they hone venture plans and polish presentation skills. As part of the courses BUS 477 and ENSC 201, teams of students for both courses (with a minimum of one Business student and one Engineering student per team) will prepare a business plan to be graded jointly by the two course instructors. Typically, the business plan will comprise 35% of the course grade. At the end of the semester in which the courses are offered, the two course instructors will identify the top five business plans to be entered into the...
jury-adjudicated Ken Spencer Venture Plan Competition. Written and oral presentations will be made to the jury who will rank their recommended 1st, 2nd and 3rd place teams. Once the Venture Plan Competition Jury has determined their recommendations, the Chair of the Venture Plan Competition Jury will present and discuss the selected winners with the Deans of Applied Sciences and Business Administration who will forward their recommendations to the Senate Undergraduate Awards Adjudication Committee. Of the finalists, three teams will receive prizes – a First Prize of $3000, a Second Prize of $1500 and a Third Prize of $500. Prize values may change in succeeding years. Winners will be announced at an annual function attended by faculty, students and competition sponsors.

Awards for Arts Students

Archaeometry Prize
Program code: UEA0-003
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: UEA0-050
Value: $1175
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: $95
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 are to be forwarded to the Dean of Graduate Studies office for adjudication.

G.A.B.C. Chuck Bayley Memorial Award
Program code: UEA0-519
Value: $900
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.

B.C. Federation of Labour Award
Program code: UPAO-190
Value: $500
Awarded: Fall
Terms of reference: The award will be given to an undergraduate student with an approved minor in Labour Studies, on the basis of satisfactory academic performance and involvement in volunteer activities. Candidates should demonstrate their involvement in volunteer activities by providing their resume and cover letter specific to these interests. A representative of the BC Federation of Labour will be invited to meet each award winner. This award is granted by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director of the Centre for Labour Studies.

British Columbia Psychological Association Award
Program code: UPA0-005
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 bachelor's degree over the previous summer, fall, or spring semester.

Richard P. Brollly Prize
Program code: UPA0-185
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: UEA0-195
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 extracurricular leadership or community service. This award may be in athletics, 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 resume, should be forwarded to Financial Assistance by April 15th.

Bureau du Quebec Book Prizes in Quebec Studies
Program code: UPA0-177
Awarded: Summer
Terms of reference: To the author of a superior undergraduate student or one rank graduating 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 at least two courses 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.

The Chan Sisters Foundation Non-Proft Co-op Employment Grant
Program code: N/A
Awarded: Fall, Spring, Summer
Terms of reference: The grant will subsidize Co-op students in the Faculty of Arts Program whose next Co-op work term will be in not-for-profit organizations. The Chan Sisters Foundation Non-Proft Co-op Employment Grant will be administered by the Director, Co-operative Education Program.

Simon Fraser University Service Awards (Contemporary Arts)
Program code: UUAS-000
Value: $100
Awarded: Fall, Spring, Summer
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 six 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. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the director, School for Contemporary Arts.

Downtown Vancouver Association Award in Urban Studies
Program code: UEA0-047
Value: $850
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 award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director, Urban Studies Program.

Al Eisinger Gerontology Award
Program code: UEA0-041
Value: $1000
Awarded: Fall
Terms of reference: A student of an undergraduate mature student whose area of study is Gerontology. A departmental nomination is required from the Chair of Gerontology.

Essay Prize in African Middle-Eastern Asian History
Program code: UUEO-053
Value: $175
Awarded: Summer
Terms of reference: To the author of a superior undergraduate term report or essay on any topic concerned with African, Middle-Eastern or Asian 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.

European History Book Prize
Program code: UEA0-174
Value: $200
Awarded: Summer
Terms of reference: The author of a superior undergraduate term report or essay on any topic concerned with 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.
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.

Institute for the Humanities Travel-Study Award
Program code: N/A
Value: $1500
Awarded: Spring Summer
Terms of reference: Granted to third or fourth year students who have completed two humanities courses, to assist them to attend a travel-study/field school program offered by Simon Fraser University. Letters of application should be sent to the Director, Institute for the Humanities, and must include a resume, copy of university transcript, statement discussing the relevance of the program/field school to the student’s academic program and goals, and two letters of reference from Simon Fraser University faculty. The application deadline is March 15.

Nick Kravariotis Memorial Scholarship in Hellenic Studies
Program code: UEAO-200
Value: $500
Awarded: Summer
Terms of reference: Granted to a student with the highest GPA in intermediate modern Greek language. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director, Hellenic Studies.

Betty Lambert Memorial Prize
Program code: UEAO-014
Value: $225
Awarded: Summer
Terms of reference: An undergraduate student enrolled in at least nine credit hours. The prize will be based upon the best unpublished play. Students must apply to the Department of English by February 15th. The endowment fund is established in memory of Betty Lambert.

Cliff Lloyd Memorial Award
Program code: UEAO-016
Value: $75
Awarded: Summer
Terms of reference: An honors student in economics graduating with the highest CGPA on the nomination of the Department of Economics.

Barry and E. Anne MacDonald Asia-Canada Awards
Program code: UEAO-525
Value: $1500
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.

Marcia Scholarship in Electroacoustics
Program code: UEAO-130
Value: $300
Awarded: Summer
Terms of reference: A graduate or undergraduate student from any discipline who shows promise and/or excellence in the field of electroacoustics, whether for composition, research, performance or production. A department nomination is required.

Gerald and Sheahan McGavin Award
Program code: UEAO-056
Value: $1100
Awarded: Fall
Terms of reference: To undergraduate students in the School for Contemporary Arts based on demonstrated volunteer involvement in community service and academic merit. The application must include a detailed discussion of the student’s volunteer involvement in community activities. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director, School for Contemporary Arts.

Stephen McIntyre Book Prize in History
Program code: UPAO-018
Value: $400
Awarded: Summer
Terms of reference: The top graduating student in history in recognition of academic excellence on the nomination of the Department of History Awards Committee.

Sean McLeod Memorial Award in Music
Program code: UPAO-180
Value: $500
Awarded: Fall
Terms of reference: An undergraduate student in the School for the Contemporary Arts majoring in music. The successful applicant will be a full-time student who achieved a GPA of 2.8 or more in their previous semesters of full-time studies 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. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director, School for Contemporary Arts.

Richard Morgan Memorial Book Prize
Program code: UEAO-038
Value: $175
Awarded: Summer
Terms of reference: An undergraduate student who submits a superior term paper or essay on any topic concerning Canadian Native 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 15, and must have been written in one of the three previous semesters. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Department of History Awards Committee.

Ingrid Nystrom Archaeology Award
Program code: UEAO-180
Value: $1200
Awarded: Spring
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.

Margaret Ormsby History Prize
Program code: UPAO-176
Value: $250
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. Special consideration will be given for originality in analysis and treatment of the subject. Essays are to be submitted to the history department by April 15th, and must have been written in one of the three previous semesters. Margaret Ormsby, the doyen of historians of British Columbia, wrote the standard work on the history of the province, served for ten years (1965-75) as the head of the history department at the University of British Columbia and as president of the Canadian Historical Association in 1965-66, and was awarded an honorary doctorate by Simon Fraser University in 1971. The prize will be managed by the history department and will be awarded on the nomination of the Ormsby prize committee to the department. The history department will undertake to publicize and adjudicate the essay competition. The prize will be granted by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Chair of the Department of History.

Helen Pitt Graduating Award in Visual Arts
Program code: UPAO-189
Value: $1000
Awarded: Summer
Terms of reference: The Helen Pitt Graduating Award in Visual Arts will be awarded in the summer semester to a graduating student with an approved major or extended minor in Visual Arts. The award will be given by the Senate Undergraduate Awards Adjudication Committee on the nomination of the School for the Contemporary Arts Visual Arts Committee.

Philippa Polson Memorial Prize
Program code: UPAO-021
Value: $250
Awarded: Summer
Terms of reference: A student for the best English honors essay completed during the calendar year preceding October 15th. The Selection Committee, composed of the Department of English Undergraduate Committee, will consider all essays completed during the year. Graduated students, as well as those still completing a degree, are eligible.

Psychology Alumni Honors Prize
Program code: UEAO-037
Value: $500
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 his/her research at the Psychology Department convention. Both graduates and undergraduates are eligible. Awards will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Chair of the Psychology Department.

Rama Reddy Political Science Award
Program code: UEAO-527
Value: $400
Awarded: Summer
Terms of reference: Top graduating student in Political Science. The awards 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: UPAO-026
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. The prize will be granted by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Chair of the Department of History.

Robert L Stanfield Book Prize
Program code: UEAO-028
Value: $50
Awarded: Summer
Terms of reference: Outstanding graduating students in Political Science. Awards will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Chair of the Political Science Department.
F.W. Sullivan Visual Arts Award
Program code: UEAO-029
Value: $90
Awarded: Summer
Terms of reference: A student majoring in the Centre for the Arts Visual Arts Program. The award will be based upon a student's contribution to the visual arts and the financial need associated with the public exhibition of his or her work. Nominations will be forwarded from the Centre for the Arts to the Senate Undergraduate Awards Adjudication Committee.

Prize of the Ambassador of Switzerland in Canada
Program code: UPAO-022
Awarded: Summer
Terms of reference: Students in their final year with the highest grades in German and French languages on recommendation by the Department (for German) and the Department of French (for French).

Winnie Topping Memorial Prize
Program code: UEAO-032
Value: $50
Awarded: Summer
Terms of reference: A female student in honors Archaeology or Physical Anthropology 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.

US Embassy Essay Prize in History
Program code: UPAO-175
Value: $100
Awarded: Summer
Terms of reference: The U.S. Public Affairs Office, U.S. Embassy Ottawa provides an annual award of $100 in the spring semester to the undergraduate student producing the best essay on the subject of U.S. history. Essays should be submitted to the Undergraduate Studies Committee by April 15th.

Volunteers of the Burnaby Art Gallery Award in Visual Arts
Program code: UEAO-046
Value: $625
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 of Contemporary Arts Departmental Awards Committee.

Brian Williamson Memorial Award in Archaeology
Program code: UEAO-515
Value: $750
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 third or fourth 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.

CGA Association of B.C. Merit Award
Program code: UPAO-187
Value: $1000
Awarded: Spring
Terms of reference: To a full-time undergraduate student on the basis of a Business Co-operative Education work placement focusing on business projects in any of the last three semesters. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director, Co-operative Education.

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.

Dean's Student Service Award
Program code: UPAO-520
Awarded: Spring
Terms of reference: In 1995, the Dean of the Faculty of Business Administration established the Dean's Student Service Award. The purpose of the award is to recognize outstanding service in the university community by an undergraduate student in the Faculty of Administration. The Dean's Student Service Award will be awarded annually in the spring semester to recognize service in the preceding calendar year. The award, an engraved plaque and a gift, will be granted to a student, approved in a Business program, who has been nominated by the executive of a Faculty of Business Administration student club as their most valuable member. The student should have a minimum CGPA of 3.0 and must have been active in one of the student clubs in two of the three semesters in the preceding year. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Dean, Faculty of Business Administration.

SFU Accounting Student Association Award
Program code: UPAO-181
Value: $300
Awarded: Spring
Terms of reference: To a third or fourth year student in the Faculty of Business Administration with a concentration in accounting. The award is based on academic performance and extra-curricular involvement. The successful applicant should have a minimum CGPA of 3.0. Extra-curricular interests can include active memberships in clubs, volunteer experiences, sports activities and community involvement. Candidates should demonstrate their involvement in these activities by providing their resume and cover letter specific to these interests.

Ken Spencer SFU Business/Engineering Venture Plan Competition
Program code: UPAO-191
Value: $100
Awarded: Fall
Terms of reference: The Ken Spencer SFU Business/Engineering Venture Plan is organized as part of undergraduate courses in offered in both the Faculty of Business Administration (BUS 477), and the Faculty of Applied Sciences (ENSC 201). To ensure that the venture plan includes technical and business aspects, teams must consists of at least one undergraduate student from each of the Applied Sciences (Engineering) and Business Administration faculties. A Management of Technology MBA student with an engineering degree will be selected to assist the course instructors by providing mentorship to the competitors. This mentor will provide technical expertise and guide students as they hone venture plans and polish presentation skills. As part of the courses BUS 477 and ENSC 201, teams of students for both courses (with a minimum of one Business student and one Engineering student per team) will prepare a business plan to be graded jointly by the two course instructors. Typically, the business plan will comprise 35% of the course grade.

At the end of the semester in which the courses are offered, the two course instructors will identify the top six business plans to be entered into the jury-adjudicated Ken Spencer Venture Plan Competition. Written and oral presentations will be made to the jury who will rank their recommended 1st, 2nd and 3rd place teams. Once the Venture Plan Competition Jury has determined their recommendations, the Chair of the Venture Plan Competition Jury will present and discuss the selected winners with the Deans of Applied Sciences and Business Administration who will forward their nominations to the Senate Undergraduate Awards Adjudication Committee. Of the finalists, three teams will receive prizes – a First Prize of $3000, a Second Prize of $1500 and a Third Prize of $500. Prize values may change in succeeding years. Winners will be announced at an annual function attended by faculty, students and competition sponsors.

Awards for Education Students
Jean G.K. Bailey Memorial Award
Program code: UEAO-004
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. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Dean, Faculty of Education.

Dr. Maxwell A. Cameron Memorial Medals and Prize
Program code: UPAO-007
Value: $500
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. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Dean, Faculty of Education.

Claude E. Lewis Award
Program code: UEAO-015
Awarded: Summer
Terms of reference: Granted in the Fall or Spring semester to each of two students who have demonstrated excellence in overall performance during completion of the Professional Development Program in the Faculty of Education. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Dean, Faculty of Education.

Phi Delta Kappa Scholarship in Education
Program code: UPSO-276
Value: $500
Awarded: Summer
Terms of reference: The award is given to undergraduate students in the Professional Development Program who have demonstrated overall excellence in their program of study. The scholarships will be awarded to students on the basis of overall excellence and contributions to the faculty, to the university and/or to the community. Candidates should include with their application a letter of recommendation in support of their service contributions. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Dean, Faculty of Education.

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.

University Women’s Club of Vancouver Laura Tripp Award
Program code: UEAO-054
Value: $850
Awarded: Summer
Terms of reference: Awarded to a student who has demonstrated excellence in overall performance during completion of the Professional Development Program. Preference will be given to a student who has completed the program at an external site outside of the Lower Mainland region.

Awards for Science Students

Archaeometry Prize
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: $1500
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: Awarded to graduating students in Chemistry, Chemical Physics or Biochemistry for outstanding graduation grade point average. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Department of Chemistry.

Chemistry/Biochemistry Award
Program code: UEAO-173
Value: $1000
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: $250
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 each semester) and the nominee will be nominated by the Faculty of Science undergraduate curriculum committee.

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: $350
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 CGPA of 3.00. The awards will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Management and Systems Science Program Steering Committee.

Department of Mathematics Awards
Program code: UEAO-017
Value: $50
Awarded: Spring
Terms of reference: Awards will be given to full-time students in the Department of Mathematics on the nomination of the Chair, Department of Mathematics. The fund provides support to further mathematics undergraduate education at Simon Fraser University and seeks to encourage secondary school students to enter into the study of mathematics.

Putnam Awards
Program code: UPAO-204
Value: $100
Awarded: Spring
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.

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<tr>
<th>Rank</th>
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<td>III</td>
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Department of Statistics and Actuarial Science Awards
Program code: UEAO-018
Value: $50
Awarded: Spring
Terms of reference: Awards will be given to full-time students in the Department of Statistics and Actuarial Science on the nomination of the Chair, Department of Statistics and Actuarial Science. The fund provides support to further statistical and actuarial undergraduate education at Simon Fraser University and seeks to encourage secondary school students to enter into the study of Statistics and Actuarial Science.

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:

- 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 nine-credit-hour course 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 on-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. Outgoing debts to the University will be deducted from the award funds before a cheque for the credit balance is issued.

**Bob Ackles Sports Administration Award**

Program code: UEAA-001

Value: $500

Awarded: Fall, Spring, Summer

Terms of reference: To a student in good academic standing in any faculty who has demonstrated high standards of leadership in the management or administration of SFU Athletic, Recreation or Intramural programs.

**Yolande D. Anderson Women’s Basketball Award**

Program code: UEAA-060

Value: $800

Awarded: Fall, Spring, Summer

Terms of reference: A full-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 Wrestling Award**

Program code: UEAA-087

Value: $700

Awarded: Fall, Spring, Summer

Terms of reference: The award is based on athletic merit in the wrestling program and will be awarded to a full-time student in good standing who is a wrestler attending Simon Fraser University.

**Aon Reed Stenhouse Inc. Athletic Award**

Program code: UEAA-034

Value: $350

Awarded: Fall, Spring, Summer

Terms of reference: Athlete who meet the academic requirements and demonstrate outstanding athletic ability.

**C.G. “Chuck” Arnold Golf Award**

Program code: UEAA-002

Value: $500

Awarded: Fall, Spring, Summer

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, Spring, Summer

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 nine credit hours and maintain a CGPA of 2. 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: $1000

Awarded: Fall, Spring, Summer

Terms of reference: Four awards valued at $1,000 are available to students on the basis of demonstrated leadership in an intercollegiate sport. Students must maintain a 2.00 CGPA and be registered in nine credit hours during the tenure of award.

**Athletic and Recreation Awards**

Program code: UUAO-100

Value: $700

Awarded: Fall, Spring

Terms of reference: The purpose of the Athletic and Recreation Awards is to recognize significant contributions to the athletic activities of Simon Fraser University, or to recognize excellence in extraordinary amateur athletic activities. Up to 50 awards valued at $700 each are available to students who:

- have achieved a minimum grade point average of 2.00 in the previous semester and must not be on academic probation, or, in the case of a first semester or transfer student, possess an equivalent record prior to the semester of eligibility.

- are registered in nine or more hours of normally graded courses. Students who register in less than nine hours or subsequently drop below nine hours may have their awards cancelled. The nomination will be made by the Director of Recreational Services and Athletics to the Senate Undergraduate Awards Adjudication Committee.

**Jason Auuramenko Endowed Golf Award**

Program code: UEAA-089

Value: $500

Awarded: Fall, Spring, Summer

Terms of reference: To a student or students on the SFU Golf team who are in good academic standing. The recipient(s) must be on academic probation, or, in the case of a full-time student, possess an equivalent record prior to the semester of eligibility. The recipient(s) must be graduate(s) of Canadian junior golf. Confirmation of this condition may be in writing by the student and/or SFU Head Golf Coach.

**Bank of Nova Scotia Football Award**

Program code: UEAA-003

Value: $300

Awarded: Fall, Spring, Summer

Terms of reference: A student registered in a program of study in any faculty at Simon Fraser University demonstrating outstanding ability in football, as well as proven academic achievement. This $3,000 self-perpetuating athletic award has been established by the Bank of Nova Scotia.

**BC Athlete Assistance Program**

Program code: UXAA-001

Value: $250

Awarded: Fall, Spring

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: UEAA-016

Value: $200

Awarded: Fall, Spring, Summer

Terms of reference: Annual award of approximately $300 to a student who is registered in a program of study in any faculty at SFU and who exhibits outstanding ability as well as proven academic achievement.

**BC Lions Football Award**

Program code: UEAA-004

Value: $100

Awarded: Fall, Spring, Summer

Terms of reference: The award will be given to student in good academic standing in any faculty who has demonstrated high standards of leadership and performance in playing on the varsity football team. Preference will be given to students with high academic standing.

**BCTV Broadcasting System Ltd Athletic Award**

Program code: UEAA-015

Value: $500

Awarded: Fall

Terms of reference: To students who meet the athletic requirements and have satisfactory academic standing.

**BC Wrestling Association Alumni Award**

Program code: UEAA-022

Value: $500

Awarded: Fall, Spring, Summer

Terms of reference: To a student in any faculty who is a member of the SFU Wrestling team and is in good academic standing.

**David Beneteau Wrestling Awards**

Program code: UEAA-093

Value: $450

Awarded: Fall, Spring, Summer

Terms of reference: One or more awards will be given to a full-time student(s) who is in good academic standing in any faculty and is a member of the Varsity Men’s Wrestling team. High standards of leadership, athletic performance and academic accomplishment may be considered in selection of the recipient. The recipient should be a member in good standing with the “British Columbia Amateur Wrestling Association”. Preference, when possible, will be given to at least one student who comes from the province of Ontario. Confirmation of this latter condition may be in writing by the student and/or SFU Wrestling Coach.

**Best Facilities Services Ltd Athletic Award**

Program code: UEAA-017

Value: $250

Awarded: Fall, Spring, Summer

Terms of reference: An athlete who meets the academic requirements and exhibits outstanding ability.

**John Buchanan Men’s Soccer Award**

Program code: UESO-512

Value: $1000

Awarded: Fall, Spring, Summer

Terms of reference: To an undergraduate student in any faculty in good academic standing who is a member of the Men’s Soccer team. A letter of recommendation from the Head Soccer Coach should accompany the application.

**Canadian Airlines International Ltd Award**

Program code: UEAA-035

Value: $350

Awarded: Fall, Spring, Summer

Terms of reference: An athlete who meets the academic requirements and exhibits outstanding ability.

**Canadian National Railways Athletic Award**

Program code: UEAA-106

Value: $100

Awarded: Fall, Spring, Summer

Terms of reference: The award will be given to student in good academic standing in any faculty who has demonstrated high standards of leadership and performance in playing on the varsity football team. Preference will be given to students with high academic standing.

**Canadian National Railways Athletic Award**

Program code: UEAA-006

Value: $75

Awarded: Fall, Spring, Summer

Terms of reference: To a student in good academic standing in any faculty at Simon Fraser University.
University and who exhibits outstanding ability in the sport of football, as well as proven academic achievement. The self-perpetuating athletic award has been established by Canadian National Railways.

Carrera Alumni Award in Wrestling
Program code: UEAA-019
Value: $1000
Awarded: Fall, Spring
Terms of reference: A student active in wrestling at Simon Fraser who meets the athletic and academic requirements. Preference will be given to a Centennial Senior Secondary School graduate.

Jim Ciccone Men’s Basketball Award
Program code: UEAA-084
Value: $1000
Awarded: Fall, Spring, Summer
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 Society Award
Program code: UPAA-013
Value: $500
Awarded: Fall
Terms of reference: Provides for annual award(s) to entering or continuing students who are involved in the intercollegiate football program and demonstrate outstanding ability in the sport of football.

Coca-Cola Student Athlete Awards
Program code: UPAA-018
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: To students who are members of a varsity athletic team at Simon Fraser University. Awards may be granted in any semester. The recipients must be in good academic standing.

Moira Colbourne Field Hockey Award
Program code: UEAA-018
Value: $500
Awarded: Fall, Spring
Terms of reference: The Awards will be given to students in good academic standing in any faculty who have demonstrated high standards of leadership and performance as team members of the women’s field hockey team. Academic accomplishment may be considered in selection of the recipient.

W. Lorne Davies Senior Graduation Award
Program code: UEAA-079
Value: $1000
Awarded: Spring
Terms of reference: A senior SFU varsity athlete with at least 90 semester hours of which 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 granted 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 W. Lorne Davies Senior Graduation Award’s purpose is to fulfill the philosophy of W. Lorne Davies that all varsity athletes should achieve graduation.

W. Lorne Davies Athletic Excellence Award
Program code: UEAA-080
Value: $2000
Awarded: Spring
Terms of reference: The outstanding male and the outstanding female varsity athlete of the year. Two awards 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.

Larry K Davis/Bravo International Services Corp. PNB Award in Golf
Program code: UEAA-020
Value: $250
Awarded: Fall, Spring, Summer
Terms of reference: A full-time student in good standing who is on the golf team at Simon Fraser University.

Les and Greg Edgelow Wrestling Award
Program code: UEAA-058
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: A first year student (preference given to a student from the BC interior) in good standing who is on the University wrestling team and who is registered full-time. The award is also based on athletic merit in wrestling.

Field Hockey Endowment Award
Program code: UEAA-012
Value: $250
Awarded: Fall, Spring, Summer
Terms of reference: Awarded to students who have made contributions to the SFU Field Hockey Program.

Jim Forsythe Olympian Award
Program code: UEAA-069
Value: $1000
Awarded: Fall, Spring
Terms of reference: A student athlete in any sport who has aspirations to compete in the Olympics. The award will be given to a student in good standing who has shown leadership qualities. The student must submit an application in writing and present their training procedures to the Jim Forsythe Olympian committee by August 30th. This award may be held in conjunction with other awards made by Simon Fraser University or other agencies where permitted by those agencies.

Kelly Franks Memorial Swimming Award
Program code: UEAA-009
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: To student or students on the SFU Swimming Team who are in good academic standing. Preference, when possible, will be given to at least one student who was or is active in the British Columbia Summer Swimming Association (BCSSA), either as a participating athlete, coach or volunteer. Confirmation of this latter condition may be in writing by the student and/or SFU head swim coach. The recipient may be granted the Kelly Franks Memorial Swimming Award more than once provided criteria noted above are met.

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 requirements.

Dr. T. Peter Harmon Wrestling Award
Program code: UEAA-048
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: The award will be given to student in good academic standing in any faculty who has demonstrated high standards of leadership and performance as a team member of the varsity wrestling team. Preference will be given to students with high academic standing.

Robert F. Harrison & Partners Athletic Award
Program code: UEAA-051
Value: $150
Awarded: Fall, Spring, Summer
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
Program code: UEAA-023
Value: $750
Awarded: Fall, Spring, Summer
Terms of reference: Students exhibiting exceptional ability in football and meeting the academic requirements.

Indo-Canadian Wrestling Award
Program code: UEAA-082
Value: $500
Awarded: Fall, Spring, Summer
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, Spring, Summer
Terms of reference: A full or part-time student in good standing who is attending Simon Fraser University and who volunteers within the Intramural program.

Mike Jones Wrestling Award
Program code: UEAA-053
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: A part-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: $500
Awarded: Fall, Spring, Summer
Terms of reference: One or more awards, are 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, Summer
Terms of reference: An athlete who meets the academic requirements and demonstrates outstanding ability.

Nick Kiniski Wrestling Award
Program code: UEAA-059
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: A full or part-time student in good standing on the University wrestling team.

Jon-Lee Kootnekoff Basketball Award
Program code: UEAA-029
Value: $900
Awarded: Fall, Spring, Summer
Terms of reference: A first year student on the Simon Fraser University men’s basketball team. The award will be disbursed over two semesters, valued at approximately $450 per semester.

Labatt Breweries Award in Soccer
Program code: UPAA-003
Value: $600
Awarded: Spring
Terms of reference: Granted to one or more students exhibiting outstanding athletic merit in soccer and maintaining a satisfactory academic standing.

Labatt Breweries of BC Limited Football Awards
Program code: UEAA-008
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: A student who is registered full-time in a program of study in any faculty. The awards are based on outstanding ability in football, as well as proven academic achievement.
The Leon J. Ladner Athletic Award  
Program code: UPAA-012  
Value: $250  
Awarded: Fall, Spring, Summer  
Terms of reference: An SFU student who is a member of the varsity Men’s Wrestling team. High standards of leadership, athletic performance and academic accomplishment may be considered in selection of the recipient.

Lui Passaglia Football Award  
Program code: UEAA-056  
Value: $500  
Awarded: Fall, Spring, Summer  
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.

D.B. Perks & Associates Ltd. Award in Swimming and Diving  
Program code: UEAA-041  
Value: $500  
Awarded: Fall, Spring, Summer  
Terms of reference: To a student in any faculty who is a member of the varsity SFU Swimming and Diving team, exhibiting exceptional ability in swimming and/or diving and is in good academic standing.

Paul Nemeth Wrestling Award  
Program code: UEAA-050  
Value: $600  
Awarded: Fall  
Terms of reference: To students in good academic standing in any faculty who have demonstrated high standards of leadership and performance as a team member of the varsity wrestling team. Preference will be given to students with high academic standing.

Rae/Suart Alumni Athletic Award in Women’s Basketball  
Program code: UEAA-049  
Value: $1000  
Awarded: Fall, Spring, Summer  
Terms of reference: The award(s) will be given to a student on the women’s basketball team upon completion of their first year of academic studies at Simon Fraser University.

Royal Canadian Legion Branch #2  
Program code: UEAA-054  
Value: $500  
Awarded: Fall, Spring, Summer  
Terms of reference: The purpose of these awards is to recognize and encourage students’ contribution in, and development of, leadership initiatives in the University recreation programs. Up to 32 awards of $600 each are available to: entering students on the basis of recommendations from secondary school of demonstrated leadership in the school program, and to continuing students who have demonstrated consistent leadership skills and potential for further development. Students must be nominated by the Director of Recreational Services and Athletics, maintain a cumulative 2.0 grade point average and register in nine credit hours.

Royal City Travel Limited Athletic Award  
Program code: UEAA-009  
Value: $200  
Awarded: Fall, Spring, Summer  
Terms of reference: Athletically gifted students involved in the University’s intercollegiate athletic program. The endowment is established by Royal City Travel in recognition of the outstanding achievement of Terry Fox.

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Simon Fraser University Women’s Soccer Endowment Award  
Program code: UEAA-064  
Value: $1000  
Awarded: Fall, Spring, Summer  
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.

Softball Associations Presidents’ Award in Women’s Softball  
Program code: UEAA-081  
Value: $500  
Awarded: Fall, Spring, Summer  
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 B.C. 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: $1000  
Awarded: Fall, Spring  
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, Spring, Summer  
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 Awards  
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 extraordinary 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.

Annis Stukus Award in Football  
Program code: UEAA-040  
Value: $1000  
Awarded: Fall, Spring  
Terms of reference: To a student in good academic standing in any faculty who have demonstrated high standards of leadership and performance as a member of the varsity football team. Academic accomplishment may be considered in selection of the recipient.

Lynn K. Sully Athletic Award  
Program code: UEAA-010  
Value: $200  
Awarded: Fall, Spring, Summer  
Terms of reference: Athletes who demonstrate outstanding athletic ability and meet the academic requirements. This endowment is to provide two awards, one for football and one for basketball.

Florence and Lynn Sully Basketball Award in Men’s Basketball  
Program code: UEAA-021  
Value: $500  
Awarded: Fall, Spring, Summer  
Terms of reference: To student in good academic standing in any faculty who has demonstrated high standards of leadership and performance as a team member of the varsity men’s basketball team. Academic accomplishment may be considered in selection of the recipient.

Lynn and Florence Sully Award in Women’s Basketball  
Program code: UEAA-043  
Value: $900  
Awarded: Fall, Spring, Summer  
Terms of reference: An award is available to an athlete who exhibits outstanding athletic ability as well as maintains satisfactory academic performance.

Brit Townsend Women’s Track and Field Award  
Program code: UEAA-083  
Value: $600  
Awarded: Fall, Spring, Summer  
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).

Barbara J. Towriss Award in Women’s Basketball  
Program code: UEAA-039  
Value: $1200  
Awarded: Fall, Spring, Summer  
Terms of reference: To student in good academic standing in any faculty who has demonstrated high standards of leadership and performance as a team member on the varsity women’s basketball team. Academic accomplishment may be considered in selection of the recipient.

Jay Triano Basketball Award  
Program code: UEAA-057  
Value: $500  
Awarded: Fall, Spring, Summer  
Terms of reference: A full or part-time student in good standing. The award is based on academic performance and a satisfactory athletic grade.

Valley Royals Award in Track and Field  
Program code: UPAA-014  
Value: $2000  
Awarded: Fall, Spring, Summer  
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-068  
Value: $50  
Awarded: Fall, Spring, Summer  
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 Award  
Program code: UEAA-011  
Value: $500  
Awarded: Fall, Spring, Summer  
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, Spring, Summer  
Terms of reference: To a student athlete who exhibits exceptional ability in any intercollegiate sport and maintains a good academic standing.

West Coast Reduction Ltd Athletic Award  
Program code: UEAA-038  
Value: $600  
Awarded: Fall, Spring, Summer  
Terms of reference: To a student athlete who exhibits exceptional ability in any intercollegiate sport and maintains a good academic standing.

White Rock Renegades Women’s Softball Awards  
Program code: UEAA-045  
Value: $1000  
Awarded: Fall, Spring, Summer  
Terms of reference: To a female student in good academic standing in any faculty who has demonstrated high standards of leadership and performance in a varsity sport offered through the University.

Women’s Athletic Awards (She Can Play!)  
Program code: UEAA-091  
Value: $100  
Awarded: Fall, Spring, Summer  
Terms of reference: To a female student in good academic standing in any faculty who has demonstrated high standards of leadership and performance in a varsity sport offered through the University.
Work-Study Program
The SFU Work-Study program provides part time on-campus jobs for full time students. To participate in this program, students must have a minimum CGPA of 2.0, and be a registered full time student (minimum of 9.0 credit hours for undergraduate students, or be registered as a full time graduate student). Funding is limited and selection is based on the student’s level of need. Apply to Financial Assistance approximately six weeks prior to the start of the semester. Application forms are available at Financial Assistance in MBC 3200 and on our website www.reg.sfu.ca/ta.

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.
• 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.
• 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
AGF Financial Life Skills Scholarship Program
Deadline: May 28
Terms of reference: Candidates must be graduating from their last year of high school (and/or CEGEP in Quebec) with a 75% (or equivalent) average in their final and next-to-final year courses. They must have demonstrated some involvement in any of the following areas: community leadership, extra-curricular activities, special projects, volunteer service, outside interests or hobbies, career and educational objectives. Candidates must be Canadian citizen or permanent residents.
Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert Street, Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745.
E-mail: awards@aucc.ca
Web: www.aucc.ca
Assoc. of Professional Engineers and Geoscientists of BC Scholarships
Terms of reference: Contact Association of Professional Engineers and Geoscientists of the Province of British Columbia, 2200-4010 Regent Street, Burnaby, BC, V5C 6N2, Tel: (604) 430-8035, Fax: (604) 430-8085.
E-mail: apeginfo@apeg.bc.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. Student 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 AUCCC University or College. Candidates must be prepared to enter university in the year of competition.
Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCCC), 350 Albert Street, Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745.
E-mail: awards@aucc.ca
Web: www.aucc.ca
Canadian Merit Scholarship Foundation
Deadline: October
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 $5000 per year (for a maximum of four years) from the Foundation and full tuition from the participating universities. The CMSF Regional Award is a non-renewal grant between $1,000 and $2500 offered to a student attending any accredited university in Canada. The CMSF Provincial Award is a non-renewal grant between $500 and $1000 offered to a student attending any accredited university in Canada.
Contact: Application forms are available through secondary schools in all provinces and CEGEPs in Quebec.
Web: www.cmsf.ca
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 institution 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 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 5D4, Tel: (250) 860-3866, Fax: (250) 862-3024.
Terry Fox Humanitarian Award
Deadline: February 1
Terms of reference: 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 awards for the pursuit of higher education. The program provides scholarships to students entering or attending post-secondary educational institutions within Canada. The successful applicants are recognized for dedication to community service, humanitarianism, perseverance and courage in the face of obstacles, and pursuit of excellence in fitness and academics. Award recipients must be Canadian citizens or have landed immigrant status. The value of the award is $6,000 annually, for a maximum of four years or until a first degree is obtained. For those who attend institutions that do not charge tuition fees, the award is $3,500 per year. Successful Terry Fox scholars are expected to participate in Program activities such as volunteer service, yearly meeting and annual reports.
Contact: Terry Fox Humanitarian Award Program, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A 1S6, Tel: (604) 291-3057, Fax: (604) 291-3311.
E-mail: terryfox@sfu.ca
Web: www.terryfox.org
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.
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 in 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 Kingway, Burnaby, BC, V5H 4M2, Tel: (604) 438-2752, Fax: (604) 438-6564.
E-mail: INFO@scbc.org
Web: www.scbc.org
Harry Bridges Entrance Scholarship (ILWU)
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 Longshore and Warehouse Union 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: Application #04718: Apply at University of British Columbia, Student Financial Assistance and Awards, Enrolment Services, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.
William L. Hurford Memorial Scholarship (ILWU)
Deadline: June 30
Terms of reference: A scholarship of $1,250 is offered to active members, or sons or daughters of active members, in good standing of the International Longshore and Warehouse 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, 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 Longshore and Warehouse Union at any one time.
Contact: Award #00244: Apply at University of British Columbia, Student Financial Assistance and Awards, Enrolment Services, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Carole Anne Letheren Leadership and Sport Scholarship
Deadline: January 31
Terms of reference: The scholarship will support women who demonstrate the potential to reach Carole Anne Letheren’s vision and capabilities and who aspire to the same core Olympic values of excellence, leadership, respect, human development, fun, fairness and peace. Candidates must: be a female student presently enrolled at a Canadian high school in their graduate year, be applying to a Canadian University in a General Arts program with an emphasis in business, sport management, or marketing related fields, demonstrate qualities and personal values that personify the Olympic values of excellence, leadership, respect, human development, fun, fairness, and peace, have outstanding academic performance, minimum grade average of 85% or above, be an accomplished athlete in high school, community or provincial level competitive sports, be a Canadian citizen or permanent resident.
Contact: Canadian Olympic Association, 21 Street Clair Avenue East, Suite 900, Toronto, ON, M4T 1L9, Tel: (416) 324-4125, Fax: (416) 967-4902.
E-mail: lmazrial@coa.ca
Web: www.coa.ca

Sergio Lovison Scholarship
Deadline: August 1
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 Roman Catholic 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
• Applicants are expected, upon high school graduation, to attend a university or college in BC, in a full program leading to a degree or diploma. To be eligible, a candidate must: be a resident of the Lower Mainland, be Roman Catholic and of Italian–Canadian origin. The bursaries are offered 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 or college diploma 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 #04731: Apply at University of British Columbia, Student Financial Assistance and Awards, Enrolment Services, 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 scholarship of $1,250 is offered to active members, or sons or daughters of active members of the union in good standing. It is offered to an undergraduate student at the University of British Columbia, the University of Victoria, BC Institute of Technology 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 however, winners are selected on the basis of financial need.
Contact: Award #07939: Apply at University of British Columbia, Student Financial Assistance and Awards, Enrolment Services, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Father Emmanuele Rosaia Scholarship
Deadline: August 25
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.
• Applicants are expected, upon high school graduation, to attend a university or community college where studies will lead to a university degree.
• Applicants are asked to submit a typewritten letter of no more than 400 words, double-spaced, explaining why he/she deserves to be the recipient of 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.

TD Canada Trust Scholarship for Outstanding Community Leadership
Deadline: October 31
Terms of reference: Candidates must be Canadian citizens or permanent residents. They must be graduating from their last year of high school (and/or CEGEP in Quebec) and have demonstrated involvement in community leadership.
Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert Street, Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745. Or call toll-free 1-800-308-8306.
E-mail: awards@aucc.ca
Web: www.aucc.ca

Toyota Earth Day Scholarship
Deadline: May 1
Terms of reference: The Toyota Earth Day Scholarship is now available to graduating high school students and Quebec junior college students who have achieved academic excellence and distinguished themselves in environmental...
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community service. Please visit website for detailed program information and applications.
Contact: Toyota Earth Day Scholarship Program, 296 Richmond Street West, Suite 500, Toronto, ON, M5V 1X3
E-mail: scholarship@earthday.ca
Web: www.earthday.ca/scholarship

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, Student Financial Assistance and Awards, Enrolment Services, 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
Aboriginal Veterans’ Memorial Scholarship Trust Fund
Terms of reference: The Aboriginal Veterans’ Memorial Scholarship Trust Fund is available to all Aboriginal post-secondary students, including status and non-status Indians, Inuit and Métis. Preference may be given to descendants of Aboriginal veterans. Students must be enrolled in recognized Canadian or foreign post-secondary educational institutions, including technical institutes, colleges, CEGEPs and universities. Preference may be given to full-time students. Contact: National Aboriginal Achievement Foundation, 70 Yorkville Avenue, Suite 33A, Toronto, ON, M5R 1B9, Tel: (416) 926-0775, Fax: (416) 926-7554.
Web: www.naaf.ca

All Nations Trust Company/All Nations Development Corporation Endowment Fund Awards
Deadline: September 14
Terms of reference: The purpose of these awards is to recognize individuals who are goal oriented, dedicated and have demonstrated good citizenship within their communities. This award is open to status, non-status, or Métis students who currently live or are originally from one of the following five Tribal Regions: Kootenay, Lil’loot, Shuswap, Thompson and Okanagan. These awards are designed to reward academic achievements and assist Aboriginal students in their pursuit of post-secondary education.
MÉSSENGER AWARD: Students must be graduating from high school in the current year and registered in a post-secondary institution for the following terms as a full time student.
POST SECONDARY AWARD: Students must be registered and attending a post-secondary education institution.
Application package should include: an application form, a resume, a statement or letter describing career objectives, goals, involvement in activities at school or community and leadership skills, a transcript and two letters of reference, one personal and one professional. Contact: All Nations Development Corporation, Suite 206 West, 345 Yellowhead Highway, Kamloops, BC, V2H 1H1, Tel: (250) 314-1573, Fax: (250) 372-2985, Toll Free: 1-888-562-5333.
E-mail: andevo@antco.bc.ca
Web: www.andevo.kamloops.net

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. 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.

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 (Anmore, Belcarra, Coquitlam, Port Coquitlam and Port Moody). Artists of any discipline, such as dancers, musicians, actors, film, visual art and literary students who are intending to further their artistic careers through educational pursuits are eligible. The grants must be applied to tuition at any recognized post-secondary educational institution within a three year period. Applicants must reside in School District #43 and be registered in, or plan to register for formal study in the literary, media, performing or visual arts at a recognized educational institution or in a recognized program of study. 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, Fax: (604) 931-4214.
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 must be of a size capable of completion during the three-month period of the studentship and 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.
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.
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-inco.ca

Dr. Aimee August Scholarship
Deadline: November 1
Terms of reference: The Dr. Aimee August Scholarship is awarded annually to a SCS/SFU student of Native ancestry who best demonstrates exceptional scholarship combined with an appreciation for Native language and culture. Applicants must be of Native ancestry and registered as full-time students (three 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 higher.
• 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.

Austrian Scholarship Award Program
Deadline: March 1
Terms of reference: The Austrian Embassy has provided scholarships for study at an institution in Austria. The scholarships are available to applicants in all fields of study. Graduate students and scientist may also work as guest researchers or undertake special studies in libraries and archives, or in research institutes. General requirements for applicants are as follows: only permanent residents of Canada, who are not currently living or studying in Austria, are eligible, applicants must be between 20 and 35 years (an exception may be made for some scientific researchers), applicants must have good working knowledge of German, and applicants must have good qualifications attested by diplomas and references. Scholarships can only be granted after the candidate is accepted by the designated institution of higher learning.
Contact: Austrian Embassy, 445 Willbrook Street, Ottawa, ON, K1N 6M7, Tel: (613) 789-1444, Fax: (613) 789-3431.
Web: www.bmwbk-gv.at, www.oead.ac.at

British Columbia Asia Pacific Students’ Awards
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, Oceania (except 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 79+ percent (GPA 3.4 or equivalent) average over 12 units (24 credit hours) in the last academic year completed.
Contact: British Columbia Centre for International Education, 6th Floor, 1483 Douglas Street, Victoria,
BC, V8W 3K4, Tel: (250) 978-4242, Fax: (250) 978-4249, E-mail: bccie@bccie.bc.ca

**BC Hydro Aboriginal Scholarships**

**Deadline:** March 31

**Terms of reference:** Scholarships are offered to individuals who are status/non-status Indians, Inuit or Metis and are residents of BC, and who plan to enroll in a public post-secondary institution or who are attending a public post-secondary institution in any field of study.

Contact: BC Hydro, Outreach Programs, 16th Floor, 333 Dunsmuir Street, Vancouver, BC, V6B 5R3, Tel: (604) 623-3994.

Web: www.bchydro.com/scholarships

**BC Hydro Scholarships**

**Deadline:** March 31

**Terms of reference:** BC Hydro is offering a number of $1,000 scholarships. Candidates must submit a completed application form, current official transcript, reference letter from a teacher or faculty member, a resume and a cover letter describing why you are a good candidate for the scholarship. Please submit a separate application for each category in which candidates wish to be considered.

**GENERAL PROGRAM:** Scholarships are offered to BC residents currently enrolled in a BC university, technical school or college or who in grade 12 and will be pursuing a public post-secondary education in any field of study.

**POWER SMART:** Scholarships are available to BC students who have completed an energy efficiency or conservation project/paper for school and who are currently enrolled in a public post-secondary institution or who are in Grade 12 and will be pursuing a public post-secondary education. A summary (maximum of 1000 words) must be included with the application.

**L’ECOLE POLYTECHNIQUE MEMORIAL FUND:** Scholarships are offered to BC female students at any BC university, technical school or college or who are in grade 12 and will be pursuing a public post-secondary education in any engineering or technical program.

**ABORIGINA1:** Scholarships are offered to individuals who are status/non-status Indians, Inuit or Metis and are residents of BC who plan to enroll in a public post-secondary institution or who are attending a public post-secondary institution in any field of study.

Contact: BC Hydro, Outreach Programs, 16th Floor, 333 Dunsmuir Street, Vancouver, BC, V6B 5R3, Tel: (604) 623-3994.

Web: www.bchydro.com/scholarships

**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.

Contact: Scholarship and Bursary Awards Committee, c/o BC Paraplegic Association, 780 SW Marine Drive, Vancouver, BC, V6P 5Y7, Tel: (604) 324-3611, Fax: (604) 324-3671.

**British Columbia Heritage Trust University Scholarships**

**Deadline:** February 16

**Terms of reference:** The purpose of these scholarships is to encourage research and scholarship that will have a practical application at the provincial or community level in the field of heritage conservation, or will contribute to telling the complete story of British Columbia’s history. 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.

Applications 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 5W3, Tel: (250) 356-1433, Fax: (250) 356-7796.

Web: www.heritage.gov.bc.ca

**W. Norman Burgess Scholarship**

**Deadline:** July 15

**Terms of reference:** The scholarship is available to a university student proceeding to a university degree, who is now at the first year level or higher. Preference will be given to applicants from Central Vancouver Island. Applications should include a transcript and a letter describing the student’s field of study, aims, activities associated with the field of study and extracurricular activities. Applications should be made as soon as transcripts are available.

Contact: Mrs. W.N. Burgess, Royal Canadian Legion Branch 211, Box 35, Bowser BC, V0R 1G0, Tel: (250) 757-9251.

**Burnaby Savings Credit Union Scholarship**

**Deadline:** June 1

**Terms of reference:** Two scholarships of $500 each are offered to students at the University of British Columbia, Simon Fraser University, University of Victoria, BC Institute of Technology 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, Student Financial Assistance and Awards, Enrolment Services, 1038-1974 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

**Calverly 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 BC for the last six months and must be active members of the United Nations (Unw) local in their area (or be active in their individual community toward the betterment of Aboriginal peoples). Submit application form with school transcript, a letter of recommendation (from UNW Local President, Chief, Council, Band Manager, school counsellor, teacher or principal), a personal profile, a letter stating career goals, personal traits/characteristics and involvement with UNW.

Contact: United Nations Nations, 8th Floor, 736 Granville Street, Vancouver, BC, V6Z 1G3, Tel: (604) 688-1821, Fax: (604) 688-1823.

**Canada-Taiwan Student Exchange Program**

**Deadline:** April 9

**Terms of reference:** The Canada-Taiwan Student Exchange Program is a scholarship program sponsored by the Department of Human Resources Development Canada. This program is aimed at providing opportunities for undergraduate Canadian students to study at participating Taiwanese universities, and for undergraduate students from Taiwan to study at participating Canadian universities.

All field of study, except medicine, are eligible. The applicant must be nominated by his/her institution. No applications will be accepted directly from students.

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AACC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745. E-mail: jgallagh@aucc.ca

Web: www.aucc.ca

**Canadian Cambridge Scholarships**

**Deadline:** October 11

**Terms of reference:** 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 would 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, MSS 1L6, Tel: (416) 934-0606, Fax: (416) 934-0702, info@cantabct.org Web: www.cantabct.org

**Canadian Federation of University Women**

**Parksville/Qualicum – The Helen Condie Memorial Award**

**Deadline:** June 2

**Terms of reference:** To be awarded annually to a male or female student from the Parksville/Qualicum area (District 69), entering or continuing study in the nursing profession. Applicants must complete an application form and attach a letter stating past school and work experience, study/career plan, volunteer and/or community involvement and financial need.

Applicants must supply two reference letters, with the name, address & telephone number of referee, a copy of letter of acceptance from the school which the applicant plans to attend and transcripts.

Contact: C.F.U.W. – Parksville/Qualicum, Secretary of Scholarship & Bursary Trust, P.O. Box 113, Qualicum Beach BC, V9K 1S7, Web: www.macn.bc.ca/~cfuw

**Canadian Federation of University Women**

**Parksville/Qualicum – The James Craig Reid Memorial Scholarship**

**Deadline:** June 9

**Terms of reference:** To be awarded annually to a male or female student who 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 be entering their 4th year of study in a university academic program. Preference shall be given to candidates in the Faculty of Music, Fine Arts or Liberal Arts, or Education specializing in those areas.

Contact: C.F.U.W. – Parksville/Qualicum, Secretary, James Craig Reid Memorial Scholarship Trust, P.O. Box 113, Qualicum Beach BC, V9K 1S7, Web: www.macn.bc.ca/~cfuw

**The Canadian Golf Foundation Scholarship**

**Deadline:** June 30

**Terms of reference:** The Canadian Golf Foundation encourages the athletic and academic careers of promising Canadian golfers and students of the
industry by offering financial assistance through scholarships and awards. Several scholarships are offered 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, 2070 Hadwen Road, Unit 2, Mississauga, ON L5K 2T3, Tel: (905) 849-9700, Toll Free: 1-800-263-0009 , Fax: (905) 845-7040.

cgl@cga.org Web: www.canadiangolffoundation.org

Canadian Japanese-Mennonite Scholarship

Terms of reference: This award will be offered to students who are Mennonite and Canadian citizens or permanent residents of Canada. The award is intended for undergraduate and graduate studies in any discipline or field of study. However, preference will be given to students who are interested in research that will assist the protection of minority or human rights in Canada.

Contact: Canadian Japanese-Mennonite Scholarship, 134 Plaza Drive, Winnipeg MB, R3T 5K9, Tel: (204) 261-6381, Fax: (204) 269-9875.

canadianjapanese-mennoniteweb.org

Canadian Northern Studies Polar Commission Scholarship – Canadian Northern Trust

Terms of reference: This award will be offered to graduate students whose programs of study focus in the areas of academic and leadership standards over the years.

Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9J6, Tel: (613) 562-0215, Fax: (613) 562-0533.

acuns@cyberus.ca Web: www.cyberus.ca/~acuns

Canadian Printing Industries Scholarship Trust Fund

Terms of reference: The amount of each scholarship is $1000 per year. Students must be enrolled for a minimum of two years, on a full time basis, in any discipline or field of study in a Canadian school. The eligibility of any program and institution is at the discretion of the board of trustees of the scholarship fund, whose decision is final. Applicants must maintain a B average or better and must have an interest in pursuing a career in the printing industries (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.

Canadian Sanitation Supply Association Scholarship Program

Deadline: June 1

Terms of reference: Seven scholarships will be awarded to Canadian students attending college or university in Canada who have achieved a high level of academic and leadership standards over the years. The selection committee’s decision will be based on academic and social achievement as well as the quality of the essay.

Contact: Canadian Sanitation Supply Association, 300 Mill Road, #G-10, Etobicoke ON, M9C 4W7, Tel: (416) 620-9320, Fax: (416) 620-7199.

cssa@thewire.com Web: www.cssa.com

Canadian Water Resources Association

Deadline: February 15

Terms of reference: Four scholarships 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 permanent residents of Canada. The applicant must be a resident of the provinces of the commission in which the student is enrolled.

Contact: Canadian Water Resources Association, 75 Albert Street, Suite 906, Ottawa, ON, K1P 5E7, Tel: (613) 562-1234, Fax: (613) 562-9745.

cwra@aucc.ca Web: www.aucc.ca

Orville Erickson Memorial Scholarship Fund

Deadline: May 15

Terms of reference: The application must be a resident of the City of Coquitlam, demonstrate financial need (in the case of the bursary), have a history of school and 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. Bursary 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: Glenn Hara, Secretary, Coquitlam Fishermen’s Mutual Marine Insurance Company, Suite 200-4259 Canada Way, Coquitlam BC, V3B 7N2, Tel: (604) 927-3003, Fax: (604) 927-3015.

Dental Laboratory Technician Program Entrance Scholarship (Vancouver Community College)

Terms of reference: A $1500 scholarship will be awarded to the eligible applicant who achieved the highest score in the Vancouver Community College Dental Laboratory Technician Program’s selection process. Applicants must be graduates of an accredited university or a three-year program at an accredited art college.

Contact: Vancouver Community College (City Centre Campus), 250 West Pender Street, Vancouver, BC, V6B 1S9, Tel: (604) 874-7148.

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 national health 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. 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 2100-710 Burrard Street, Vancouver, BC, V7H 1P1. Italian Cultural Institute in Vancouver call (604) 688-0809; Italian Consulate in Vancouver (604) 684-7288.
Canada, or landed immigrants, with the intent of working in Canada. All applicants must be in need of financial assistance to pursue their course of study. Applications may be made for a summer or other session and will be considered for up to $3,000. Applications for a scholarship must be made on an OENS Form. Contact: Orrville Erickson Memorial Scholarship, c/o Secretary Canadian Wildlife Foundation, 2740 Queen'sview Drive, Ottawa, ON, K2B 1A2.

Fairfax Financial Holdings Limited Scholarship Program
Deadline: June 1
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 technical 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, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 963-1236, Fax: (613) 563-9745.
E-mail: awards@aucc.ca
Web: www.aucc.ca

Fessenden-Trott Awards Program
Deadline: June 1
Terms of reference: This award is available to undergraduate students who are completing the first year of a first university degree program and have attained high academic standing. Candidates must be Canadian citizens or permanent residents of Canada. Applications are by nomination only. 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

Isabel Loucks Foster Public Health Scholarship Fund
Deadline: September 15
Terms of reference: Candidates must be full-time students engaged in postgraduate study in a field of Public/Community Health Practice within an applicable discipline (e.g. nurses, nutritionists, environmental health officers, etc.). Candidates must be ordinarily resident and practising in B.C., who demonstrate a commitment to remain in B.C., must have demonstrated excellence in performance and leadership ability and studies may be undertaken at any suitable educational institution either within or outside British Columbia. Applications must be accompanied by a current C.V., proof of acceptance or enrolment in an appropriate program, future goals and intentions within public/community health and any other relevant information. Contact: The Office of the Medical Health Officer, Interior Health Authority, 1440 – 14th Avenue, Vernon, BC, V1B 2T1.
Web: www.vancouverfounder.bc.ca/community/public%20health.htm

Terry Fox Humanitarian Award
Deadline: February 1
Terms of reference: 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 awards for the pursuit of higher education. The program provides scholarships to students entering or attending post-secondary educational institutions within Canada. The successful applicants are recognized for dedication to community service, humanitarianism, perseverance and courage in the face of obstacles, and pursuit of excellence in fitness and academics. Award recipients must be Canadian citizens or have landed immigrant status. The value of the award is $6,000 annually, for a maximum of four years or until a first degree is obtained. For those who attend institutions that do not charge tuition fees, the award is $3,500 per year. Successful Terry Fox scholars are expected to participate in Program activities such as volunteer service, yearly meeting and annual reports.
Contact: Terry Fox Humanitarian Award Program, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A 1S6, Tel: (604) 291-3057, Fax: (604) 291-3311.
E-mail: terryfox@sfu.ca
Web: www.terryfox.org

Geometrics Canada Scholarship Program – Canadian Institute of Geomatics
Deadline: March
Terms of reference: This annual scholarship is available to worthy applicants taking secondary education in the fields of geomatics, for those that offer it, agricultural journalism. There is 1 $2,000 scholarship offered to an individual in a post graduate degree program in agriculture, journalism or communications at a recognized university. There are 3 $1,500 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) 278-7772, Fax: (403) 295-1333.
E-mail: herefords@hereford.ca

Global Television Network Scholarship Award for a Canadian Visable Minority Student
Deadline: March
Terms of reference: This scholarship is designed to encourage Canadian students from a self-identified visible minority, and provides educational assistance towards the pursuit of a career in broadcasting. The award is valued at about $5,000, 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. Applicants must be enrolled in a four-year program or for three years.
Contact: Global Television Network, 81 Barber Greene Road, Toronto, ON, M3C 2A2.
Tel: 1-800-387-8001, Fax: (416) 446-5544.

Golden Key Scholarships and Awards
Terms of reference: Golden Key National Honour Society is committed to the cause of recognizing and encouraging academic excellence. To recognize members’ accomplishments, scholarships and awards are provided to deserving Golden Key members. Visit Golden Key website for detailed information.
Contact: Golden Key National Honour Society, International Headquarters, 1189 Ponce de Leon Avenue, Atlanta, GA, 30306-4624, USA.
Tel: 1-800-377-2401, Fax: (404) 273-7033.
E-mail: rboone@gknhs.gsu.edu
Web: www.gknhs.gsu.edu

Government Finance Officers Association – Daniel B. Goldberg Scholarship for Public Finance Graduate Students
Deadline: February 7
Terms of reference: The GFOA’s Daniel B. Goldberg Scholarship of $5,000 will be awarded to a student enrolled in a full-time master’s program preparing for a career in state and local government finance. The candidate must hold a baccalaureate degree or its equivalent and be a citizen or permanent resident of the U.S. or Canada. Recommendation from student’s academic advisor or dean of the graduate program is required. The winner of the scholarship will be selected on the basis of academic merit and professional promise.
Contact: Government Finance Officers Association, 203 North LaSalle Street, Suite 2700, Chicago IL, 60601-1210.
Tel: (312) 977-9700, Web: www.gfoa.org

Global Television Network Scholarship – Internship Award for a Canadian with a Physical Disability
Deadline: May 31
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 about $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, or a mature student eligible for admission to a radio and television arts or journalism program at a recognized Canadian university or college. The scholarship-internship award is offered to a 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.
Applications will be considered by a cross-Canada panel that includes representation from Global Television Network and the broadcast industry.
Contact: Global Television Network, 81 Barber Greene Road, Toronto, ON, M3C 2A2.
Tel: 1-800-387-8001, Fax: (416) 446-5544.

Global Television Network Scholarship – Internship Award for a Canadian with a Physical Disability
Deadline: May 31
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 about $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, or a mature student eligible for admission to a radio and television arts or journalism program at a recognized Canadian university or college. The scholarship-internship award is offered to a 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.
Applications will be considered by a cross-Canada panel that includes representation from Global Television Network and the broadcast industry.
Contact: Global Television Network, 81 Barber Greene Road, Toronto, ON, M3C 2A2.
Tel: 1-800-387-8001, Fax: (416) 446-5544.

Global Television Network Scholarship – Internship Award for a Canadian with a Physical Disability
Deadline: May 31
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 about $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, or a mature student eligible for admission to a radio and television arts or journalism program at a recognized Canadian university or college. The scholarship-internship award is offered to a 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.
Applications will be considered by a cross-Canada panel that includes representation from Global Television Network and the broadcast industry.
Contact: Global Television Network, 81 Barber Greene Road, Toronto, ON, M3C 2A2.
Tel: 1-800-387-8001, Fax: (416) 446-5544.

Global Television Network Scholarship – Internship Award for a Canadian with a Physical Disability
Deadline: May 31
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 about $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, or a mature student eligible for admission to a radio and television arts or journalism program at a recognized Canadian university or college. The scholarship-internship award is offered to a 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.
Applications will be considered by a cross-Canada panel that includes representation from Global Television Network and the broadcast industry.
Contact: Global Television Network, 81 Barber Greene Road, Toronto, ON, M3C 2A2.
Tel: 1-800-387-8001, Fax: (416) 446-5544.
Government Finance Officers Association – George A. Nielsen Public Investor Scholarship
Deadline: February 7
Terms of reference: The GFCA’s George A. Nielsen Public Investor Scholarship of $5,000 will be awarded (may be awarded as two $2500 scholarships) to an undergraduate or graduate student in public administration, finance, business administration or a related field. The candidate must be employed at least one year by a state, local, government or other public entity and must be a citizen or permanent resident of the US or Canada. Recommendation by employer is required.
Contact: Scholarship Committee, Government Finance Officers Association, 203 North LaSalle Street, Suite 2700, Chicago, IL, 60601-1210, Tel: (312) 977-9700. Web: www.gfoa.org

Government Finance Officers Association – Public Employee Retirement Research and Administration Scholarship
Deadline: February 4
Terms of reference: The GFCA’s Public Employee Retirement Research and Administration Scholarship of $4,000 is available to a full- or part-time student enrolled in a graduate program in public administration, finance, business administration or social sciences. Student must have an intent to pursue a career in state or local government with a focus on public sector retirement benefits, and must hold a baccalaureate degree or its equivalent. Must be a citizen or permanent resident of the US or Canada. Recommendation from the student’s academic advisor or dean of the graduate program required.
Contact: Scholarship Committee, Government Finance Officers Association, 203 North LaSalle Street, Suite 2700, Chicago, IL, 60601-1210, Tel: (312) 977-9700. Web: www.gfoa.org

John Gyles Education Awards
Deadline: April 1, June 1 and November 1
Terms of reference: The John Gyles Education Awards are available to students in both Canada and the United States. Full Canadian or American citizenship is a requirement. Awards are available to male and female students for all areas of post-secondary study. A minimum of 2.7 is required. Criteria other than strictly academic ability and financial need are considered in the selection process. Students can receive an application by sending a stamped, addressed envelope.
Contact: The John Gyles Education Fund, Attention: The Secretary, P.O. Box 4808, Station A, Fredericton, NB, E3B 5G4, Tel: (506) 459-7460.

Phyllis P. Harris Scholarship
Deadline: June 30
Terms of reference: The scholarship is for full-time undergraduate students in third or fourth year level at a Canadian University. The scholarship is open for application to Canadian citizens or landed immigrants who intend to work for a degree in the field of family planning or population issues. The field is defined broadly to include aspects of biology, education, history, medicine, political science, psychology, international studies, social work or sociology. No special application is required. The applicant must submit a typed essay of about 500 words outlining relevant background education, objectives and plans for the future. Applicants should include a resume showing a variety of interests, including volunteer and community experience. Application must include name, address and telephone number of two references. Reference letters should be sent directly to the office of Planned Parenthood Federation of Canada.
Contact: Phyllis P. Harris Scholarship Committee, Planned Parenthood Federation of Canada, 430 – 1 Nicholas Street, Ottawa, ON, K1N 7B7, Tel: (613) 241-4474, Fax: (613) 241-7550. Web: www.pplcf.ca

Harry Bridges Undergraduate Scholarship (ILWU)
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 International Longshore and Warehouse Union in Canada. Candidates may attend the University of BC, the University of Victoria, Simon Fraser University, BC Institute of Technology, or any college in BC and must enrol in a full program of studies each year. Application must be submitted by February 7. Contact: Award #00558: Apply at University of British Columbia, Student Financial Assistance and Awards, Enrolment Services, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Thomas P. Mayes Scholarship (ILWU)
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, of the International Longshore and Warehouse Union in Canada. Candidates may attend the University of BC, the University of Victoria, Simon Fraser University, BC Institute of Technology, or any college in BC and must enrol in a full program of studies each year. Application must be submitted by February 7. Contact: Award #00566: Apply at University of British Columbia, Student Financial Assistance and Awards, Enrolment Services, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Ralph Scru顿 Memorial Scholarship (ILWU Local 506)
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 must attend the University of BC, the University of Victoria, Simon Fraser University, BC Institute of Technology or any college in BC and must enrol in a full program of studies each year. Application must be submitted by February 7. Contact: Award #00484: Apply at University of British Columbia, Student Financial Assistance and Awards, Enrolment Services, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Bud Smith Scholarship (ILWU Local 517)
Deadline: June 30
Terms of reference: A $500 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, or any college in BC and must enrol in a full program of undergraduate studies each year. Application must be submitted by February 7. Contact: Award #00551: Apply at University of British Columbia, Student Financial Assistance and Awards, Enrolment Services, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

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 physical 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. 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 (UCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1298, Fax: (613) 563-9745. E-mail: awards@uacc.ca Web: www.uacc.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.

The Harry Jerome Scholarship Fund
Deadline: May 30
Terms of reference: The Harry Jerome Scholarships are open 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, MSV 1M9, Tel: (416) 504-4097, Fax: (416) 504-7343. E-mail: hjsf@accessv.com Web: www.bbp.org

Jewish Women International of British Columbia Scholarship
Deadline: June 30
Terms of reference: Two scholarships of $500 each are offered to members of the Hilil and sons or daughters of members of Jewish Women International of Canada. Students must have successfully completed at least one year at Simon Fraser University, University of British Columbia or Vancouver Community College (Langara) by June 30 and must be continuing studies at any of the three institutions. Application must be accompanied by a transcript of all post-secondary studies completed.
Contact: Award #00581: Apply at University of British Columbia, Student Financial Assistance and Awards, Enrolment Services, 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, Student Financial Assistance and Awards, Enrolment Services, 1036-1874 East Mall,
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. Eligible candidates must be nominated by community leaders, employers or faculty.

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 $2,000 each for research relating to the Children at Risk Program. 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.

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. Applicants must indicate a course of study under the Children at Risk Program.

Contact: Laidlaw Foundation, 950 Yonge St., Toronto, ON, M4W 2J4, Tel: (416) 964-3614, Fax: (416) 975-1428.

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 5070, St. John's NF, A1C 5X4, Tel: 754-4424, Fax: 754-4320.

Legal Studies for Aboriginal People Grants and Scholarships Program

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: August 2

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. Application must include: transcript of previous semester; if applicable, proof of acceptance for entry to educational institutions; resume containing information of education, work and volunteer experience and letters of reference from previous employers, teachers and volunteer organizations.

Contact: Lotus Light Charity Society, #200-357 East Hastings St., Vancouver, BC, V6A 1P3, Tel: (604) 685-5548, Fax: (604) 685-5598.

E-mail: lcls@radiant.net

Luent Global Science Scholars Program – Canadian Bureau for International Education

Deadline: March 15

Terms of reference: Three scholarships of $5,000 US will be awarded to first year undergraduates in computing science/engineering, electrical engineering or related programs. Students must participate in a Global Summit at Bell Labs in New Jersey and receive an internship offer from Lucent Canada. Applications are available for the program. Students may also apply for an award of up to $1,000 if enrolled in a third or fourth year undergraduate program at a Canadian university leading to a professional degree in a field relevant to the Children at Risk Program.

Contact: Canadian Bureau for International Education, 220 Laurier Ave. West, Suite 1100, Ottawa, ON, K1P 5Z9, Tel: (613) 237-4820, ext. 242, Fax: (613) 237-1073.

E-mail: lfi@cbie.ca, Web: www.cbie.ca

Manchester Graduate School of Social Science – School of Law Scholarship

Deadline: May 2

Terms of reference: Manchester Graduate School of Social Sciences, the Faculty of Law has set aside funds to make available two scholarships for postgraduate research students. These scholarships are sufficient to cover home fees and some maintenance. These scholarships are available for postgraduate research in any area of legal study. Enquiries may be addressed to the director of postgraduate studies.

Contact: Director of Postgraduate Studies, School of Law, University of Manchester, Oxford Road, Manchester, M13 9PL, England, Tel: (0161) 275-3563, Fax: (0161) 275-3579.

E-mail: pg-law@man.ac.uk

Web: les.man.ac.uk/law

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 NS, NB, or PEI; currently attending a post-secondary education institution within Canada; completed at least two years of post-secondary education and currently enrolled in a program that has application to the dairy industry; applicant must show professional promise and a commitment and interest in 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 of 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.


Maccama Foundations Mission Scholarship

Deadline: August 2

Terms of reference: The purpose of the scholarship is to encourage disabled students to pursue university studies with the ultimate objective of obtaining a first university degree. 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 participate fully in post-secondary learning”. Candidates 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 presentation. The holder of a Maccama Scholarship is eligible to apply in subsequent years provided he/she submits a new application and all pertaining documents. 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, awards@aucc.ca, Web: www.aucc.ca

The William McCallum Memorial Scholarship

Deadline: April 30

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, Dawson College, 3040 Sherbrooke St. West, Westmount, QC, H3Z 1A4, Tel: (514) 931-8731, 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 1100, 100 Queen St., Ottawa, ON, K1P 1J9, Tel: (613) 237-5160, Fax: (613) 230-8842.

E-mail: jaylen@bigcanada.com

Mensa Canada Scholarship

Deadline: January 31

Terms of reference: Awards will be made on the basis of applicants’ essays. The essay should describe the applicants’ specific goals (academic, vocational or career) and any steps the applicants have taken, relevant experience gained and any difficulties the applicants have overcome in pursuit of the goals. The applicants must be Canadian citizens or landed immigrants enrolled in a full-time program at an accredited post-secondary institution. Maximum essay length is 250 words. Applications must be sent by e-mail. Follow contest rules carefully.

Contact: Co-ordinator, Mensa Canada Scholarship Programme, 329 March Road, Suite 232, Box 11, Kanata ON, K2K 2E1, Tel: (613) 599-5897.

E-mail: Essays@MensaCanada.ca

Web: www.mensacanada.ca

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 Post-Secondary Education Awards Program
Deadline: June 1

Terms of reference: The NAAF provides support for Aboriginal students studying in the fields of business, science, law, engineering, information technology, education, social work and the social sciences. Applicants must enroll in post-secondary programs at least to academic years at recognized Canadian technical institutes, CEGEPs, colleges and universities. Certificate or diploma programs, undergraduate and graduate degree programs are eligible for consideration. Awards are made on the basis of financial need, academic merit, and the applicant's interest and commitment to his or her education. Students who apply to NAAF's Post-secondary Education Program may receive scholarships from one of the following:
- Shell Canada Aboriginal Scholarship Program
- CIBC Achievers
- Petro-Canada Aboriginal Education Awards
- Aboriginal Veterans Scholarship Trust
- Ontario Aboriginal Partnerships recognition Scholarship
- Canadian Pacific Railway Aboriginal Scholarships
- Trans Canada Pipe Lines Leadership Awards
- BP Canada Aboriginal youth Achievers Scholarship
- The Diana Fowler LeBlanc Aboriginal Social Work Scholarship
- The Great-West Life Business Education Scholarship
- TD Bank Financial Group Scholarships
- UGG Agricultural Scholarships
- The CN Aboriginal Scholarships
- The Suncor Energy Foundation 'Shared Achievements' Aboriginal Awards
- Hydro One Aboriginal Scholarships
- Weyerhaeuser Aboriginal Scholarship

Contact: The National Aboriginal Achievement Foundation, Suite 33A, 70 Yorkville Avenue, Toronto, ON, M5R 1B9, Tel: (416) 926-0775, Toll Free: 1-800-329-9780, Fax: (416) 926-7554. E-mail: naaf@istar.ca Web: www.naaf.ca

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, Toll Free: 1-800-329-9780, Fax: (416) 926-7554. E-mail: naaf@istar.ca Web: www.naaf.ca

National Congress of Italian-Canadians, Pacific Regions Scholarships
Deadline: April

Terms of reference: The NCIC Pacific Region offers up to four scholarships yearly of $500 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 0375 Slocan Street, Vancouver, BC, V5M 3E4, Tel: (604) 430-3337.

National Federation of the Blind: Advocates for Equality
Deadline: March 1

Terms of reference: The NFB; AE will be annually awarding three scholarships in the amount of $1,500 each. All scholarships are awarded on the basis of academic excellence, service to the community and financial need. All applicants must:
- be legally blind
- reside in Canada
- be pursuing or planning to pursue a full-time college or university level course of study, at a graduate or undergraduate level

Contact: The National Federation of the Blind: Advocates for Equality Scholarship Committee, #107 – 1455 Ellis Street, Kelowna BC, V1Y 2A3, Tel: (250) 862-3551, Fax: (250) 862-3966. E-mail: nfbae@home.com Web: www.nfbae.ca

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, recommendation of 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) 980-8701.

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 who are pursuing or planning to pursue a full-time college or university level course of study, at a graduate or undergraduate level. The Nuu-Chah Nulth Post-Secondary Scholarships are two, one for the City of Port Alberni, second to eligible applicants who are residents of the City of Nelson, and third to eligible applicants who are residents of an area within the Nuu-chah-nulth Tribal Council, Box 1383, Port Alberni, BC, V9Y 7M2. Tel: (604) 724-5437, 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; (c) have an average of at least A+, or the equivalent, on the last 20 one term/semester courses, or the equivalent, completed. OGS awards are not automatically renewed. You must submit a new application each year (12-month period).

Contact: Ontario Graduate Scholarship Program, Student Support Branch, Ministry of Training, Colleges and Universities, PO Box 4500, 4th Floor, 189 Red River Rd, Thunder Bay, ON, P7B 6G9, Tel: (807) 343-7257, 1-800-465-3957. Web: osap.gov.on.ca/eng/not_secure/OGS.htm

P.E.O. International Peace Scholarship Fund for Women

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 a full-time graduate study or working toward a graduate degree in the University of her choice in the United States or Canada. The applicant must have a full year of class work remaining and enrolled 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.

Petro-Canada Graduate Research Award Program
Deadline: March 28

Terms of reference: The program was established to recognize academic excellence and to support and encourage graduate research in specialized fields of study relating to the petroleum industry. Fields of study include sciences, engineering, social sciences, and business administration. Candidates must be Canadian citizens or permanent residents and working towards a master's or doctoral degree (on a full-time basis) on a subject related to the oil and gas industry. Awards are granted on the basis of academic standing and demonstrated potential for advanced study and research.

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1250, Fax: (613) 563-9745. E-mail: awards@aucc.ca Web: www.aucc.ca

The Pisapio Scholarships
Deadline: September 25

Terms of reference: Scholarships in the amount of $1,000 are available each year. Applicants must be accepted for admission to a university, be a full-time student working toward an undergraduate degree or graduate degree from the university and 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 the National Congress of Italian Canadians, Pacific Regions Scholarship Program.
Financial Assistance and Awards – Externally Administered Programs

Research Support Opportunity in Arctic Environmental Studies – Canadian Northern Studies Trust

Deadline: January 31

Terms of reference: The Meteorological Service of Canada (a division of Environment Canada) sponsors a unique research support opportunity by providing accommodation, facilities, and services at the high Arctic Weather Station (HAWS) at Eureka on Ellesmere island, to graduate students enrolled in masters or doctoral studies at a Canadian university. Preference will be given to environmental research proposals in physical or biological sciences for which the location at Eureka is demonstrably advantageous. These 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 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533, E-mail: acuns@cyberus.ca, Web: www.cyberus.ca/acuns

Rhodes Scholarships

Deadline: September 15 (in Financial Assistance)

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 attainments; fondness and success in outdoor sports; qualities of truthfulness, courage, devotion to duty, sympathy for and protection of the weak, kindness, unselfishness, and fellowship; exhibition of moral force of character, and of instincts to lead and take an interest in one’s contemporaries. Qualities of both character and intellect are the most important requirements for a Rhodes Scholarship; these are what the selection committees will seek. Financial need does not receive special consideration. The eleven scholarships are allotted: three to the Western Region (Manitoba, Saskatchewan and Alberta); two to each of Ontario, Quebec and the Maritime Region (New Brunswick and Nova Scotia); and one each to British Columbia and Newfoundland. A candidate must be a Canadian citizen or permanent resident of Canada; he must have been born between October 2, 1979 and October 1, 1985; except for medical students, have received an undergraduate degree before taking up the scholarship.

Contact: Further information and application forms may be obtained from Financial Assistance or from the Office of the General Secretary for the Rhodes Scholarships in Canada, PO Box 48, Toronto-Dominion Centre, Toronto M5K 1E6 or from the Provincial Secretaries.

Baxter and Alma Ricard Foundation Scholarship

Deadline: March 1

Terms of reference: The Foundation Ricard is offering scholarships to French-Canadian students to enable them to pursue a graduate or postgraduate education in fields of study where a concentration of Canadian students is of their choice in the world. Candidate must be at least 21 years old, a francophone Canadian living in a linguistic minority situation and distinguish themselves by their academic performance and personal qualities. Contact: 225, rue Metcalfe, bureau 407, Ottawa, ON, K2P 1P9, Tel: (613) 236-7065,
Terms of reference: The Rotary Foundation offers three types of scholarships: the Academic-Year, the Multi-Year Scholarship and the Cultural Scholarship. The applicants must initially apply through local Rotary Clubs. Not all Rotary clubs will offer scholarships, nor will all types of scholarships necessarily be available in a given year. Interested individuals should contact their local Rotary club to obtain application forms and inquire about the availability of scholarship types.

Contact: The Rotary Foundation of Rotary International, One Rotary Center, 1560 Sherman Avenue, Evanston, IL 60201 USA.
Web: www.rotary.org

Saturn “Commitment to Excellence” Award
Deadline: October 20

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 categories: academic, business, arts, athletics, philanthropy or community. Winning students will receive a $1,500 scholarship to be presented at Chatealaine’s Women of Influence luncheon series (where applicable) or at a special presentation at the winner’s school during the month of November or December. Students must complete and return the application form along with the following items: a 500-word essay on their successes and contributions in one or more areas: academic, business, arts, athletics, philanthropy or community, an official transcripts, letters of reference from professors, employers, coaches or members of the community (maximum form of three) and two photocopies of all materials.
Contact: Saturn Commitment to Excellence c/o Optimum Public Relations, 21 St. Clair Ave. East, 12th Floor, Toronto, ON, M4T 1L9, Attention: Isabelle Trottizky, Tel: (416) 994-8026.

SHARE Scholarships
Deadline: May 15

Terms of reference: SHARE is offering four annual scholarships to students who are pursuing careers in the Information Technology (IT) industry. The term “IT” refers to a range of disciplines including, but not limited to: computer science, management information systems, and computer or electrical engineering.
Each SHARE scholarship includes: a cash award of $2,500 for use in defraying educational expenses, paid attendance at one SHARE conference during the year for which the scholarship is awarded, airfare, hotel accommodations, and a food allowance for the conference and an announcement of the winners posted on the SHARE web site and displayed prominently at SHARE conferences. Attendance at SHARE extends the student’s academic experience by providing the opportunity to learn from practicing professionals in the industry.
Contact: Brooke Kowalski, SHARE Headquarters, 401 North Michigan Avenue, Chicago, IL, 60611-4267, Tel: (312) 673-4793.
E-mail: bkowalski@sba.com
Web: wwwSHARE.org/scholarship

Elvie Smith Memorial Scholarship For Studies in Canadian Aerospace
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. This scholarship will be awarded to a Canadian student wishing to pursue studies in engineering or a scientific discipline related to aerospace at the graduate or postgraduate level in preparation for a career in aerospace. Submission requirements are to be written in English. Applications may choose to submit a letter, essay, or other written presentation. Factors to be considered are knowledge of Canadian aviation history, the entrant’s own activities associated with aviation, interest in aerospace technology, plans for a career in aerospace, and an explanation of how the scholarship would be used.
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, Winnipeg, MB, R3C 1L2, Tel: (204) 361-3135, Fax: (204) 361-1239.
E-mail: cahf@telusplanet.net

John J Schumacher Minority Leadership Scholarship Program – Southwestern University School of Law
Deadline: November 30

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 catalogue.
Contact: Office of Admission, Southwestern University School of Law, 675 S. Westmoreland Avenue, Los Angeles, CA 90005, USA.
Tel: (213) 738-6717.

E.M. (Betty) Spalton Education Fund
Deadline: July 31

Terms of reference: The Betty Spalton Fund is geared at encouraging women enter the road construction industry and related fields. A scholarship will be given annually to a student entering or continuing studies leading to a career in road building, road maintenance or heavy construction. Preference will be given to students who are female and/or members of minority groups. Program of study may be either full- or part-time at any BC college or university. Applications must include a brief 2000 word essay explaining their interest obtaining an education in the field, a resume and transcripts from any secondary and post-secondary institutions attended.
Contact: Chair, Betty Spalton Educational Trust Fund, B.C. Road Builders and Heavy Construction Association, 307-8678 Greenall Avenue, Burnaby, BC, V5J 3M6, Tel: (604) 436-0220, Fax: (604) 436-2627.
E-mail: info@roadbuilders.bc.ca
Web: www.roadbuilders.bc.ca

CNST Scholarships in Northern Studies – Canadian Northern Studies Trust
Deadline: January 31

Terms of reference: The Canadian Northern Trust offers one or two scholarships valued at $10,000 each, to students enrolled in a doctoral program at a Canadian University. Applications are invited from students who will (a) engage in research culminating in a thesis or other such document, (b) include direct northern field research or experience as part of their studies, and (c) whose programs are relevant to northern problems or issues. All subject area, including interdisciplinary work, will be considered as long as the research is conducted primarily in northern Canada.
Contact: Association of Canadian Universities for Northern Affairs (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9A8, Tel: (613) 562-0515, Fax: (613) 562-0533.
E-mail: acuns@cyberus.ca
Web: www.cyberus.ca/~acuns

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 academic merit, leadership qualities, community activities, a brief written submission (500 words or less) and references. Applicants must be residents of the Province of British Columbia. Candidates must be of Italian origin and must have completed their first year of post-secondary studies. Contact: SWANA Scholarship c/o QVFD – Policy & Planning Department, 4330 Kingsway, Burnaby, BC, V5H 4G8, Attention: Mike Stringer, Tel: (604) 436-6823, 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 project at the University of British Columbia or an independent research facility. The competition for the scholarship is open to Canadian citizens and permanent residents of Canada. The value of the scholarship is approximately SEK 6700 per month. Applicants should submit a letter of application,how the project they would like to work on at the University of British Columbia or an independent research facility. The letter should include a brief outline of the project, which should be related to the candidate's area of expertise. The letter should also include a brief statement of the candidate's research interests and past accomplishments. Applicants should also submit a current curriculum vitae and a list of publications. The Swedish Institute will not provide funding for living expenses, airfare, or other travel expenses. Contact: Swedish Institute Scholarship Of...
Terms of reference: The Zajac Scholarship is awarded annually to an individual with a disability that is attending or planning to attend post-secondary education. Applicant must: be a Canadian citizen or resident; have a physical, neurological and developmental disability; attend post-secondary (credited courses leading to a degree, diploma or certificate) or a structured vocational program; demonstrate social interests, such as participation in volunteer work or extracurricular activities and demonstrate the philosophy and values of the Centre for Ability.

Contact: Zajac Scholarship Committee, c/o The Centre for Ability, 2805 Kingsway, Vancouver, BC, V5R 5H9, Tel: (604) 451-5511, Fax: (604) 451-5611.

Web: www.centreforability.bc.ca

External Scholarships for Applied Sciences Students

Jim Allard Broadcast Journalism Scholarship – Canadian Association of Broadcasters 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 the $2,500 scholarship. To qualify, simply explain on a separate piece of paper or about 500 words, why you’re interested in broadcast journalism, what your career goal is, and how this scholarship can help you attain that goal. Complete the application and send it, with your 500-word outline and a signed recommendation from your course director, to the Canadian Association of Broadcasters (CAB). The judging committee will also 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 studies, part-time employment, etc.

Contact: Jim Allard Scholarship, The Canadian Association of Broadcasters, PO Box 627, Station B, Ottawa, ON, K1P 5S2.

Web: www.cab-acr.ca

The BBM Scholarship (Bureau of Broadcast Measurement) – Canadian Association of Broadcasters Deadline: June 30

Terms of reference: Applicants must be enrolled in a graduate studies program, or be in the final year of an Honours degree with the intention of entering a graduate program, anywhere in Canada. Applicants must submit a 250-word essay, outlining his/her interest in auditing, and a two-year research plan. Applicant should attach to his/her application three references/recommendations from appropriate sources. One should be from his/her course director or advisor.

Contact: CBBM Scholarship, The Canadian Association of Broadcasters, PO Box 627, Station B, Ottawa, ON, K1P 5S2.

Web: www.cab-acr.ca

Terms of reference: The Canadian Broadcast Engineering Memorial Foundation, Undergraduate Scholarship Award, c/o Canadian Council of Professional Engineers, 1100-180 Elgin Street, Ottawa, ON, K2P 2K3, Tel: (613) 232-2474, Fax: (613) 230-5759.

E-mail: info@cbemf.ca

Web: www.cbemf.ca

Canadian Engineering Memorial Foundation Claudette MacKay-Lassonde Scholarship Deadline: January 24

Terms of reference: One $15,000 Claudette MacKay-Lassonde Scholarship is offered annually in Canada to a woman enrolled full-time in a graduate engineering program at the PhD 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 prepare women for 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 as the winner of the scholarship will be required to present her views to a pre-university audience. 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, 1100-180 Elgin Street, Ottawa, ON, K2P 2K3, Tel: (613) 232-2474, Fax: (613) 230-5759.

E-mail: info@cbemf.ca

Web: www.cbemf.ca

Canadian Engineering Memorial Foundation Claudette MacKay-Lassonde Scholarship Deadline: January 24

Terms of reference: Two $1500 scholarships are offered annually to women enrolled in second or third year of an undergraduate chemical engineering or chemistry program to encourage them to pursue this career path. The scholarship is based primarily on demonstrated leadership, community involvement and extracurricular activities. Academic achievement is also considered in awarding the scholarship. Dow chemical Canada may consider the award winner for a summer, co-op or full time position at a Dow Chemical Canada location, depending on hiring needs identified at the time of the award. Selection of the award recipient will be made by Canadian Coalition of Women in Engineering, Science and Technology (CCWEST) based on all the information and references provided with the application.

Applicants must be Canadian citizens or landed immigrants with permanent residence in Canada.

Contact: The Canadian Engineering Memorial Foundation, Dow Canada Canada/CCWEST Scholarship Program, c/o Canadian Council of Professional Engineers, 1100-180 Elgin Street, Ottawa, ON, K2P 2K3, Tel: (613) 232-2474, Fax: (613) 230-5759.

E-mail: info@cbemf.ca

Web: www.cbemf.ca

Dow Chemical Canada & CCWEST – Women in Chemistry & Chemical Engineering Scholarship (Canadian Engineering Memorial Foundation) Deadline: January 24

Terms of reference: Two $1500 scholarships are offered annually to women enrolled in second or third year of an undergraduate chemical engineering or chemistry program to encourage them to pursue this career path.

Contact: The Canadian Engineering Memorial Foundation, Dow Canada Canada/CCWEST Scholarship Program, c/o Canadian Council of Professional Engineers, 1100-180 Elgin Street, Ottawa, ON, K2P 2K3, Tel: (613) 232-2474, Fax: (613) 230-5759.

E-mail: info@cbemf.ca

Web: www.cbemf.ca

Canadian Space Agency – Canadian Space Agency Scholarship – 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.

Contact: Canadian Society for Chemical Engineering, #550-130 Slater Street, Ottawa, ON, K1P 6E2, Tel: (613) 232-6252, Fax: (613) 232-5862.

E-mail: cscadm@fox.nstn.ca

Web: www.fox.nstn.ca

Canadian Society for Chemical Engineers – Edmonton Chemical Engineering Community Scholarship Deadline: April 30

Terms of reference: The Canadian Society for Chemical Engineering offers the Edmonton 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.

Contact: Canadian Society for Chemical Engineering, #550-130 Slater Street, Ottawa, ON, K1P 6E2, Tel: (613) 232-6252, Fax: (613) 232-5862.

E-mail: cscadm@fox.nstn.ca

Web: www.fox.nstn.ca

Canadian Society for Chemical Engineers – SNC LAVALIN Plant Design Competition Deadline: May 15

Terms of reference: The Canadian Society for Chemical Engineering offers the SNC LAVALIN Undergraduate Plant Design Competition for 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) 232-5862.

E-mail: cscadm@fox.nstn.ca

Web: www.fox.nstn.ca

Canadian Society for Chemical Engineers – Canadian Chemical Engineering Community Scholarship Deadline: January 31

Terms of reference: The Canadian Science Agency is sponsoring one to two Canadian student(s), who have 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
Financial Assistance and Awards – Externally Administered Programs

**CCPE – ENCON Scholarship**
Deadline: April 1
Terms of reference: A CCPE-ENCON Scholarship of $10,000 will be awarded to an engineer returning to university for further study or research in the field of civil engineering. To be eligible, candidates must be licensed to practice engineering and be registered as full members of one of the provincial/territorial professional association/order in their province/territory.
Contact: CCPE National Scholarship Program, Canadian Council of Professional Engineers, 1100-180 Elgin Street, Ottawa, ON, K2P 3K3, Tel: (613) 232-2474, Fax: (613) 230-5759.
E-mail: info@ccpe.ca
Web: www.ccpe.ca

**CCPE – Meloche Monnex Scholarship**
Deadline: April 1
Terms of reference: Two CCPE-Meloche Monnex Scholarships of $7,500 each to support engineers returning to university for further study or research in a field other than engineering. Candidates must be accepted or registered in a Faculty other than engineering. The field of study chosen should favour the acquisition of knowledge which enhances performance in the engineering profession. To be eligible, candidates must be licensed to practice engineering and be registered as full members of one of the provincial/territorial professional association/order in their province/territory.
Contact: CCPE National Scholarship Program, Canadian Council of Professional Engineers, 1100-180 Elgin Street, Ottawa, ON, K2P 3K3, Tel: (613) 232-2474, Fax: (613) 230-5759.
E-mail: info@ccpe.ca
Web: www.ccpe.ca

**The Engineering Institute of Canada, Vancouver Island Branch Scholarships**
Deadline: July 31
Terms of reference: Awards are offered to qualified students entering the second year of an accredited engineering program and to students transferring from a bridging program at a technical institute into either second year or third year in an accredited engineering program. Applicants must have graduated from a high school on Vancouver Island and must have achieved a minimum 'B' grade average in the previous year of their engineering program. Applicants must be Canadian citizens or landed immigrants. The awards are granted on the basis of academic standing, financial need and other consideration such as disability or special circumstances. Candidates must submit an application form, a transcript and a letter of assessment from the department head or dean.
Contact: Engineering Institute of Canada, Vancouver Island Branch, PO Box 41013, Victoria, BC, V8Y 3C8, Tel: (250) 477-8031 or (250) 388-8161.
E-mail: mglarbrace@pimc.ca
Web: www.ccpe.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 unique program designed to encourage greater participation of women in the under-represented fields of engineering, science, and mathematics. Successful candidates of the Women in Engineering and Science Program will undertake career-related work in summer 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, must be enrolled full-time in their second year of an undergraduate program in science, engineering or, mathematics in university.
Contact: National Research Council Canada, Human Resource Branch, WES Co-ordinator, Ottawa, ON, K1A 0R6, Tel: (613) 993-9134, Fax: (613) 990-7669.
WES.Coordinator@NRC.CA
Web: www.nrc.ca/careers

**David Squires Foundation Scholarship**
Deadline: October 31
Terms of reference: The Squires Foundation provides two scholarships each year to students who demonstrate significant financial need; are 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
Association of Moving Image Archivists
Scholarships
Deadline: May 15
Terms of reference: Four scholarships, Mary Pickford Scholarship, CFI Siddow Scholarship, Rick Chace Foundation Scholarship, will be given as financial assistance to students of merit who intend to pursue careers in the profession of moving image archiving. 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. Applicants need only submit one application form and one set of supporting documents to be eligible for all four awards.
Contact: AMIA, 1313 North Vine Street, Hollywood, CA 90028, Tel: (323) 463-1500 Fax: (323) 463-1506. E-mail: amia@amianet.org Web: www.amianet.org

BC Arts Council Scholarship Awards
Deadline: May 31
Terms of reference: Candidates must be a Canadian citizen or local immigrant and have attained first-class standing in theatre, dance, music, film and video, creative writing, arts administration, museological and conservation studies, or visual arts programs.
Contact: Julie Poskitt, Coordinator, Scholarship Awards Program, BC Arts Council, 800 Johnson Street, 5th floor, PO Box 9819, Stn Prov Govt, Victoria, BC, V8W 9W3, Tel: (250) 356-1724, Fax: (250) 387-4099.

BC Historical Federation Scholarship
Deadline: May 15
Terms of reference: The British Columbia Historical Federation awards a $500 scholarship annually to a student completing the third or fourth year at a British Columbia college or university. To apply for the scholarship, candidates must submit: 1) a letter of application; 2) an essay of 1,500-2,000 words on a topic relating to the history of British Columbia. The winning essay will be published in BC Historical News; 3) letters of recommendation from two professors.
Contact: Frances Gundry, 255 Niagara Street, Victoria, BC, V8B 1G4, Tel: (250) 387-3623.

The Brucebo Fine Art Summer Scholarship
Deadline: January 31
Terms of reference: 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 travel 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 2K6, 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 is given by Drs. Violet and Blythe Eagles, in honor 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 honors program that specializes in Canadian history, with preference given to the history of British Columbia. Candidates must apply in writing, outlining their studies to date and providing 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: Burnaby Historical Society, Scholarship Committee, c/o Burnaby Village Museum, 6501 Deer Lake Avenue, Burnaby, BC, V5G 3T6, Tel: (604) 293-6500, Fax: (604) 293-6525.
F.J. Connell Music Scholarship Trust
Deadline: October 1
Terms of reference: The F. J. Connell Music Scholarship Trust is a charitable organization whose sole purpose is to provide (in perpetuity) an annual scholarship to university music students; winners are eligible to reapply in a subsequent year.
Eligibility:
• Undergraduate or graduate student at a recognized university.
• Full-time or part-time studies.
• Successful completion of the equivalent of one year of full-time studies in music.
• Currently majoring in music (performance, education, composition, history, etc.) and planning a professional career in music.
• Preference given to students who, through academic performance, extra-curricular activities, and community involvement, best illustrate the values which F. J. Connell taught through the gift of music (e.g. co-operation, honesty, work ethic, responsibility, teamwork, dedication, commitment, patience, goal setting).
Application must include a curriculum vitae, an essay (not more than 500 words) which indicates your extra-curricular activities and community involvement, one academic and one character reference (sent directly from the referee) and an official transcript of grades (sent directly from the Registrar).
Contact: FJ Connell Music Scholarship Trust, 1187 Simcoe Street, Moose Jaw, SK, S6H 3J5, Tel: (306) 694-2045.

Government Finance Officers Association – Minorities in Government Finance Scholarship
Deadline: February 7
Terms of reference: The GFOA’s Minorities in Government Finance Scholarship of $5,000 will be awarded to an upper-division undergraduate or graduate student of public administration, (governmental) accounting, finance, political science, 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, 203 North LaSalle Street, Suite 2700, Chicago, IL, 60601-1210, Tel: (312) 977-9700. Web: www.gfoa.org

Leo J. Krysa Family Undergraduate Scholarship in Education, History, Humanities, Social Sciences
Deadline: March 1
Terms of reference: The Leo J. Krysa family undergraduate scholarship is awarded annually to a student in the faculty of Arts or Education entering the final year of study in pursuit of an undergraduate degree. The scholarships must emphasize Ukrainian and/or Ukrainian-Canadian studies, through a combination of Ukrainian and East European or Canadian courses in one of the following areas: education, history, humanities & social sciences. 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.
Financial Assistance and Awards – Externally Administered Programs

New Brunswick Arts Scholarships
Deadline: January 31
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. 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 submit a 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 Culture, Tourism, and Government Corporate Services, Suite 33A, 70 Yorkville Avenue, Toronto, ON, M5R 1B9, Tel: (416) 926-0775, Toll Free: 1-800-329-9780, Fax: (416) 926-7554, E-mail: naaf@listar.ca, Web: www.naaf.ca

Community Arts Council of Richmond Scholarships
Deadline: March 31
Terms of reference: The purpose of the scholarships is to assist in the educational costs of Richmond residents to attend recognized post-secondary or advanced programs of study in the arts. Scholarships will be awarded for specific programs or courses of study within the discipline of visual arts, drama/theatre, creative writing, dance and music.

Applicant must be a resident of Richmond for a minimum of two years and must not be less than seventeen years of age. Each application must be accompanied by two letters of recommendation, a personal resume outlining personal and immediate objectives and ultimate goals in field of study and copy of application form and or letter of acceptance from program, indicating tuition fees and other related costs. Applicant must be prepared to audition for jury evaluation by scholarship committee. Visual arts applicant to submit portfolio. Creative writing applicant to submit typed copy.

Contact: The Community Arts Council of Richmond, #180-7700 Minoru Gate, Richmond, BC, V6Y 1R9, Tel: (604) 231-6429.

Don Smith Scholarship Fund (BCTV)
Deadline: May 1
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. These scholarships are intended to encourage entrance to a career in broadcasting to members of groups who are currently underrepresented in the broadcast industry. These groups are First Nations peoples, persons with disabilities, visible minorities and women. The applicant must be a member of one of the underrepresented groups, be a permanent resident/citizen of British Columbia; have a high level of commitment to a career in broadcasting; have demonstrated ability to work well with others; have excellent written and verbal communication skills. Selection will be based on evidence of a balanced lifestyle, including leadership ability and a record of community service. Academic achievement and financial need will also be considered. A letter of application, accompanied by a resume, current scholastic record, and two personal letters of reference must be submitted.

Contact: Scholarship Selection Committee, BCTV, A Division of WIC Television Ltd., P.O. Box 4700, Vancouver, BC, V6B 4A3.

External Scholarships for Business Administration Students
Ellen Bell YMCA Memorial Scholarship
Deadline: March 31
Terms of reference: Awarded to a student pursuing a career in marketing and advertising. 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 demonstrate these qualities. Applicants must be in writing, giving full particulars together with the reason for applying (in 500 words or less) along with letters of reference. All candidates must be available for an interview in Vancouver.

Contact: Ellen Bell YMCA Memorial Scholarship Committee, YMCA of Greater Vancouver, #500-1188 West Georgia Street, Vancouver, BC, V6E 3Z3, Tel: (604) 681-9622, Fax: (604) 688-0220, Web: www.ymycma.org

CARB Sales & Marketing Award – Canadian Association of Broadcasters
Deadline: June 30
Terms of reference: Applicant must be a student enrolled in the final, or next to final year of an accredited Canadian university, college, or post-secondary technical school with the intention of entering a business graduate program and/or the broadcast industry in a sales, marketing, or promotion capacity. Applicant must submit a minimum 300-word essay authoring his/her interest in the understanding of the sales and marketing role in radio, TV and specialty TV. Also a case study that details an actual Canadian marketing success story based on the exclusive use of one or more of the above media, or; a hypothetical product launch using the aforementioned. The application must include three references/recommendations from appropriate sources. One should be from his/her course director or advisor.

Contact: The CABR Sales & Marketing Award, The Canadian Association of Broadcasters, PO Box 627, Station B, Ottawa, ON, K1P 5S2.

Web: www.cab-ac.ca

CGA Academic Excellence Scholarship
Deadline: April 15
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 make 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, 300 – 1867 West Broadway, Vancouver, BC, V6J 5L4, Tel: (604) 732-1211, Fax: (604) 732-9439.

E-mail: info@cga-bc.org, Web: www.cga-bc.org

CGA Continuing Education Tuition Scholarship
Deadline: April 15
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 1 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, 300 – 1867 West Broadway, Vancouver, BC, V6J 5L4, Tel: (604) 732-1211, Fax: (604) 732-9439.

E-mail: info@cga-bc.org, Web: www.cga-bc.org

Community Futures Development Corporation of Alberni-Clayoquot Business Studies Scholarship
Deadline: August 1
Terms of reference: The Community Futures Development Corporation of Alberni-Clayoquot (CFDC of AC) is please to offer a $1000 Business Studies Scholarship. Eligible applicants must have been Alberni-Clayoquot residents, entering a second year or subsequent year of business studies. Application must include a copy of previous year’s transcript, a resume and a 200-word essay stating long-term career objectives.

Contact: Community Futures Development Corporation of Alberni-Clayoquot, Attention: Lori Camire, 4757 Tebo Avenue, Port Alberni, BC, V0N 8A9, Tel: (250) 724-1241, Fax: (250) 724-1028, Toll Free: 1-877-724-1241.

E-mail: info@afdcac.ca, Web: www.cfdcac.ca
Government Finance Officers Association –
Minorities in Government Finance Scholarship
Deadline: February 7
Terms of reference: The GFOA’s Minorities in Government Finance Scholarship of $5,000 will be awarded to an upper‐division undergraduate or graduate student of public administration, (governmental) accounting, finance, political science, 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, 203 North LaSalle Street, Suite 2700, Chicago, IL, 60601-1210, Tel: (312) 977-9700.
Web: www.gfoa.org

Government Finance Officers Association –
Frank L. Greathouse Government Accounting Scholarship
Deadline: February 7
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 $3,500 each will be awarded. Candidates should have a superior academic record and 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, 203 North LaSalle Street, Suite 2700, Chicago, IL, 60601-1210, Tel: (312) 977-9700.
Web: www.gfoa.org

Donald H. Lander Scholarship
Deadline: May 1
Terms of reference: One scholarship, valued at $1,000, is offered to a student entering the third year of a program leading to a degree in business administration or management studies. Candidates must be Canadian citizens or landed immigrants and will have achieved a high level of academic excellence (“A” average), be entering the third year of the program and have demonstrated an interest and involvement in management studies. This may include participation in an organization such as AIESEC. Letters of recommendation and transcripts must be sent directly from the university.
Contact: Gillian Whyte, Donor Services Associate, Community Foundation of Ottawa-Carleton, 75 Albert Street, Suite 301, Ottawa, ON, K1P 5E7, Tel: (613) 236-1616 ext. 224, Fax: (613) 236-1621.
E-mail: gwhyte@communityfoundationottawa.ca
Web: www.communityfoundationottawa.ca

The Frederick T. Metcalf Award Program
(Canadian On Cable Television Association)
Deadline: March 28
Terms of reference: This scholarship is open to qualified full-time students pursuing graduate level studies in disciplines related to new media companies and delivering cable communications services in Canada: business (finance and marketing), economics, television production, mass communications, engineering. Candidates must be Canadian citizens or permanent residents.
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

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. Only one nominee per institution.
Contact: Scholarship Committee, 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: March
Terms of reference: The Leo J. Krysa family undergraduate scholarship is awarded annually to a student in the faculty of Arts or Education entering the full 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 following areas: education, history, humanities & social sciences. 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.
E-mail: cius@gpu.srv.ualberta.ca

External Scholarships for Science Students

Association of Professional Biologists Scholarship
Deadline: June 30
Terms of reference: The scholarship, valued at $1,000, may be awarded each year to a student, who is son or daughter of a member in good standing of the Association, and attending 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. It is the intention of the association that the student will be planning on a career in some aspect of biology. 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 discipline of biology. 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 Hanson Street, Victoria, BC, V8W 3C7, Tel: (250) 383-3306.
E-mail: apbbc@net.net

Baxter Corporation Jean Goodwill Scholarship
Deadline: July 1
Terms of reference: Consideration will be given to applicants of Indian 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, graduate nurses already serving in isolated communities who are accepted into one of the above mentioned programs; those who are or will be enrolled in a Bachelor level nursing program. The successful applicant must provide documentation of his/her efforts to secure employment in isolated northern native communities. The scholarships are administered by the Association of Indian and Inuit Nurses of Canada. There are two scholarships in the amount of $5,000 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) 241-1694, Fax: (613) 241-1693.

Dow Chemical Canada & CCWEST – Women in Chemistry & chemical engineering Scholarship (Canadian Engineering Memorial Foundation)
Deadline: January 24
Terms of reference: Two $1,500 scholarships are offered annually to women enrolled in second or third year of an undergraduate chemical engineering or chemistry program to encourage them to pursue this career path. The scholarship is based primarily on demonstrated leadership, community involvement and extracurricular activities. Academic achievement is also considered in awarding the scholarship. Dow chemical Canada may consider the award winner for a summer, co-op or full time position at Dow Chemicla Canada location, depending on hiring needs identified at the time of the award. Selection of the award recipient will be made by Canadian Coalition of Women in Engineering, Science and Technology (CCWEST) based on all the information and references provided with the application. Applicants must be Canadian citizens or landed immigrants with permanent residence in Canada.
Contact: The Canadian Engineering Memorial Foundation, Dow Canada Canada/CCWEST Scholarship Award, c/o Canadian Council of Professional Engineers, 1100-180 Elgin Street, Ottawa, ON, K2P 2K3, Tel: (613) 232-2474, Fax: (613) 230-5759.
E-mail: info@cemm.ca
Web: www.cemm.ca

Canadian Society for Chemistry’s Alfred Bader Scholarships
Deadline: May 15
Terms of reference: The Canadian Society for Chemistry offers the Alfred Bader Scholarship of $1,100 as a mark of excellence in achievement in organic chemistry or biochemistry by undergraduate students completing their final year of study in an honors program. Nominees must be student chapter members of the CSC and be continuing in a graduate program in chemistry or biochemistry at a Canadian university. 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.
Contact: Canadian Society for Chemistry, #550-130 Slater Street, Ottawa, ON, K1P 8E2, Tel: (613) 232-6252, Fax: (613) 232-5862.
E-mail: csc_adm@lab.nsh.ca
Website: www.fox.nsh.ca

Canadian Space Agency Spaceflight and Life Sciences Training Program Scholarship
Deadline: January 31
Terms of reference: The Canadian Space Agency is sponsoring one to two Canadian student(s), who have demonstrated scholarly 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 25 university students interested in life sciences research. The scholarship is limited to currently enrolled undergraduate students who: 1) are pursuing their first undergraduate degree in a Life Science at a recognized Canadian university, 2) have a minimum cumulative average of 75% at the time of application, 3) are proficient in English, 4) have completed at least their second or third year of study by the start of the training program, 5) are Canadian citizens, who have or can obtain a valid Canadian passport and are at least 18 years of age. Application materials must include a completed application form, a 500-word essay, two completed reference request form and post-secondary schools official transcripts. Contact: SLSTP Canadian Space Agency, Space Science Program, PO Box 7275, Station V, Ottawa, ON, K1V 8E5. E-mail: slstp@space.gc.ca. Web: www.space.gc.ca/slstp

The Cement Association of Canada Environmental Scholarships Program Deadline: July 2
Terms of Reference: The purpose of the scholarship is to encourage academic excellence in the pursuit of higher education and to increase the awareness of the cement industry at Canadian universities chosen by the Cement Association of Canada. Award recipients will be selected from environmental science or environmental engineering programs. Applicants must be Canadian citizens or have lived in Canada for at least two years as a permanent resident and entering the third year of a full-time undergraduate program at a qualifying institution in the year of application. Applicants must have fully completed the two years of course work in an environmental science or environmental engineering program that is required to continue a third year of their eligible program. Evaluation is based upon the student’s academic transcripts, a 500-word essay, letters of reference and the results of any achievement or aptitude tests that have been taken by the student. In addition to academic merit, the selection committee will take into consideration the student’s involvement in any extracurricular activities. Each eligible educational institution may nominate one candidate. The award is tenable for up to two consecutive academic years or until the award holder obtains a first undergraduate degree. 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

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-NCR 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 numbers of women in the under-represented fields of engineering, science, and mathematics. Successful candidates of the Women in Engineering and Science Program will undertake career-related work in summer 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, must be enrolled full-time in their second year of an undergraduate program in science, engineering, or mathematics in university. Contact: National Research Council Canada, Human Resource Branch, WES Co-ordinator, Ottawa, ON, K1R 0B9. Tel: (613) 993-9134, Fax: (613) 990-7699. E-mail: WES.Coordinator@NRC.CA. Web: www.nrc.ca/careers

Port Moody Ecological Society Scholarship Deadline: May 31
Terms of reference: An award is offered to a School District #43 student currently engaged in an environmental studies discipline at a post-secondary institution. Candidates 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 program. Candidates must be currently enrolled in an environmental studies program. A covering letter outlining the applicant’s interest in wildlife management and a description of any past experiences involving wildlife management and a description of any past experiences involving wildlife management and a description of any past experiences involving wildlife management should be submitted along with a brief description of personal interests; b) A completed GOABC Scholarship application; c) Official transcripts of all institutions attended and an outline of your courses; d) A letter of reference from a teacher, principal, counselor or other letter of reference from a licensed guide may also be included; and e) An essay of at least 1000 words describing the applicant’s views on the role of hunting in wildlife management. Contact: Guide Outfitters Association of BC, Box 94675, Richmond, BC, V6Y 4A4. Tel: (604) 278-2988, Fax: (604) 278-3440. E-mail: info@goabc.org. Web: www.goabc.org

The Frederick T. Mcell Dad Award Program (Canadian Cable Television Association) Deadline: March 28
Terms of reference: This scholarship is open to qualified full-time students pursuing graduate level studies in disciplines related to new media companies and delivering cable communications services in Canada: business (finance and marketing), economics, television production, mass communications, engineering. Candidates must be Canadian citizens or permanent residents. 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

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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 enquiring and applying through the appropriate agency as indicated in the description.

External Bursaries for All Students

Arctic Co-operatives Bursary Deadline: January 31
Terms of reference: Arctic Co-operatives Ltd., the NWT Co-operative 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 selection for the award, preference will be given to northern residents. Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 6J6. 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 members or relatives of members of the BCGEU and delivering cable communications services in Canada personnel will be available to the students as advisors in their studies. Contact: Guide Outfitters Association of BC, Box 94675, Richmond, BC, V6Y 4A4. Tel: (604) 278-2988, Fax: (604) 278-3440. E-mail: info@goabc.org. Web: www.goabc.org

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 to students with financial need for tuition fees and books at a duly qualified school of mining in Canada in the amount of $6,000. These scholarships are for well-rounded students with a “B” or better average pursuing careers in the Mining Industry. The scholarship is available for undergraduate studies and can be renewed 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, ON, M5W 1B2.

Monsanto Native Forestry Scholarship

The Cement Association of Canada Environmental Scholarships Program

Financial Assistance and Awards – Externally Administered Programs

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Application package must include a complete application form, 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, copies of your high school and post-secondary institution transcripts, a resume (not to exceed two pages), and 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 loco Road, Port Moody, BC, V3H 2V7. Tel/Fax: (604) 469-9106.

The Wood Scholarship Fund – The Women’s Association of the Mining Industry of Canada, Toronto

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BC Government and Service Employees’ Union

Deadline: February 28
Terms of reference: Twelve $1,000 scholarships are available each year to students who are members or relatives of members of the BCGEU and delivering cable communications services in Canada personnel will be available to the students as advisors in their studies. Contact: Guide Outfitters Association of BC, Box 94675, Richmond, BC, V6Y 4A4. Tel: (604) 278-2988, Fax: (604) 278-3440. E-mail: info@goabc.org. Web: www.goabc.org

British Columbia Health Care Bursaries

Deadline: November 15, March 15 and July 15
Terms of reference: You may apply for a health care bursary if you meet all of the following:

- you have worked for an employer who is base funded by the Ministry of Health, for at least 12 months, in the last four years, dating back from the start of the bursary period; or
- 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 four years, dating back from the start of bursary period; and
- you have been a permanent resident of BC for the last 12 months; and
- during the bursary award period for which you are applying, you are enrolled in an eligible health care program of study at least four 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
- 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 9180 Stn Prov Govt, Victoria, BC, V8W 9H9, Tel: (250) 387-6100 in Victoria / 660-2610 in the lower Mainland / 1-800-561-1818 (toll-free in Canada), Fax: (250) 356-5440.

BC Nursing Education Bursary Program

Deadline: November 15, February 28, July 15

Terms of reference: You may apply for a nurses education bursary if you meet all of the following:

- you are enrolled or planning to enrol in an eligible health care program of study at least four 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
- you can demonstrate financial need and/or that you will suffer significant financial loss by taking training; and
- you are not in default of a BC student loan; and
- you have been a permanent resident of BC for the last 12 months; and
- you have worked for an employer who is base funded by the Ministry of Health, for at least 12 months in the last four years, dating back from the start of the bursary period; OR 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 four years, dating back from the start of bursary period; and
- you are enrolled in a nursing refresher program or qualifying program that will lead to licensure as an RN, RPN or LPN; OR you are enrolling in the third or fourth year of a nursing program or are enrolled in graduate or second year studies.

Contact: Nursing Education Bursary Program, Student Services Branch, PO Box 9173 Stn Prov Govt, Victoria, BC, V8W 9H7, Tel: (250) 387-6100 in Victoria / 660-2610 in the lower Mainland / 1-800-561-1818 (toll-free in Canada), Fax: (250) 356-5440.

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 depending upon interest from financial sources. 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 SW Marine Drive, Vancouver, BC, V6P 5Y7, Tel: (604) 324-3611, Fax: (604) 324-3671.

The British Columbia Associated Boards of Health/Dr. Ken Benson Memorial Bursaries

Deadline: September 15

Terms of reference:

Candidates must be full-time students engaged in postgraduate study in a field of public/community health practice within an applicable discipline (e.g., nurses, nutritionists, environmental health officers, etc.). Physicians are not eligible for this bursary. Preference will be given to individuals who are resident and practising in BC, who demonstrate a commitment to remain in BC, who commit to live and practice in rural areas of BC. Studies may be undertaken at any post-secondary institution in BC. Consideration will be given to candidates who wish to study out-of-province or out-of-country. Applications must be accompanied by a current C.V., proof of acceptance or enrollment in an appropriate program, future goals and intentions within public/community health and any other relevant information.

Contact: The Office of the Medical Health Officer, Interior Health Authority, 1440 – 14 Avenue, Vernon, BC, V1T 2T1. Web: www.vancouverfoundation.bc.ca/community/pulic%20health.htm

The Norm Bromberger Research Bursary

Deadline: June 30

Terms of reference: The purpose of the bursary is to encourage research in the area of co-operatives and credit union. All applications will be considered, especially those where financial support of the bursary is essential to undertaking the research project. Preference will be given, but not limited, to Saskatchewan candidates.

Contact: Centre for the Study of Co-operatives, 101 Diefenbaker Place, University of Saskatchewan, Saskatoon, SK, S7N 5B8, Tel: (306) 966-8509, Fax: (306) 966-8517.

E-mail: coop.studies@usask.ca

Web: coop-studies.usask.ca

Ulan Patrick Byrne Education Trust Bursary

Deadline: May 9

Terms of reference: Bursaries are awarded based on financial need to assist with undertaking and/or completing programs (on a full time, part time, medicine, law, engineering or nursing). Applicants must be enrolled full-time in undergraduate or graduate courses at either Simon Fraser University, University of British Columbia or University of Victoria. Applicants must have been born and currently reside in British Columbia. Please submit an application with proof of your place of birth.

Contact: Sarah J. Howard, Compton International Fundraising, 1930 – 777 Hornby Street, Vancouver, BC, V6Z 1S4.

E-mail: showard@comptoninternational.com

Cal Callahan Memorial Bursary – Pipe Line Contractors Association of Canada

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 sons, daughters, or legal wards of persons who derive their principle income from the Pipeline Industry and whose employers are members of the association. 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 enrolment, and proof of payment, by not later than September 30th.

Contact: Pipe Line Contractors Association of Canada, Suite 201, 1075 North Service Road W., Oakville, ON, L6M 2G2, Tel: (905) 847-9363, Fax: (905) 847-7824.

Canadian Federation of University Women of South Delta

Deadline: May 31

Terms of reference: Bursaries are available to students, twenty years or older, who have completed grade 12 and are registered or planning to register at a post-secondary institution. Applicants must be female residents and/or graduate of South Delta (Ladner/Tsawwassen).

Contact: Canadian Federation of University Women's Club of South Delta, c/o 5044 Erin Way, Delta, BC, V4M 1K1, Tel: (604) 943-8095.
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Canadian Federation of University Women Parksville/Qualicum – Mature Women Bursaries
Deadline: June 2
Terms of reference: Three bursaries will be awarded to a mature female student from the Parksville/Qualicum area, District 69. Applicant must have been out of school for at least two years and have been accepted by the school or university of her choice.
Contact: The Secretary of the Scholarship Trust, C.F.U.W. – Parksville/Qualicum, PO Box 113, Qualicum Beach, BC, V9K 1S7.
Web: www.macfbc.ca/c-flw

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 6G6, Tel: (613) 562-0515, Fax: (613) 562-0533.
E-mail: acuns@cyberus.ca
Web: www.a1x1.ottawa.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, YYWCA. 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 directly related fields. 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, #200-1166 Alberni Street, Vancouver, BC, V6E 3Z3, Tel: (604) 681-9622, Fax: (604) 688-0220.

The Columbia Institute Awards Program
Deadline: March 1
Terms of reference: The Columbia Institute Awards Program is designed to support the financial needs of adult learners interested in re-training and skills development. To be eligible, candidates must be 24 year of age or older, a BC resident, a Canadian citizen or landed immigrant and not currently enrolled in a training or academic program.
Contact: Columbia Institute, #702-1116 Alberni Street, Vancouver, BC, V6E 3Z3, Tel: (604) 408-2500, Fax: (604) 408-2525.
E-mail: awards@columbiainstitute.ca
Web: www.columbiainstitute.ca

Emergency Preparedness for Industry and Commerce Council Bursary (EPICC)
Deadline: June 30
Terms of reference: The Emergency Preparedness for Industry and Commerce Council (EPICC) has established an annual bursary to be awarded to a deserving student undertaking a program of studies which includes at least one emergency management course. Qualification requirements for the bursary are: current study program includes at least one course in emergency management, study program leads to a diploma or a degree at a BC post-secondary institution, financial need, demonstrated involvement in community service, good academic standing, two references and application to include a 500 word essay on the importance of emergency preparedness for the well being of the business community. Preference will be given to EPICC members/employees or their immediately family.
Contact: Mr. Nick Toulin, EPICC Bursary Committee, Emergency Preparedness for Industry and Commerce Council, 10 1110-1100 West Georgia Street, Vancouver, BC, V6E 4H1, Tel: (604) 687-5522. E-mail: epicc@sfu.ca
Web: www.epicc.org

Forest Renewal BC Bursary Program
Deadline: April 30
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 and first and second year students attending post-secondary institutions in BC. 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: Peggy Wray, Forest Renewal BC, Bursary Program Administration, Tel: (250) 387-4248, Fax: (250) 356-7134.
E-mail: peg.wray@grsm1.gov.bc.ca
Web: www.forestrenewal.bc.ca

Hamilton Community Foundation
Deadline: October 1, February 1 & June 1
Terms of reference: Hamilton Community Foundation provides modest financial assistance from various bursary funds established by generous citizens to post-secondary students. Applicants must demonstrate serious financial need; have graduated from publicly-funded secondary schools in the Hamilton-Wentworth area, having completed the requirements for the Ontario Secondary School Diploma (grade 12 or 13); be registered/in attendance at an approved college or university in Canada and be 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.

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 federalally 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 a course in emergency management within British Columbia. It is based on academic standing and financial need. It is awarded to a student 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 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. Applicants must be a Canadian citizen or landed immigrant, must 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, must demonstrate high ideals and qualities of citizenship and not have previously received a bursary from the Hal Rogers Endowment Fund. Applications must be submitted to a Kinsmen, Kinette, or Kin Club nearest to the applicants permanent residence.
Contact: Kinsmen and Kinettes Bursary, c/o Kinsmen & Kinette Clubs of Canada, 1920 Hal Rogers Drive, PO Box KIN, Cambridge, ON, N3H 5C6, Tel: 1-800-742-5546 ext. 215, Fax: (519) 650-1091. E-mail: bzkak@kinsclubs.ca
Web: www.kinsclubs.ca

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 Sauro, Honourary Secretary, The Leonard Foundation, 20 Englington Avenue West, Seventh Floor, Toronto, ON, M4R 2E2, Fax: (416) 361-8711.
E-mail: info@leonardfnd.org
Web: www.leonardfnd.org

David Mason Educational Fund – Queen Alexandra Foundation For Children
Deadline: June 30
Terms of reference: The Former Women’s Auxiliary of the George R. Pearkes Centre for Children (now the Queen Alexandra Centre for Children’s Health in Victoria, BC) established a fund in the name of David Mason, a former student at the centre. One or more awards will be granted each year. The purpose of the fund is to assist a person with a disability who has been a student at the centre at one time or another to undertake or continue his/her post-secondary education. Monies awarded could be used for tuition fees, books, equipment, transportation, residence and support worker costs.
Contact: David Mason Education Fund, Queen Alexandra Foundation, c/o Kinsmen, Queen Alexandra Foundation for Children, 2400 Arbuts Road, Victoria, BC, V8N 1V7, Tel: (250) 721-6721, Fax: (250) 721-6715.
Web: www.queenalexandra.org

Ministry of Education – Official Language Programs
Deadline: February 15
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 (www.cmec.ca/olp)
- **Official-Languages Study Fellowship** (www.bced.gov.bc.ca/frenchprograms/offlang.htm)
- **Minority Language Intergovernmental Travel Bursary** (www.bced.gov.bc.ca/frenchprograms/offlang.htm)
- **Official-Language Monitor Program** – deadline mid-February (www.cmec.ca/olp)
- **British Columbia/Quebec Six-month Bilingual Exchange Program** (apply through participating schools)
- **French Teachers’ Bursary Program** (www.bced.gov.bc.ca/frenchprograms/offlang.htm)

**Contact:** Provincial Coordinator Federal Official-Languages Programs, French Programs Unit, Ministry of Education, PO Box 9160 Stn Prov Govt, Victoria, BC, V8Y 9H3, Tel: (250) 356-2524, Fax: (250) 387-1470.
Web: www.cmec.ca/olp/ Web: www.bced.gov.bc.ca/frenchprograms/

**Ministry of Health – Native Health Bursary**

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-North, Fourth Floor-1600 Third Avenue, Prince George, BC, V2L 3G6, Tel: (250) 565-7299.

**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 124.

**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 of Pacific Coast Fisherman’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-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 25 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.

**Pilot Foundation Bursary**

**Deadline:** September 1

Terms of reference: The Pilot Foundation, in order to encourage the study and use of French in the province, is pleased to offer bursaries to students pursuing studies in any of the fine arts who either use French in daily communication or who have studied French sufficiently to be at ease in the language. Candidates should send a dossier containing:

- a letter in French outlining his or her linguistic background, details of present or proposed studies and some indication of previous artistic achievements,

- with two letters of reference from persons able to attest to the candidate’s artistic merit and

- copies of relevant academic documents such as transcripts of marks or certificates awarded.

The award will be announced to the recipient by the end of October. Documents submitted will not be returned.

**Contact:** M. Walter Herring, Secrétaire des Bourses, La Fondation André Pilot, 1575 Avenue, 7e arrondissement, ouest, Vancouver, BC, V6J 1S1, Tel: (604) 263-5639.

**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 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 Scholarship Trust, 421 Baker Street, Nelson, BC, V1L 4H7.

**Dr. John D.E. Price Bursary**

**Deadline:** June 18

Terms of reference: The bursary provides funding for educational or training purposes to kidney patients. Applicant must be a resident of British Columbia, eighteen years or older and a pre-dialysis, dialysis or kidney transplant patient. Spouses and dependent children are also eligible. Previous recipients are welcome to re-apply.

**Contact:** The Kidney Foundation of Canada, BC Branch, 320 – 1600 West 6th Avenue, Vancouver, BC V6J 1R3 Tel: (604) 736-9775, 1-800-567-8112 extension 230, Fax: (604) 736-9703, 1-800-567-8871.

**Province of BC International Year of Physically Challenged Persons Bursaries**

**Deadline:** April 15

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:** September 25

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

- a teacher who is willing to undertake the instruction of children with communication disorders

- 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 previous achievements and character (from teachers or other persons who have knowledge of the applicant), and a brief autobiography including academic and extracurricular achievements and plans for future involvement in the fields of hearing and speech or communication disorders, or with 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 Ontario School for the Blind (now the W. Ross MacDonald School) in Brantford, Ontario. 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. Grants will be made based on financial need and career goals.

**Contact:** Chairman, Rixon Rafter Bursary Committee, W. Ross MacDonald School, Brantford ON, N3T 3J9.

**Royal Canadian Legion (Pacific Command) #160 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 in second and third year university. The awards are granted on the basis of academic standing, financial need and veteran affiliation. Incomplete and/or late applications will not be considered.

**Contact:** Secretary, Ladies Auxiliary, Royal Canadian Legion, 1825 Comox Avenue, Comox, BC, VM9 3M3.

**R.B. Shaw Bursaries**

**Deadline:** September 25
Terms of reference: Bursaries in the amount of $500 are available each year. Applicants must be accepted for admission to a university, be a full-time student working toward an undergraduate degree or graduate degree from the university, and 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 Scholarship Trust, 421 Baker Street, Nelson, BC, V1L 4H7.

Special Awards for Northern Residents – Canadian Northern Studies Trust
Deadline: January 31

Terms of reference: These bursaries, valued at $2,500 to $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. It is the objective of these awards to permit individuals who were born and raised in northern Canada to undertake studies at a college or university, leading to a diploma or degree in a field of concern to themselves and other people in the North.

Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 8J6, Tel: (613) 562-0515, Fax: (613) 562-0533.
E-mail: acuns@cyberus.ca
Web: www.cyberus.ca/~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 grants of from $300 to $500 to legally blind Canadians pursuing post-secondary studies with strong career aspirations. Grants will be made based on financial need and career goals.

Contact: Judge Brian Stevenson Bursary Committee, The W. Ross MacDonald School, Brantford, ON, N3T 3J9.

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 1) Born in the Surrey/White Rock area; 2) 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 3) 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.


THEO BC Bursary Fund
Terms of reference: A bursary fund has been established for individuals who wish to enter or continue post-secondary training, have a mental health diagnosis, meet THEO BC’s entrance criteria, and are in need of financial assistance. The bursaries can be applied for full or part time programs leading to a recognized certificate, diploma or degree in public or private post-secondary settings. Academic, trade and technical programs will be assessed equally. Qualified students may apply for a second year.

Contact: THEO BC, Administrative Assistant, 1910 Quebec Street, Vancouver, BC, V5T 4K1, Tel: (604) 872-0770, Fax: (604) 873-1758.

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: Jane Bush, Secretary Bursary Committee, 1270 Mayfair Road, Comox, BC, V9M 4C2, Tel: (250) 339-9985.
E-mail: bush@mars.ark.com

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 BC Institute of Technology. Candidates must have achieved an average of at least 85% in their previous year of study.

Contact: Award #07724: Apply at University of British Columbia, Student Financial Assistance Awards, Enrolment Services, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1; Tel: (604) 822-5111, Fax: (604) 822-6929.

External Bursaries for Applied Sciences Students
Division of Engineers and Geoscientists for the Forest Sector Bursaries
Deadline: May 3

Terms of reference: The Division of Engineers and Geoscientists in the Forest Sector (DEGIFS) is pleased to offer bursaries, aimed at advancing forest engineering and geoscience/geotechnique education in BC. The bursaries are intended to provide nominal financial assistance to students, in an accredited post-secondary or postgraduate program at a degree-granting institution in B.C. Applicants must be enrolled in at least the third year of a program directly related to the practice of forest engineering and/or geoscience/geotechnique, leading to membership in the APEG of B.C. Applicants must submit a covering letter, an official transcript and a paper/essay on any topic related to the field of forest engineering and/or forest geoscience/geotechnique.

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.degifs.com

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 graduate school or in third or fourth year of undergraduate studies as a full-time student in the natural sciences at a Canadian University or College.

Contact: Executive Director, Science Institute of the Northwest Territories, Box 1617, Yellowknife, NT, X1A 2P2.

External Bursaries for Education Students
Barry Sullivan, Q.C. Memorial Bursary
Deadline: November 30

Terms of reference: The Barry Sullivan, Q.C. Memorial Bursary is available to anyone pursuing a degree in one of the three following disciplines, law, education, and social work. Successful applicants should meet the following criteria: 1) Be enrolled in a degree granting post-secondary institution in BC, 2) Be enrolled full time, 3) Have completed their first year of studies. Graduate students are welcome to apply. 4) Should demonstrate strong academic standing at the post-secondary level, 5) Should display financial need, 6) Should be involved with volunteer work, community organizations, or in extra curricular activities outside of school, 7) Should display some work experience. Application should include an application form, minimum two reference letters, transcripts, a yearly budget outlining financial need and a list of financial awards received in the past four years.

Contact: Office of Directors, c/o Barry Sullivan, Q.C. Memorial Bursary Society, 425 Donald Street, Coquitlam, BC, V3K 3Z9, Tel: (604) 939-2988.
E-mail: lannesullivan@hotmail.com

External Bursaries for Science Students
Canadian Women in Timber Fraser Valley Branch Bursary
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 Cheam, and is in the second year of a recognized forestry program at a post-secondary institution in BC.

Contact: Canadian Women in Timber, Fraser Valley Branch, #21-46244 Airport Road, Chilliwack, BC, V2P 1A5.

Division of Engineers and Geoscientists for the Forest Sector Bursaries
Deadline: May 3

Terms of reference: The Division of Engineers and Geoscientists in the Forest Sector (DEGIFS) is pleased to offer bursaries, aimed at advancing forest engineering and geoscience/geotechnique education in BC. The bursaries are intended to provide nominal financial assistance to students, in an accredited post-secondary or postgraduate program at a degree-granting institution in BC. Applicants must be enrolled in at least the third year of a program directly related to the practice of forest engineering and/or geoscience/geotechnique, leading to membership in the APEG of BC. Applicants must submit a covering letter, an official transcript and a paper/essay on any topic related to the field of forest engineering and/or forest geoscience/geotechnique.

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.degifs.com

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 graduate school or in third or fourth 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 NT, 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
As Prime Minister Awards
Deadline: June 3
Terms of reference: The Scholarship Fund will provide annual awards program. The As Prime Minister Awards program invites university, college and CEGEP 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 and ensure a secure and prosperous global community?” Student essays are judged on the merits of practical, solution driven and innovative proposals that demonstrate defensible, realistic visions and ideas. Recognition of your extra-curricular activities, academic grades and essay composition will also be reviewed. Applicants must be full-time students at an accredited Canadian college or university. Submit a maximum 2,500-word essay in either official language. You may choose to register and submit your essay electronically on-line at www.asprimeminister.com. You may submit your essay type-written on 8.5 x 11” paper with full name, address and telephone number, college or university, area and year of study and extra-curricular activities. Additional rules and regulations can be obtained on the website.
Contact: Magna for Canada Scholarship Fund, 337 Magna Drive, Aurora ON, L4G 7K1, Tel: 1-866-279-4371 (905) 726-2462, Fax: (905) 726-7177.
Web: www.asprimeminister.com

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, MSR 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. The BC Press Council Prize offers a bursary 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 Broadway Street, Victoria, BC, V8W 2A5, Tel: (250) 384-5344.

Book Promoters’ Association of Canada Bursary
Deadline: May 15
Terms of reference: The Janice Hanford Memorial Bursary will be awarded to a student whose primary interest is book marketing, promotion or publicity. The purpose of the bursary is to assist a student attending Simon Fraser University’s Book Publishing Workshop. Applicants must write a press release about their favourite book. Applications are accepted from both publishing program students and those already employed in the industry.
Contact: Stephanie Cunningham at pubworks@sfu.ca or phone 604-291-5241.
E-mail: pubworks@sfu.ca
Web: www.bpacanada.org

Canada Council For the Arts Molson Prizes
Deadline: December 1
Terms of reference: The Canada Council for the Arts Molson Prizes, in the amount of $50,000 each, are awarded annually to two distinguished individuals (one in the arts, one in the social sciences and humanities). The prizes are intended to encourage continuing contribution to the cultural and intellectual heritage of Canada. Candidates must be Canadian citizens or permanent residents of Canada and must be nominated by three individuals or three organizations, or a combination thereof.
Contact: Carol Bream, Director, Endowments and Prizes Unit, 1-800-0263-5588, ext 5041 or (613) 566-4414, ext 5041, Fax: (613) 566-4407.
E-mail: prizes.endowments@canadacouncil.ca
Web: www.canadacouncil.ca

Canadian Bureau for International Education International Learning Grants
Deadline: December 1
Terms of reference: International Learning Grants are grants to allow students to finance the additional costs associated with international learning. Canadian citizens and permanent residents enrolled full-time at a CBIE member institution are eligible to apply. Applicants must be accepted in an exchange program organized by their college, university or secondary school board. Selection is based on the innovativeness of the program, relevance to your future international education career and potential to contribute to global understanding, as well as need, merit and personal suitability. Programs may be study, study-internships or internships. Research only programs are not eligible.
Contact: Canadian Bureau for International Education, 220 Laurent Ave, West, Suite 1100, Ottawa, ON, K1P 5Z9, Tel: (613) 237-4820, ext. 242, Fax: (613) 237-1073.
E-mail:ipleague@cbie.ca
Web: www.cbie.ca

Canadian Cystic Fibrosis Foundation Summer Student Research Program
Deadline: February
Terms of reference: This program provides support for a student to work on a cystic fibrosis project during the summer semester. Full-time students pursuing an undergraduate degree in an appropriate discipline are eligible to receive this award. Students participating in this program must submit a report describing their summer project, no later than 28 September.
Contact: Application forms are available from the Cystic Fibrosis Program and Study Tours Committee, CIGB-ICOLD Congress.

Canadian Dam Association Scholarship Program
Deadline: June 3
Terms of reference: The Canadian Dam Association (CDA) is inviting graduate and final-year undergraduate students to submit a two-page summary of their current research on the topic of dams and appurtenant structures. The summary can relate to one of the following topics: dam safety, earthquake and flood response, risk analysis, materials and construction aspects, environmental and social impact, financing and economics of hydraulic projects, tailings dams. In addition, a one-page introductory text must indicate the motivation of the student to participate at the CIGB-ICOLD Congress. A Committee will review the submissions by students registered in Canadian Universities, based on quality of summary, originality and pertinence of the research and student’s motivation to participate. Two winners will be selected to participate at the Montreal Congress.
Contact: Mr. Yves Gratton, Director, Technical Program and Study Tours Committee, CIGB-ICOLD Montreal 2003, 75 West Rene-Levesque Boulevard, 10th floor, Montreal, QC, H2Z 1A4, Tel: (514) 289-4022, Fax: (514) 289-4599.
E-mail: gratton.yves@hydro.qc.ca

Canadian Federation of University Women Parksville/Qualicum – Valentine Urie Memorial Award
Deadline: June 2
Terms of reference: The award is open to women from the Parksville/Qualicum area, District 69 who are entering their second year of study or beyond in a university academic program and have been accepted by a Canadian university.
Contact: The Secretary of the Scholarship Trust C.F.U.W. – Parksville/Qualicum, PO Box 113, Qualicum Beach, BC, V9K 1S7.
Web: www.macn.bc.ca/cfuw

Canadian Institutes of Health Research (CIHR) Science Writer Scholarships
Deadline: March 1
Terms of reference: CIHR has established scholarships at both undergraduate and graduate levels to increase the number of Canadian science writers engaged in communicating the findings and implications of health research. Undergraduate Science Writer Scholarship and Internships will be open to university students enrolled in a third or fourth year undergraduate program in the liberal arts (e.g., communications, journalism, history, literature, psychology, etc.) and who have a minor in health science. Students in a science program who have demonstrated an aptitude for writing are also eligible. All applicants must have previous work experience, either paid or volunteer, where science writing was a major part of the assignment. Graduate Science-Writer Scholarships will be open to those who have completed one or more degrees related to human health and who have been accepted into a journalism or communications degree program.
Contact: Application forms are available from the CIHR website at www.cihr.ca.
E-mail: sw-undergrad@cihr.ca
Web: www.cihr.ca
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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 seeking a post-doctoral or fellowship researcher to three areas related to the implementation of the Ottawa Convention: universalizing the ban on the production, stockpiling, trade and use of anti-personnel mines; cleaning 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 degree or 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) 735-5156, Fax: (416) 735-7552.
E-mail: ycis@yorku.ca
Web: www.mines.gc.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 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 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. 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.

Roger Charest, Sr. Award for Broadcast & Media Arts (URDC)
Deadline: November 30
Terms of reference: This award is available to any qualified applicant (individual or group) who has taken the initiative to create a special program or series of audio vignettes or reports suitable for broadcast, which may further the cause of multiculturalism in Canada. The final report may provide a window into the particular characteristics and unique qualities of a given identifiable group within the Canadian cultural mosaic. Works in progress and/or completed works will be considered. Applicants must submit a written proposal (in English) outlining the intended project, including possible broadcast applications, or outlets to be used for distribution of the final product. A budget is also required.
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

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 program 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 universities; 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, Young Centre for Science and Technology, 224 Waterloo Road, Kowloon Tong, Hong Kong, Tel: (852) 2339-7883, Fax: (852) 2339-5983.
E-mail: cssp2@hkbu.edu.hk
Web: www.hkbu.edu.hk/sa/cssp

Sheldon Chumir Internship in Ethics in Leadership
Deadline: March 14
Terms of reference: Applications are invited from senior students or graduates in programs in any field relevant to Ethics in Leadership for an internship sponsored by the Sheldon Chumir Foundation for Ethics in Leadership. Candidates should display a deep understanding of ethics in leadership and public life together with imagination and creativity of thought, demonstrated experience working with the community, strong organizational skills, superior writing skills and a personal commitment to the Foundation’s mission. Applications should include: (1) a curriculum vitae; (2) a brief essay (not more than 1500 words) describing the applicant’s interest in and views on Ethics in Leadership; (3) names and contact information for two referees who have been asked to send letters of support directly to the Foundation.
Contact: The Sheldon Chumir Foundation for Ethics in Leadership, Suite 970, 1202 Centre Street S., Calgary, AB, T2G 5A5, (Tel): (403) 244-6664, (Fax): (403) 244-5596.
E-mail: info@chumirethicsfoundation.ca
Web: www.chumirethicsfoundation.ca

CIBC Youthvation Graduate Research Award Program
Deadline: January 31
Terms of reference: Research awards will be offered in recognition of academic excellence and to support and encourage research in specialized fields of study related to community economic development. Candidates must be Canadian citizens or permanent residents at the time of application and must hold a Bachelor’s degree in a related field with a record of high academic achievement. Applicants must be working towards a master’s or doctoral degree (on a full-time basis) on a subject related to community economic development with a focus on youth employment.
Contact: CIBC Youthvation Graduate Research Award Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert Street, Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745.
E-mail: awards@aucc.ca
Web: www.aucc.ca

Arctic Co-operative Award – Canadian Northern Studies Trust
Deadline: January 31
Terms of reference: This objective of the award is to encourage individuals undertaking studies which contribute to the understanding and development of Arctic Co-operatives in Nunavut, the Northwest Territories, and/or northern Manitoba. Such studies may result in a paper or thesis on the subject. The award may be held concurrently with a Canadian Northern Studies Trust Special Bursary for Northern Residents. Applicants must be Canadian citizens or permanent residents of Canada, and enrolled at a recognized Canadian community college or university. In making the selection for the award, 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.
E-mail: acuns@cyberus.ca
Web: www.cyberus.ca/acuns

Corbiere-Lavelle/Two Axe Early Award
Deadline: July 1
Terms of reference: Two awards of $1,000 are available to Aboriginal women of First Nations/Metis descent. To be eligible for the award, you must be pursuing post-secondary studies, or just completing your studies and have demonstrated a commitment to bettering the socio-economic, legal and/or cultural status of Aboriginal women. Given upon recommendation of a Provincial or Territorial Native Women’s Association member.
Contact: NWAC Executive Council, Native Women’s Association of Canada, 9 Melrose Avenue, Ottawa, ON, K1Y 1T8, Tel: (613) 722-3033, Fax: (613) 722-7887, Toll Free: (800) 461-4043.

DAAD German Academic Exchange Service
Deadline: October 31
Terms of reference: The German Academic Exchange Service (DAAD) offers Annual Grants to highly qualified graduate students and graduating seniors for study and/or research at universities in the Federal Republic of Germany. Applicants must be United States or Canadian citizens enrolled full time at DAAD partner institutions. Applicants should also possess a working knowledge of the German language. Scholarships are granted for ten months (October – July).
Contact: DAAD, German Academic Exchange Service, 950 Third Avenue, New York, NY10022, Tel: (212) 758-3323, Fax: (212) 755-5780.
E-mail: daadny@daad.org
Web: www.daad.org

Davies Charitable Foundation Fellowship Proposal
Deadline: April 16
Terms of reference: Established by the Davies Charitable Foundation and awarded on the basis of academic excellence for a year of study/research at the post-doctoral or fellowship level. Applicants must have been born in the Kingston, Ontario area or have resided in the area for at least five years prior to the student’s 20th birthday. The fellowship is tenable in all disciplines and at the University of the student’s choice. Contact: The Davies Charitable Foundation, 245 Alwington Place, Kingston ON, K7L 4P9, Tel: (613) 546-4000 or 1-800-472-4796.
E-mail: daviesfound@cogeco.ca
Department of Justice Canada: Financial Assistance
Deadline: Summer Program: April 1; Three-year Program: June 1
Terms of reference: The Department of Justice Canada provides financial assistance to Métis and non-status Indian students to help them become lawyers. Funds of up to 10 students each year to attend a two-month summer course offered by the University of Saskatchewan’s Native Law Centre for students who may not have the minimum academic requirements for law school. Francophones students who are unable to follow this course may be recommended for a one-year pre-law program. Law: Each year, approximately 10 three-year grants are awarded to students who have been accepted into a Canadian Law School. After Law School: The Department may award financial assistance to a student wishing to pursue a Master’s degree in Canada or abroad. Assistance is provided for the Bar Admission only in cases of severe financial difficulty.
Eligibility: an applicant must be a First Nations person of Canadian citizenship living in Canada who is registered or conditionally registered in one of the courses of study described above. The financial assistance is normally provided through a living allowance, payment of tuition fees, text book allowance and other expenses.
Contact: Chief, Native Programs, Department of Justice Canada, Justice Building, Ottawa, ON, K1A 0H8, Tel: (613) 957-9636.

The Duke of Edinburgh’s Award
Deadline: March 25
Terms of reference: The Duke of Edinburgh’s Award is:
• International youth program for ages 14-25.
• To open to all young people. Participants do not compete with others – only themselves. If participation is in a group, the group may do different things if they wish. There is also a minimum time that they must be involved in the three levels but they can take as long as they like up to age 25.
• Participants can do the Award as a member of a youth group/organization such as Scouts, Guides, Cadets, youth church group, school etc., or they can work on the Award as an independent.
• Each participant requires their own Record Book ($3.00). Leaders need a Handbook ($3.00) and if a participant is working on their own they may want a Handbook and badge ($6.00).
• To start, just contact the Award office or call collect.
• Nothing starts counting for the Award until registration. (Then only what is done after registration counts.)
• To start the Bronze level: Age 14, To start Silver level: Age 15, To start Gold level: Age 16
• When the Bronze, Silver or Gold Award is approved, there is a Certificate and Pin to be presented at an appropriate occasion.
Contact: The Duke of Edinburgh’s Award, 212-633 Courtney Street, Victoria, BC, V8W 1B8, Tel: (604) 682-5543 or (250) 385-4232.

J.M. Ellis Innovative Map of the Year – Canadian Institute of Geomatics
Deadline: March 1
Terms of reference: The award is intended to promote interest in, and to recognize excellence of, creative design in cartography.Annually, the award will highlight a single map that exhibits significant design advancement. The competition is open to all Canadian residents, private firms, federal, provincial, and municipal agencies producing and publishing maps. Contact: The Chair, Geomatics Canada Scholarship Program, c/o Canadian Institute of Geomatics, Suite 120, 162 Glebe Drive, Nepean, ON, K2G 5X2, Tel: (613) 224-9851, Fax: (613) 224-9577.

Excellence in Canadian Work-Family Research Awards
Deadline: February 28
Terms of reference: The purpose of the awards is to encourage them to write the literature in work and family, to increase knowledge of interdisciplinary efforts, and to support and encourage new scholars in the Canadian context. All students registered at Canadian Universities, who have written a paper on a topic related to work-family issues in the Canadian (or comparative) context, are eligible for these awards. The first place authors will receive $1000 for best undergraduate paper, and $2000 for best graduate paper. A minimum of two faculty members must review and recommend a student’s paper for submission. As a condition of the award, the successful recipient will grant the Centre for Families, Work & Well-Being permission to reprint the article in a future publication.
Contact: Linda Hawkins, Executive Director, Centre for Families, Work & Well-Being, Room 900, MacKinnon Building, University of Guelph, Guelph ON, N1G 2W1, Tel: (519) 824-4120, ext. 3829, Fax: (519) 823-1388, E-mail: l.hawkins@uoguelph.ca, Web: www.worklifeCanada.ca

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 program (MA, MSc or PhD) or undergraduate program (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 based on a course or may represent new work. 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 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. Application should include copies of completed registration form; two letters of reference (no relatives), one personal and one academic, and a letter from an educational institution indicating confirmation of registration or a photocopy of school application form. Contact: The Foundation for the Advancement of Aboriginal Youth, FAAY, 204 St. George Street, 2nd Floor, Toronto, ON, MSR 2NS, Tel: (416) 961-8663, Fax: (416) 961-3995,

The Canada-US Fulbright Program
Deadline: November 15
Terms of reference: Graduate and graduating students are eligible to apply if they are seeking enrolment in graduate degree programs in Canadian universities, or if they plan to pursue research in the United States as part of their Canadian graduate degree program. FORMAL ENROLLMENT AWARDS are for those who intend to begin graduate programs in universities in the United States, and who have gained acceptance to programs. RESEARCH AWARDS are for those who intend to spend an academic year of research and course work at institutions in the United States, but who are enrolled in graduate programs at Canadian universities.

INDEPENDENT RESEARCH AWARDS are for students who have already received an undergraduate degree from a recognized university and wish to pursue one academic year of independent research/study. Students must be affiliated with an institution in the United States. Contact: Foundation for Educational Exchange Between Canada and the United States of America, 350 Albert Street, Suite 2015, Ottawa, ON K1R 1A4, Tel: (613) 237-5366, Fax: (613) 237-2029.
E-mail: info@fulbright.ca, Web: www.usembassycanada.gov/fulbright.htm

Global Television Network Aboriginal Peoples’ Internship Award
Deadline: August 2
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 $10,000, places the award recipient in a four month internship program at any one of the Global Television stations where the award recipient will be paid on a salary basis for the summer. The applicant must be an Aboriginal Canadian, have minimum education at secondary school graduate, have interest in, and aptitude for, a career in the broadcasting industry, and have strong English language communication skills. Applications will be considered by a cross-Canada panel that includes representation from Global Television Network and the broadcast industry. Contact: Global Television Network, 81 Barber Greene Road, Toronto, ON, M3C 2A2, Tel: 1-800-387-8001, Fax: (416) 446-5354.

Go Canada! National Essay Competition
Deadline: March 14
Terms of reference: The competition, open to full time undergraduate students enrolled in a non-professional faculty of a Canadian University or Cegep, offers a prize for the student best able to answer the question “What steps should Canada take to improve its competitiveness in the global economy?” by 1500 words or less. All essays must be submitted by email. A detailed list of the rules and regulations of the contest can be found at the website. E-mail: gocanada@rotman.utoronto.ca, Web: www.rotmcan.utoronto.ca/gocanada

The Grant For Women Awards – Soroptimist Foundation of Canada
Deadline: January 31
Terms of reference: The Soroptimist Foundation of Canada annually offers several $7500 grants to female graduate students in Canada to assist them with university studies, which will qualify them for careers, which will improve the quality of women’s lives. Applicant must be: 1) a female, 2) a Canadian citizen or landed immigrant, 3) registered in a graduate or graduate level or professional program of studies in an accredited Canadian university.
pursuing a course of studies which will lead to a career mainly of service to women, 5) intending to spend a minimum of two years in such a career in Canada 6) intending to use the award in the academic year following receipt. Contact: E. Jean Farquharson, Manager, S.F.C.

Elizabeth Greenshields Foundation Award Terms of reference: The purpose of the foundation is to aid artists in the early stages of their careers. Awards are limited to candidates working in the following: painting, drawing, printmaking, sculpture. Work must be representational. Candidates must have already started or completed art school training or demonstrate, through past work and future plans, a commitment to making art a lifetime career. Refer to application form for application instructions. The foundation welcomes applications throughout the year.

Contact: Elizabeth Greenshields Foundation, 1814 Sherbrooke Street West, Suite #1, Montreal QC, H3H 1E4, Tel: (514) 937-9225, Fax: (514) 937-0141, E-mail: egreen@total.net

Gulf and Fraser Credit Union – Robert F. Long Educational Award Deadline: September Terms of reference: The applicant must be a member, or the child of a member, of 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 1R6, Tel: (604) 254-7270, Fax: (604) 254-7332.

Heart and Stroke Foundation of BC and Yukon Deadline: February 15 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. The objective of this program is to allow talented students to become acquainted with cardiovascular and cerebrovascular related research. To be eligible for this program, the student must currently be registered in a British Columbia’s university or college. It is open to undergraduate and medical students with a GPA of 3.5 or higher.

Contact: Research Department, Heart and Stroke Foundation of BC and Yukon, 1212 West Broadway, Vancouver, BC, V6H 3V2, Tel: (604) 736-3401, Toll Free: 1-888-473-4636, Fax: (604) 736-8732. E-mail: kjang@hsf.bc.ca Web: www.heartandstroke.ca

Heroes of Our Time Deadline: June 15 Terms of reference: There are seven awards in the amount of $2,000 each for First Nations citizens at the post-secondary school level who have completed at least one year and have demonstrated exceptional academic abilities. Applicants must be actively involved within the First Nations community.

Contact: Assembly of First Nations Resource Centre, Heroes of Our Time Awards, 10th Flr, 1 Nicholas Street, Ottawa, ON, K1N 7B7, Tel: (613) 241-6789.

Husky Oil Education Awards for Native People Deadline: June 15 Terms of reference: There are 4 awards in the amount of $3,000 each for students who have lived in B.C., Alberta or Saskatchewan for at least one year prior to applying. who are in need of financial assistance and demonstrate a serious interest in the oil industry. Applicant must include a transcript and a letter of acceptance from the school with the application form.

Contact: Staffing, Husky Oil, PO Box 6525, Station D, Calgary, AB, T2P 3G7, Tel: (403) 298-6111.

Imperial Oil Resources – Native Educational Awards Program Deadline: June 15 Terms of reference: Three awards of up to $4,500 each are given to people of First Nations ancestry beginning post-secondary studies. 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, Alberta, Saskatchewan, the Yukon or the Northwest Territories; 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 SW, Calgary, AB, T2P 0H6, Tel: (403) 237-3737, Fax: (403) 237-4012.

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 Canada for the past year and have met a university’s or college’s entrance requirements, have been accepted into university or college 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 student payments of up to 1,500 for continuing with program.

Contact: Social Development, Human Resources, Government of Canada, 10700-104 Avenue, Edmonton, AB T5J 4S2, Tel: (780) 497-4374, Fax: (780) 497-4377 E-mail: chumera@admin.gmcc.ab.ca

International Space University – Summer Program Deadline: January 31 Terms of reference: The scholarships are available to students from all disciplines and include cost for travel, tuition fees and living costs for July and August. There are 10-15 scholarships available. Applicant must be a Canadian citizen or landed immigrant. Competition is open to graduate students and graduate degree holders from all disciplines. Fourth year students of an undergraduate program may also apply if they have been accepted to a master’s degree program for September. Candidates must be conversant in English and in one other language.

Contact: Suzanne Malbeuf, Association of Universities and Colleges of Canada (AUCC), 600-350 Albert Street, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, ext. 321 Fax: (613) 563-9745. E-mail: smalbeuf@aucc.ca Web: www.aucc.ca

Japan Foundation Terms of reference: The Japan Foundation (Kokusai Koryu Kikin) was founded in 1972 as a non-profit, special legal entity, in order to further international mutual understanding through the promotion of cultural exchange between Japan and other countries. A wide range of programs is conducted in more than 180 countries. These programs can be categorized as: 1) support for exchange persons, 2) support for Japanese-language education, 3) Support for Japanese studies, 4) support for arts-related exchange and 5) support for media exchange. Refer to program guide for detail information.

Contact: The Japan Foundation Tokyo, 131 Bloor Street West, Suite 213, Toronto, ON, M5S 1R1, Tel: (416) 966-1600, Fax: (416) 966-9733 or (604) 684-5868 ext 240. E-mail: info@jfor.org Web: www.japanfoundationcanada.org

The Japan Exchange and Teaching Program (JET) Deadline: November 26 Terms of reference: The Japan Exchange and Teaching (JET) Program invites young college and university graduates from overseas to participate in international exchange and foreign language education throughout Japan. The JET participants are invited to Japan, and are placed in host institutions throughout the country. The JET participants sign contracts with their host institutions. Contracts are for one year. The JET program offers three types of positions: Co-ordinator for International Relations (CIR), Assistant Language Teacher (ALT) and Sports Exchange Advisor (SEA). For further information, please contact Embassy of Japan or Consulate General of Japan.

Contact: Consular Section, General of Japan, 900-1177 West Hastings Street, Vancouver, BC, V5E 2K9, Tel: (604) 684-5868 ext. 240, 255, Fax: (604) 684-6939. E-mail: programs@consulgpvan.com Web: www.embassyofjapancanada.org

The Killam Program of the Canada Council For The Arts Deadline: November 1 Terms of reference: One prize of $100,000 is awarded annually in each of three areas: natural sciences, engineering and health sciences. Killam Prizes are not related to a particular achievement, but rather are given in recognition of a distinguished career and exceptional contributions to one of these fields. Only

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Raymond A. LeClair Memorial Scholarship Award (Coquitlam Foundation) Deadline: May 11
Terms of reference: The successful applicant must be a resident of the City of Coquitlam, demonstrate financial need, 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. Applications must include a letter of application, which should include a statement outlining why the applicant merits the award, a resume, a copy of appropriate school transcript and two letters of reference which address the student’s ability to complete the course of studies promised.
Contact: Glenn Hara, Secretary, Coquitlam Foundation, 300 Guildford Way, Coquitlam, BC, V3B 7N2, Tel: (604) 927-3003, Fax: (604) 927-3015.
Mungo Martin Memorial Award 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. Applications must include a completed application, a recent transcript of marks and two letter so reference.
Contact: President, Mungo Martin Memorial Awards, Society, Box 883, Qualicum Beach, BC, V9K 1T2, Fax: (250) 752-3076.
Lois McConkey Memorial Fellowship Deadline: October 5
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, Fax: (604) 822-5567, Fax: (604) 822-2974.

The Military and Hospitalt Order of Saint Lazarus of Jerusalem Grand Priority in Canada Deadline: March 15
Terms of reference: The Military and Hospitalt Order of Saint 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 may be submitted in either official language. Maximum 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 Hospitalt 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.
Email: Lazarus@istar.ca
Web: home.istar.ca/-lazarus
Minerva Foundation For B.C. Women Education Award Deadline: August 15
Terms of reference: The purpose of the fund is to provide one or two annual awards to mature single women for graduate or undergraduate studies at Simon Fraser University. The award will be granted on the basis of financial need and academic proficiency, with preference given to a single mother.
Graduate students must be registered in a minimum of nine semester hours of normal graded courses. Graduate students must be registered for residence credit in an approved full-time program. The award will be granted in two instalments. To be eligible for the second installment, the recipient must maintain a minimum cgpa of 2.00. Apply to Minerva Foundation by August 15 of the given year.
Contact: Danna Murray, Executive Director, Minerva Foundation, c/o Buil, Houssier & Tupper, 3000 Royal Centre, PO Box 11130, 1055 West Georgia Street, Vancouver, BC, V6E 3R3, Tel: (604) 844-5439.
The Department of National Defence (DND) Security and Defence Forum Deadline: February 1
Terms of reference: The Department of National Defence offers a number of awards in studies relating to current and future Canadian national security and defence issues, including their political, international, historical, social, military, industrial and economic dimensions. Applicants must be Canadian citizens or permanent residents of Canada.
   a) MA Scholarship Program,
   b) PhD Scholarship Program (including Dr. Ronald Baker Doctoral Scholarship),
   c) Internship Program,
   d) Post Doctoral Fellowship Program (including R.B. Byers Fellowship).
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

Northern Scientific Training Program Deadline: December 1
Terms of reference: Indian and Northern Affairs Canada offers the Northern Scientific Training Program for students undertaking studies in the North.
Contact: The university’s northern studies committee chairperson or NSPT at Tel: (819) 997-0660.
E-mail: nspt@inae.gc.ca
NSERC Aboriginal Student Research Awards Deadline: November 1
Terms of reference: The Natural Sciences and Engineering Research Council of Canada (NSERC) is encouraging Aboriginal participation in four different NSERC USRA programs. These programs are open to all Inuit, Metis, Status and Non-Status First Nation people.
THE UNDERGRADUATE STUDENT RESEARCH AWARDS (USRA) programs offers qualified undergraduate students the opportunity to work on a challenging research project in a university or industrial environment for up to four months (minimum salary of $5000 for 16 weeks). This is a great summer job opportunity for students registered in an honours bachelor’s degree program in natural sciences or engineering.
THE POSTGRADUATE SCHOLARSHIPS (PGS) program provides financial assistance ($17,300 to $19,100 per year) for up to four years to students pursuing a master’s or doctoral degree in the natural sciences or engineering.
THE POSTDOCTORAL FELLOWSHIPS (PDF) program provides financial support ($35000 per year) for up to two years to the most promising young researchers in the natural sciences and engineering.
THE UNIVERSITY FACULTY AWARDS (UFA) program is open to any Inuit, Metis, Status and Non-Status First Nation people who are being considered for university faculty positions. This program makes a substantial contribution, for up to five years, to the salary of each successful candidate nominated by a Canadian university.
Contact: Scholarships and Fellowships Division, Natural Sciences and Engineering Research, 350
Studentships, open to men or women who will not
normally have been undergraduate members of the
college. Candidates should be under 25 years of age
on December 1. Candidates must be graduates of a
University in the United Kingdom or elsewhere. They
must intend to be awarded the degree of PhD in
the University of Cambridge. Studentships may only
be held at Peterhouse.
Contact: Senior Tutor, Peterhouse, Cambridge,
CB2 1RD, England.

Madeleine Bronsdon Rowan Endowment Fund
Terms of reference: This award is to
assist in the cost associated with First Nations
educational programs at the Museum of Anthropology
and may be combined with other awards. This award
is suited for First Nations students already engaged in
Museum of Anthropology projects, though other
applications will also be considered.
Contact: Awards Committee, c/o Anne Marie Fenger,
UBC Museum of Anthropology, 6393 NW Marine
Drive, Vancouver, BC, V6T 1Z2, Tel: (604) 822-5567,
Fax: (604) 822-2974.

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. Some award recipients 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 1) 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
banking industry (e.g. business; economics; computer science) iii) you 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.
Contact: Coordinator, Royal Bank Native Student
Awards, Human Resources Department, Head Office,
Royal Bank Plaza, 200 Bay Street, 11th Floor North
Tower, Toronto, ON, M5J 2J5, Tel: (416) 955-5824,
Fax: (416) 955-5840.

Maxine Sevack Memorial Grant
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 or Big Brothers at any time in the past.
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 Shastri Indo-Canadian Institute Awards
Terms of reference: The Shastri Indo-Canadian
Institute (SICI) is a unique educational enterprise
which promotes understanding between India and
Canada by supporting India studies in Canada and
Canadian studies in India. 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 Program in India (deadline: October 30)
• Women and Development Awards in India
  (deadline: November 15)
• Undergraduate Awards (deadline: January 31)
• Language Training Fellowships (deadline: January 31)
• Language Teaching Grants (deadline: February 1)
• Seed Grants for India Studies (deadline: February 1)
• Faculty Fellowships (deadline: June 30)
• Librarian Fellowships (deadline: June 30)
• Post-Doctoral Fellowships (deadline: June 30)
• Arts Fellowships (deadline: June 30)
• Student Fellowships (deadline: June 30)
Contact: Program Officer, India Student Study
Program, Shastri Indo-Canadian Institute, 1402
Education Tower, 2500 University Drive NW, Calgary,
AB, T2N 1N4, Tel: (403) 220-7467,
Fax: (403) 289-0100.
E-mail: sici@acs.ucalgary.ca
Web: www.ucalgary.ca/~sici

The Sisam Forestry Award
Deadline: March 31
Terms of reference: The Sisam Forestry Award, first
granted annually at the University of Toronto in June
1988, is now open for competition to all full-time
undergraduate and graduate students registered at a
Canadian University during the award year. It is
administered by the Council of the Faculty of Forestry,
University of Toronto. The award is granted for an
article, written solely by the applicant for the award,
dealing with a forestry or forest-environment topic of
public interest, e.g. forest ecology, silviculture, wildlife
management, forest protection, harvesting
operations, parks, conservation or wood science. The
article, which may be illustrated, must have been
published, in either English or French, in a magazine,
trade publication or a daily or weekly newspaper (but
not a student publication) at any time in the previous
twelve-month prior to the final date for submission to
the council.
Contact: The Sisam Forestry Award Admissions and
Awards, University of Toronto, 315 Bloor Street West,
Toronto, ON, MSS 1A3.

Roman Soltynkewych Music Scholarship
(URDC)
Deadline: November 30
Terms of reference: This award is available annually
to any qualified applicant (individual or group) who is
planning to pursue further studies in the field of
Ukrainian choral or vocal music. Courses of study or
workshops, either in progress or recently completed,
will be considered. Applicants must submit a written
description of course of study or workshop will help
the applicant in studying Ukrainian choral or vocal
music. 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.gmcce.ab.ca/nw/urdc/scholars.htm

Volunteer Recognition Awards
Deadline: February 25
Terms of reference: Volunteer Vancouver’s Volunteer
Recognition Awards celebrate the spirit of
volunteerism and showcase the voluntary efforts of
countless individuals and groups. Recognizing
specific individuals or organizations, these awards
also focus public attention on the vast spectrum of
voluntary service and community participation that
sustains the vibrant and caring community in which
we live. Awards are presented in five categories.
THE VOLUNTEER VANCOUVER AWARD FOR
LEADERSHIP: This award is designed to recognize
individuals who have demonstrated exceptional
leadership in the non-profit sector.
Awards

Terms of reference: The Elie Wiesel Foundation for Humanity sponsors an annual essay contest intended to challenge junior and senior students in colleges and universities to focus on ethical questions and issues facing them in a complex and ever-changing world. The essay, in 3000 to 4000 words, may take the form of an analysis that is biographical, historical, literary, philosophical, sociological or theological. Essays must be the original, unpublished work of the student. Entry form and further information can be found on the Elie Wiesel Foundation for Humanity website.

Contact: The Elie Wiesel Prize in Ethics, The Elie Wiesel Foundation for Humanity, 529 Fifth Avenue, Suite 1802, New York, NY 10017, USA; Tel: (212) 490-7777, Fax: (212) 490-6006. Web: www.eliewieselfoundation.org

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 the Americas in 1972 to assist women seeking to improve their employment status by gaining additional education and skills. Women’s Opportunity Awards are designed to provide assistance to women who provide the primary source of financial support for their families. 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 becomes eligible to receive a $10,000 international finalist award. Applicants must: 1) be female head of household, with primary financial responsibility for supporting their families; 2) be attending, or have been accepted to, a vocational/skills training program, or an undergraduate degree program; 3) have financial need; 4) be motivated to achieve their educational and career goals.

Contact: Patricia J. McKenzie, Soroptimist International of Vancouver, 3807 West 31st Ave., Vancouver, BC, V6S 1Y2, Tel: (604) 222-2072; or Olga Nash, Soroptimist International of the Langley’s, #207-20465 Douglas Crescent, Langley BC, V3A 4G1, Tel: (604) 534-7045; or Ms. Joyce Anderson, Soroptimist International of Burnaby-New Westminster, Tel: (604) 435-4280; or Joan Jeffries, Soroptimist of the Tri Cities, Tel: (604) 936-9572; or Ms Eva MacIntyre, Soroptimist International of White Rock, 12719 15A Avenue, Surrey BC, V4A 1L9. Web: www.soroptimist.org

External Awards for Applied Sciences Students

Cable Telecommunications Research Fellowship Program

Deadline: March 28

Terms of reference: The Cable Telecommunications Research Institute has established graduate fellowships to encourage students at the master or PhD level to tackle topics in the engineering of communications systems for video, voice and data signals or for control applications with interactive TV requirements. Candidates must be Canadian citizens or permanent residents and enrolled or planning to enroll in a Canadian university. Candidates must intend to use the fellowship to assist them in completing a graduate degree which includes a thesis on a topic in the engineering of broadband communications systems or computer science. (In this context, a broadband system can be analogue or digital, or a combination, but must be capable of transporting upwards of 10 video channels.)

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

Caribou Research Award – Canadian Northern Studies Trust

Deadline: January 31

Terms of reference: The Beverly and Qanamiujuq 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 Qanamiujuq 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@caribou.ca. Web: www.uottawa.ca/associations/acuen-acuns

CIPS Computing Co-op Award

Terms of reference: The Vancouver section of the Canadian Information Processing Society provides an award valued at $750 to a third or fourth year MSIC student who has a 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.

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 program deemed most effective at attracting senior high school students, particularly women, to engineering.

Contact: Canadian Engineering Memorial Foundation, Engineering Students Project Award, c/o Canadian Network of Professional Engineers, 1100-180 Elm Street, Ottawa, ON, K2P 2K3, Tel: 613.232.2474, Fax: 613.230.5759, E-mail: memorial.foundation@ccpe.ca, Web: www.ccpe.ca

Esso 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 B.C., Alberta, Saskatchewan, the Yukon or the Northwest Territories for 12 months before applying.

Contact: Coordinator, Native Education Awards Program, Human Resources Department, Esso Resources Canada Limited, 237 Fourth Avenue SW, Calgary, AB, T2P 0H6.

NSERC Undergraduate Student Research Awards

Terms of reference: NSERC Undergraduate Student Research Awards are valued at $4,000 (plus a 25 per cent supplement from the host university or company) and are normally held for 16 weeks. Students must be registered full-time in a bachelor’s degree program in the natural sciences or engineering and have successfully completed their first year of undergraduate studies with a minimum average of “B.”

Contact: Scholarships and Fellowships Division, Natural Sciences and Engineering Research Council, Council of Canada, 350 Albert Street, Ottawa, ON, K1A 1H5, Tel: 613.995.5921, Fax: 613.996.2589, E-mail: schol@nserc.ca Web: www.nserc.ca/programs/schol1_e.htm

Society of Automotive Engineers Awards

Deadline: April 1

Terms of reference: The Society of Automotive Engineers is offering several awards to students in engineering: the SAE Doctoral Scholars Forgivable Loan Program, the Yanmar/SAE Scholarship and the SAE Long Term Member Sponsored Scholarship. Eligible applicants will be entering their senior year of undergraduate engineering or enrolled in a postgraduate engineering or related science program. Applicants must be pursuing a course of study or research related to the conservation of energy in transportation, agriculture & construction, and power generation, with emphasis on internal combustion engine. Printable applications are available on the SAE website.

Contact: Society of Automotive Engineers, SAE Education Relations, 400 Commonwealth Drive, Warrendale, PA 19095-0001, Tel: 1.724.772.4047, E-mail: school@saee.org Web: www.sae.org

116 Financial Assistance and Awards – Externally Administered Programs
External Awards for Arts Students
Alberta Council for Ukrainian Arts – 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 arts 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, and a budget as requested in the application form. Limit of one submission per applicant. Applicants 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.

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.

Churchill Communication Challenge – Sir Winston Spencer Churchill Memorial Fund
Deadline: April 15
Terms of reference: The annual Churchill Communication Challenge essay/term paper competition, established by the Rt. Hon. Sir Winston Spencer Churchill Society, offers two prizes ($600 and $200) to students majoring in history or political science and international relations. Each university/college may submit up to six essays/term papers selected by faculty members in charge in May/June each year and decision will be made by end of November. The topics of the essays/term papers are not restrictive. They look for topics of contemporary relevance and interest and prefer topics that make reference to the statesmanship or politics of Churchill, but is not essential. Contact: The Rt. Hon. Sir Winston Spencer Churchill Society of British Columbia, c/o Stanley Winfield, 1-54 Richmond Street, New Westminster, BC, V3L 5P2, Tel: (604) 520-0493.

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 proposal outlining the intended course or workshop, along with a 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/~uwurd/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 enterprices. 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.

Anna Pipruchney 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 works 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 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 Pipruchney 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/~nw/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 BC. Awards will range from $3,000 to $5,000. Detailed Terms of the Awards (all conditions must apply):
• 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 Business Administration Students
British Columbia Export Excellence Award
International Business Studies
Deadline: September 21
Terms of reference: The International Business Study Award, sponsored by the Export Development Corporation (EDC), recognizes a student who has shown leadership and excelled in international studies while contributing to British Columbia’s export community. The recipient will have an excellent academic standing and have shown initiative in seeking opportunities and putting into action what they have learned in their studies. This may include, but not to be limited to research projects, work terms with export oriented companies or development of concepts and ideas that have benefited BC’s exporting community. EDC will present the winner with a $3,000 scholarship for continuing his/her studies. All undergraduate students who have a demonstrated interest in International Business and Trade are encouraged to apply for the BC Export Excellence Award. Contact: Financial Assistance, Simon Fraser University.

External Awards for Education Students
The Prime Minister’s Awards for Teaching Excellence
Terms of reference: The Prime Minister’s Awards honor elementary and secondary school teachers across Canada who have inspired students for the challenges of a changing society and knowledge-based economy. The awards, offered at the Certificate of Excellence and Certificate of Achievement levels, carry a prize of $5000 and $1000, respectively, given to recipients’ schools to be spent under their direction. Nominees must be practising classroom teachers with a minimum of three years experience. Nominees can be anyone with direct knowledge of the educator’s contribution, including principals, parents, students and colleagues. Contact: Prime Minister’s Awards for Teaching Excellence, Tel: 1-800-268-6608. E-mail: pmawards@ic.gc.ca Web: www.schoolnet.ca

External Awards for Science Students
Cable Telecommunications Research Fellowship Program
Deadline: March 20
Terms of reference: The Cable Telecommunications Research Institute has established graduate fellowships to encourage students at the master or PhD level to tackle topics in the engineering of communications systems for video, voice and data signals or for computer applications to cable TV requirements. Candidates must be Canadian citizens or permanent residents and enrolled or planning to...
enrol in a Canadian university. Candidates must intend to use the fellowship to assist them in completing a graduate degree which includes a thesis on a topic in the engineering of broadband communication systems or computer science. (In this context, a broadband system can be analogue or digital, or a combination, but must be capable of transporting upwards of 10 video channels.)

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCG), 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

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 $2,000 to full-time students enrolled in a recognized Canadian community college or university pursuing studies that will contribute to the understanding of the Barren Ground Caribou and their habitat. Preference will be given to individuals who normally reside in one of the communities on the range of the Beverly and Qamanijuaq Barren Ground Caribou.
Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 8B6, Tel: (613) 562-0515, Fax: (613) 562-0533.
E-mail: acuns@cyberus.ca
Web: www.cyberus.ca/–/acuns

CIPS Computing Co-op Award
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 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 3.0 CGPA and have completed at least two co-op terms.
Contact: The applicable department for application procedures.

Esso 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 12 months before applying.
Contact: Co-ordinator, Native Education Awards Program, Human Resources Department, Esso Resources Canada Limited, 237 Fourth Avenue SW, Calgary, AB, T2P 0H6.

NSERC Undergraduate Student Research Awards
Terms of reference: NSERC Undergraduate Student Research Awards are valued at $4,000 (plus a 25 per cent supplement from the host university or company) and are held for 16 weeks. Students must be registered full-time in a bachelor’s degree program in the natural sciences or engineering and have successfully completed their first year of undergraduate studies with a minimum average of “B.”
Contact: Scholarships and Fellowships Division, Natural Sciences and Engineering Research, Council of Canada, 350 Albert Street, Ottawa, ON, K1A 1H5, Tel: (613) 995-5521; Fax: (613) 996-2589.
E-mail: school@nserc.ca
Web: www.nserc.ca/programs/school_e.htm

Science Council of BC – Central Interior Second Year Science Award
Deadline: August 30
Terms of reference: $1,000 to students who graduated from a high school in the central interior region who are proceeding to a second year of studies at a Canadian university, college or institute in the field of science and/or technology. Based on high scholastic achievement (80% minimum) plus personal qualities and activities. Must provide two letters of reference, one from a science teacher, and include high school transcript and first year transcript attached to application.
Contact: K. Steadman, Science Council of BC Central Interior, Box 3010, Kamloops, BC, V2C 5V2 (UCC Campus), Tel: (250) 371-5751, Fax: (250) 828-5492.
E-mail: ksteadman@cariboo.bc.ca

External Loans

British Columbia Youth Foundation Loan
Terms of reference: The Foundation is prepared to make available to bona fide British Columbia residents under the age of 30, interest-free loans to assist in the pursuance of further education. This assistance is afforded to students who are not eligible for Canada Student Loans. The Foundation will require a co-signer if this private loan is granted; normally, the student’s parents would be asked to do this.
Contact: Further details may be obtained from Financial Assistance.

Canadian Forces Personnel Assistance Fund (CFPAF)
Deadline: June 30
Terms of reference: The Canadian Forces Personnel Assistance Fund offers an Education Assistance Loan Program to assist serving and former members and their dependants with costs of post-secondary education. To be eligible for a low interest loan of $1,200, $1,500, then in $500 increments up to a maximum of $4,000 per student, per year, the serving or former member must have served in the Canadian Army, after 1st October 1946, or in the Canadian Forces, after 31 January 1968, and have a minimum of one year Regular Force military service. The loans are repayable over a twelve to twenty four month period. Applications will be accepted throughout the year until the funds allotted for the EALP are exhausted.
Contact: Canadian Forces Base Financial Counsellors, district offices of Veterans Affairs Canada, and the Provincial Command offices of the Royal Canadian Legion. CFPAF, 234 Laurier Avenue West, Ottawa, ON, K1P 6K6, Tel: (613) 760-3447, 1-888-753-9828, Fax: (613) 236-8830.
E-mail: cfpa@cfpsa.com
Web: www.sisip.ca/English/CFPAF_e

PEO Sisterhood Educational Loan Fund
Terms of reference: Loans are available to women students in second to fourth year of a university course, and may be requested at any time. The maximum amount of a loan to any student is $2,000. Fourth year or graduate students may be granted loans and draw the maximum loan of $2,000 for two or more 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 university and employed.
Contact: International Student Advisor, PEO Executive Office, 3700 Grand Avenue, Des Moines, Iowa, USA, 50312-3820, Tel: (515) 255-3153, Fax: (515) 255-3800.

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 who have more than 8 months (34 weeks) of previous post-secondary study but less than 32 months (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 or www.bcsap.bc.ca.

Eligibility
Applicants must be Canadian citizens or permanent residents (landed immigrants) to be eligible. Assistance will be provided to eligible full-time students taking a minimum of 60% or 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 $4,675 in BCSAP each semester. The
maximum for students with dependent children is
$7,395 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 apply on-line at
www.bcsap.bc.ca. Alternatively, paper application
packages are available from any post-secondary
institution or 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 notice of award 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 this
loan document to a designated Canada Post outlet for
submission to the National Student Loan Service
Centre for negotiation.

If the student is also eligible for BC Student
Assistance, the loan certificate and/or grant cheques
(BC/Millennium Scholarship cheques) will be
mailed to the student from the Student Services
Branch, usually at the midpoint of the period for which
assistance was awarded, and the student will then
take the loan certificate to a designated Canada Post
outlet for submission to the BC Student Loan Service
Bureau for negotiation. Students are advised to keep
in constant touch with the bank, or service providers
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 and the
appropriate agencies are aware of their full time
status. Students should contact their lending
institution (bank, credit union, service provider) 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. These forms may be obtained
from Financial Assistance or the lending institution.

For appeals, reassessments or other concerns, please
contact Financial Assistance.

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 student 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

Federal grant programs are available to students with
permanent disabilities. For Canada Study Grant for
Students with Permanent Disabilities, check with the
Disabilities Services Officer in MBC 1250, or call
604.291.3112. For Canada Study Grant for
High-Need Students with Permanent Disabilities, contact Financial Assistance in MBC 3200 or call
604.291.4356 for further information.

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.

The Loan Remission Program

If you have a BC Student Loan negotiated prior to
August 1, 2000 (Guaranteed or Risk Sharing), the
Loan Remission Program may assist in the reduction of
your BC Student Loan debt.

If you have a BC Student Loan negotiated after
August 1, 2000 (Direct Lend), this loan may be
including when calculating your total debt, but will
not be eligible for loan remission.

You will not be eligible for consideration under the
Loan Remission Program if you have Direct Lend BC
Student Loans only. For further information and
eligibility on the Loan Remission Program, contact:
Loan Remission and Management Unit, Student
Services Branch, Ministry of Advanced Education or
visit the Student Services Branch website at
www.bcsap.bc.ca (debt management tools).

Ministry of Advanced Education

Mailing address: PO Box 9173 Stn Prov Govt,
Victoria, BC, V8W 9A7.

In Victoria call 250.387.6100; in the Lower Mainland
dial 604.660.2610; in North America call toll-free
1.800.561.1818, TTY 250.952.6832,
Fax 250.356.9455 or toll-free fax in North America
1.888.262.2112, www.bcsap.bc.ca

International Students

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. SFU’s school code is 008444. A Student
Aid Report (SAR) is then issued to the student. SFU
does not receive the SAR electronically because we
are a foreign school. If you do not receive the original
eight page SAR, you will need to contact FAFSA to
request one.

To apply for Stafford Loans, the student must submit
the signed SAR to Financial Assistance, with a
promissory note and school certification, obtained
from a state guarantee agency. New, first time
borrowers must also complete an entrance interview
at www.mapping-your-future.org.

Financial Assistance calculates the student’s costs,
completes the school section of the application, and
then forwards the application to the appropriate
agency for processing.

For more information regarding federal 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 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. Bursaries are
awarded on the basis of financial need, but only as
supplemental funding, not as core funding needed to
meet immigration requirements. It must be stressed
that non-Canadian students should not predetermine
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.

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 faissist@sfu.ca.

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Note, this index is compiled in simple alphabetical
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Faculty of Applied Sciences

9861 Applied Sciences Building, 604.291.4724 Tel, 604.291.5802 Fax, http://fas.sfu.ca

Dean
B.S. Lewis BA (Hamilton), MA, PhD (Iowa)

Associate Deans
R.D. Cameron BA, PhD (Br Col)
W.S. Parkhouse BPE (Alta), MPE, PhD (Br Col)

Director, Diversity and Recruitment
H. Matsui MSc (London School of Economics)

Advisors
Ms. M. Black MA (Royal Roads), 9861 Applied Sciences Building, 604.291.3254 Tel

The Faculty of Applied Sciences offers programs in communication, computing science, engineering science, Information technology,* Interactive arts,* 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.

*For information about these programs, see “Simon Fraser University Surrey” on page 19.

Undergraduate Degrees Offered
Bachelor of Applied Science
Bachelor of Applied Science (Honors)
Bachelor of Arts (Honors)
Bachelor of Arts
Bachelor of General Studies (Applied Sciences)
Bachelor of Science (Honors)
Bachelor of Science (Information Technology, Tech BC)*
Bachelor of Science (Interactive Arts, Tech BC)*
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
Post Baccalaureate Diploma in Communication
Post Baccalaureate Diploma in Computing Science
Post Baccalaureate Diploma in Kinesiology

Residency Requirements
Simon Fraser University may award substantial transfer credit for course work completed elsewhere. These transfer credits reduce the amount of work that need to be completed at Simon Fraser University for a credential, subject to minimum residency requirements for work completed at SFU. In addition to University-wide residency requirements, the Faculty of Applied Sciences also defines program-based residency requirements for each of its programs.

Overall, the residency requirements define three conditions that apply to every program offered through the Faculty of Applied Sciences.

• At least one half of the total credit hours in the program must be earned through study at Simon Fraser University.

Faculty of Communication

School of Communication

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Canada Research Chair
A. Feenberg, BA (Johns H), MA, PhD (Calif)

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E. Balka BA (Wash), MA, PhD (S Fraser)
S. Gruneau BA (Queb), MA (Calg), PhD (Mass)
R.A. Hackett BA (S Fraser), MA, PhD (Qu)
L.M. Harasim BA (Ma), MA, PhD (Qu)
S. Kline BA (Tor), PhD (Lond)
B.S. Lewis BA (Hamilton), MA, PhD (Iowa)
R.M. Loomer BA, MA (Manit), PhD (Tor)
W.D. Richards, Jr BA (Mich State), MA, PhD (Stan)
B.D. Truax BSc (O), MMus (Br Col)*

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P.M. Howard BA, MA (Regina), PhD (S Fraser)
M. Laba BA (York, Can), MA, PhD (Nfld)
C.A. Murray BA, MA (Wat), PhD (Qu)
R.K. Smith BA (Car), MA, PhD (S Fraser)

Assistant Professors
Z. Druck BA (C’dia), MA, PhD (York, Can)
G. McCarron BA (S Fraser), MA, PhD (York, Can)
Y. Zhao BA (Beijing Broadcasting Institute), MA, PhD (S Fraser)

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Advisors
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*joint appointment with contemporary arts

Faculty members are also available for student consultations.

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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.

See “School of Communication” on page 331 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.

• management or research connected with 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 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 210, 220, 221, 235, 240, 259, 304, 310, 321, 324, 331, 359, 422, 428, 437
Enrolment Limitations
Admission to the upper division of the major, minor, honors and related joint programs is limited. Space in upper division CMNS 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 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 a 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 announced annual 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.

Course Prerequisite Requirements
Registration in any communication course normally requires that students obtain a C- grade (or better) in each prerequisite.

A minimum cumulative grade point average of 2.25 and approval as a communication major, minor or publishing minor is required for entry into most communication upper division courses.

Transfer Credit and Residency Requirements
Transfer students are advised that residency requirements apply to all programs offered or jointly offered by the School of Communication. See "Residency Requirements" on page 125.

Major Program
Entry Requirements
Admission to the School of Communication is highly competitive.

Entry to this 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 2002, 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
CMNS 262-3 Research Methods in Communication
CMNS 360-3 Research Methods in Communication

Students must also complete nine credit hours of additional CMNS 200 level course work 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 232-4 Data and Decisions I
CRIM 220-3 Research Methods in Criminology
EDUC 222-3 Research Methods in Educational Psychology
EEOG 251-3 Quantitative Geography
PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
POL 201-3 Research Methods in Political Science
PSYC 210-3 Research Methods in Psychology

CMNS 210-3 Introduction to 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

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 2002, 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
CMNS 260-3 Introduction to Empirical Communication Research Methods
CMNS 261-3 Documentary Research in Communication
CMNS 262-3 Research Methods in Communication
CMNS 360-3 Research Methods in 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 communication courses 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 2002, applicants were accepted who had a minimum CGPA or transfer GPA of 2.25, upon completion of the lower division requirements.

Lower Division Requirements
Four of the following courses must be completed, each with a grade of C- or better. No more than two courses from each discipline can be counted.

CMNS 110-3 Introduction to Communication Studies
CMNS 130-3 Explorations in Mass Communication
CMNS 230-3 Introduction to Communication Media
CMNS 240-3 The Political Economy of Communication
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
ENG 210-3 Advanced University Writing
LING 100-3 Communication and Language
LING 110-3 The Wonder of Words
LING 260-3 Language, Culture, and Society

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.

CMNS 371-4 The Structure of the Book Publishing Industry in Canada
CMNS 372-4 The Publishing Process
CMNS 375-4 Magazine Publishing
CMNS 377-4 Media Democratization: From Critique to Transformation
CMNS 472-4 Books, Markets and Readers
CMNS 473-4 Publication Design and Print Production
Joint Major in Communication and Canadian Studies
See "Joint Major Programs" on page 145 for requirements.

Joint Major in Communication and Latin American Studies
See "Communication" on page 173 for requirements.

Joint Major in Communication and Sociology/Anthropology
See "Joint Major in Sociology or Anthropology and Communication" on page 183 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 honors program registration 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 credits of course work including the lower division requirements of the CMNS major,
• completion of at least one of CMNS 362 or 363, a minimum CGPA of 3.0 on all CMNS courses, and a minimum CGPA of 3.0 on all Simon Fraser University courses.

Continuation
To remain in this program, students must maintain a minimum CGPA 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 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 of satisfactory program completion.

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 supervisors and by the honors co-ordinator before work is begun. A pamphlet describing the honors project requirements can be obtained from the school’s 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 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 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/or 130 before enrolling in any of the 300 and 400 level courses.

For further information, see "Continuing Studies" on page 224.

Co-operative Education Program
Co-op education 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. See "Continuing Studies" on page 224.

School of Computing Science

Director
Z.N. Li BSc (China UST), MSc, PhD (Wis)

Professors Emeriti
T.W. Calvert BSc(Eng) (Lond), MSEE (Wayne), PhD (Carnegie Tech), PEng
R. Harrop BA, MA, PhD (Camb)
T.D. Sterling BA, MA (Chic), PhD (Tulane)
J.J. Weinikam BS (Xavier), MS (Chic), DSc (Washington U)

Professors
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B.K. Bhattacharya MSc (Calx), MSc, PhD (McG)
F.W. Burton BSc, MA (Colorado), PhD (E Anglia)
R.D. Cameron BASC, PhD (Br Col), Associate Dean of Applied Sciences
V. Dahl MSc (Buenos Aires), PhD Aix-Marseille I, Dipl d’Et App Aix-Marseille II
J.P. Delgrande BSc, MSc, PhD (Tor)
B.V. Funt BSc, MSc, PhD (Br Col)
R.F. Hadley BA (Virginia), MSc (S Fraser), PhD (Br Col)

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P. Hell BSc (Prague), MSc (McM), PhD (Montr)*
R.F. Hobson BSc (Br Col), PhD (Wat)*
T. Kameda BE, ME (Tokyo), PhD (Pirn)
Z.N. Li BSc (China UST), MSc, PhD (Wis)
A.L. Liestman BSc (Roch), MS, PhD (Ill)
W.S. Luk BA (Lond), MSc (Wat), PhD (Alta)
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P. Popowich BSc (Alta), MSc (S Fraser), PhD (Edin)
T.C. Shermer BES (Johns H), PhD (McG)
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Associate Professors
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M. Ester MSc (Dortmund), PhD (Swiss Inst Tech)
U. Glässer BSc, MSc, PhD, Habilitation (Paderborn)
Q. Gu BS (Shandong), MS (Ibaraki), PhD (Tohoku)
A. Gupta BSc (McG), MSc, PhD (Tor)
L.J. Hafer BSEE, MS, PhD (Carnegie-Mellon)
W.S. Havens BSc, MSc (Virginia), PhD (Br Col)
R. Krishnamurti Ttech, MTech (IIT Madras),
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K. Wang BSc (Chongqing), MSc, PhD (Georgia IT)

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T. Möller BS (Humboldt), MS, PhD (Ohio State)
A. Sarkar, BSc (Poona), PhD (Penn)
O. Schulte BSc (Tor), MSc, PhD (Carneige Mellon)**
E. Ternovska BSc (Moscow State), MSc (Russian
Academy of Science), PhD (Tor)
H. Zhang BSc, MSc (Wat), PhD (Tor)

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J.W. Han MS, PhD (Wis)
K. Inkenk BSc, MSc (Br Col), PhD (S Fraser)
T. Lee BSc, MSc (Br Col), PhD (S Fraser)
T. Schaub BSc, MSc, PhD (Darmstadt)
E. Schenk BSD, MSc, PhD (Tor)
T. Strothotte BSc, MSc (S Fraser), PhD (McG),
DSc (Wat)
O. Veryovka BSc (Acad), MSc, PhD (Alta)

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M.D. Evans BSc, MA (Dal), MSc (Dund),
MSc (Birm)
R.J. Tront BSc (Vic, BC), MASC (Br Col)

Lecturers
G. Baker BSc (Qu), MSc (S Fraser)
B. Bart BSc, BMath (Wat), BEd (WOnt),
MSc (S Fraser)
A. Lavergne BSc (S Fraser), MSc (Br Col)
S. Pearce BSc, MSc (Br Col), PhD (Ariz)

Associate Members
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P. Borwein, Mathematics
J.C. Dill, Engineering Science
M. Monagan, Mathematics
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M. Trummer, Mathematics

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advising)
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education advising only)

*joint appointment with mathematics
**joint appointment with philosophy

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, 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-ordinators and the University's Office of Co-operative Education. For further details, students should see "Continuing Studies" on page 224.

Transfer Credit and Residency Requirements
Transfer students are advised that residency requirements apply to all programs offered or jointly offered by the School of Computing Science. See "Residency Requirements" on page 125.

Prerequisite Grade Requirement
Registration in any computing science course normally requires that students obtain a C- or better in each 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 entry route 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 courses satisfying particular breadth constraints.

See "Admission and Readmission" on page 38. Here you will find the provisions governing direct entry from high school or direct transfer from another post secondary institution.

Guaranteed Placement Program
This program is designed to assure students of timely access to the courses needed to enter the computing science major or honors programs under the internal transfer model.

BC and Yukon 12 applicants may be offered guaranteed placement in computing science courses in conjunction with general admission to the Faculty of

Applied Sciences. The School of Computing Science admission requirements for BC and Yukon secondary school graduates must be satisfied (see "British Columbia and Yukon Applicants" on page 41 in the Administration and Readmission section).

Students admitted to the guaranteed placement program are guaranteed registration into lower division computing courses in accordance with the recommended schedule that is listed in the lower division requirements (see "Major and Honors Programs" on page 128). Students may continue in the program for up to two years, provided that a CGPA of 2.4 or better is maintained.

Students may apply for admission to computing science major or honors programs at any time during the two years of the guaranteed placement program. In the event that a student is unable to meet the admission requirements after completion of the program, registration for the certificate in computing studies is available.

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 100, 120 or any 100 level
ENGL course
• two mathematics courses chosen from: MACM 101, 201, 201, 151, 152 and 232
• two computing courses chosen from: CMPT 101, 150/ENSC 150, 201, 250 and 275
• one physical sciences course: BISC 101, 102, CHEM 120, 121, 122, EASC 101, KIN 142, PHYS 101, 102, 120 or 121
• one social sciences course: ARCH 105, CMNS 110, 130, CNS 160, CRIM 101, ECON 103/105, HIST 106, POL 100, PSYC 100, REM 100, SA 101, 150 or WS 101

All seven courses used for this calculation must have been taken at Simon Fraser University and taken in the four most recent registered semesters preceding the application process. 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. Students are encouraged to take additional courses. 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 courses listed below. The courses are listed in the form of a recommended schedule that students should complete within the first two years.

Courses and Recommended Schedule
Semester One (Fall)
- CMPT 101-4 Introduction to Computer Programming
- CMPT 104-2 Computer Programming
- plus all of
  - MACM 101-3 Discrete Mathematics I
  - MATH 151-3 Calculus I
  - one writing/breadth course

Semester Two (Spring)
- CMPT 150-3 Introduction to Computer Design
- MATH 152-3 Calculus II
- two writing/breadth courses

Semester Three (Fall)
- CMPT 201-4 Data and Program Abstraction
- CMPT 250-3 Introduction to Computer Architecture
- MACM 201-3 Discrete Mathematics II
  - one writing/breadth course

Semester Four (Spring)
- CMPT 275-4 Software Engineering I
- MATH 232-3 Elementary Linear Algebra
  - and one of
  - STAT 270-3 Introduction to Probability and Statistics I
  - BUED 232-4 Data and Decisions I (with permission of an advisor)
  - one writing/breadth course

Writing Requirement
Students must complete one of
- PHIL 100-3 Knowledge and Reality
- PHIL 120-3 Introduction to Moral Philosophy
  - or any 100 level ENGL course

External Breadth Requirements
Students must complete at least one course from each of the following science and social science lists.

Physical Sciences
- BISC 100-4 Introduction to Biology
- BISC 102-4 General Biology
- CHEM 120-3 General Chemistry I
- CHEM 121-4 General Chemistry and Laboratory I
- CHEM 122-2 General Chemistry II
- KIN 142-3 Introduction to Kinesiology
- PHYS 101-3 General Physics I
- PHYS 102-3 General Physics II
- PHYS 120-3 Modern Physics and Mechanics
- PHYS 121-3 Optics, Electricity and Magnetism
- EASC 101-3 Physical Geology

Social Sciences
- ARCH 105-3 The Evolution of Technology
- CMNS 110-3 Introduction to Communication Studies
- CMNS 130-3 Explorations in Mass Communication
- CNS 160-3 The Social Background of Canada
- CRIM 101-3 Introduction to Criminology
- ECON 103-3 Principles of Microeconomics
- ECON 105-3 Principles of Macroeconomics
- HIST 106-2 Western Civilization from the Reformation Era to the 20th Century
- POL 100-3 Introduction to Politics and Government
- PSYC 100-3 Introduction to Psychology I
- REM 100-3 Global Change
- SA 101-4 Introduction to Anthropology (A)
- SA 150-4 Introduction to Sociology (S)
- WS 101-3 Introduction to Women’s Issues in Canada

Students must also choose two additional courses from the list of external breadth courses published annually by the school. Alternatively, the completion of a minor in a humanities program will complete the external breadth requirement.

Upper Division Requirements
Major and honors students are required to consult an advisor before completing 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

**Artificial Intelligence**
- 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
- CMPT 417-3 Intelligent Systems
- CMPT 419-3 Special Topics in Artificial Intelligence

**Computer Graphics and Multimedia**
- CMPT 361-3 Introduction to Computer Graphics
- CMPT 363-3 User Interface Design
- CMPT 365-3 Multimedia Systems
- CMPT 461-3 Advanced Computer Graphics
- CMPT 466-3 Animation
- CMPT 469-3 Special Topics in Computer Graphics

**Computing Systems**
- CMPT 300-3 Operating Systems I
- CMPT 371-3 Data Communications and Networking
- CMPT 379-3 Principles of Compiler Design
- CMPT 400-3 High-Performance Computer Architecture
- CMPT 401-3 Operating Systems II
- CMPT 471-3 Networking II
- CMPT 479-3 Special Topics in Computing Systems
- CMPT 499-3 Special Topics in Computer Hardware

**Information Systems**
- CMPT 301-3 Information Systems Management
- CMPT 354-3 Database Systems I
- CMPT 370-3 Information System Design
- CMPT 454-3 Database Systems II
- CMPT 459-3 Special Topics in Database Systems
- CMPT 470-3 Web-based Information Systems
- CMPT 475-3 Software Engineering II

**Programming Languages and Software**
- CMPT 383-3 Comparative Programming Languages
- CMPT 384-3 Symbolic Computing
- 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

**Theoretical Computing Science**
- CMPT 307-3 Data Structures and Algorithms
- CMPT 308-3 Computability and Complexity
- CMPT 405-3 Design and Analysis of Computing Algorithms
- CMPT 406-3 Computational Geometry
- CMPT 407-3 Computational Complexity
- CMPT 409-3 Theory of Computer Networks/Communications
- CMPT 409-3 Special Topics in Theoretical Computing Science

**MACM 300-3 Introduction to Formal Languages and Automata with Applications**

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 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.

- Graduating Requirements
- For a major and minor in computing science, the following additional requirements must be met.
- • For a major or minor in computing science, one additional CMPT course chosen from table I or table II must be completed, to total at least 30 upper division credit hours in CMPT courses.
- For a minor 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.
- Social Aspects of Computing Requirement
- Students must complete an approved course dealing with computing from a social perspective. Any of the following may be used to meet this requirement.
- CMPT 320-3 Social Implications of a Computerized Society
- CMNS 353-4 Social Contexts of Information Technology
  - 3 or 4 credit hours
- Other courses may be approved on submission of a detailed course outline to the school.

Graduating Requirements
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 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.

See "General Information" on page 35 for regulations 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.

- Graduating Requirements
- 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.

See "General Information" on page 35 for regulations 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.

- Graduating Requirements
- 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.

See "General Information" on page 35 for regulations governing university graduation requirements.
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 (page 35).

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
FPA 111-3 Issues in the Fine and Performing Arts
plus at least two of
CMNS 259-3 Acoustic Dimensions of Communication I
FPA 147-3 Introduction to Electroacoustic Music
FPA 247-3 Electroacoustic Music I
FPA 289-3 Special Topics in the Fine and Performing Arts I
FPA 290-3 Video Production I

Upper Division Requirements
Students must complete all lower division requirements for the computing science major program (40-42 credit hours) plus
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
MACM 316-3 Numerical Analysis I
24 credit hours

E 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
MACM 477-3 Numerical Analysis II

Minor Program
The procedure for applying for admission as a minor in computing science is the same as the admission requirements state at the beginning of the School of Computing Science section (see “Admission Requirements” on page 128).

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

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 FPA courses listed above require prerequisites that are not included here. Where possible, prerequisites for FPA courses will be waived or adjusted so that computing science students in this specialist program can gain access.

Eligible FPA 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 eight 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
MACM 316-3 Numerical Analysis I
24 credit hours

E 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
MACM 477-3 Numerical Analysis II

Minor Program
The procedure for applying for admission as a minor in computing science is the same as the admission requirements state at the beginning of the School of Computing Science section (see “Admission Requirements” on page 128).

Lower Division Requirements
Students who plan to undertake a minor in computing science should normally obtain credit for the following lower division courses.

Note:
CMPT 250-3 Introduction to Computer Architecture
CMPT 275-4 Software Engineering I
plus one of
PHIL 100-3 Knowledge and Reality
PHIL 120 Introduction to Moral Philosophy
or any 100 level ENGL course
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

Upper Division Requirements
For a minor, students must complete fifteen credit hours of upper division CMPT or MACM courses, including at least nine credit hours of CMPT courses chosen from Table I – Computing Science Concentrations (page 129).

Joint Major in Computing Science and Molecular Biology and Biochemistry

The School of Computing Science and the Department of Molecular Biology and Biochemistry co-operate in offering this joint major. See the entry within the Department of Molecular Biology and Biochemistry section (page 215) under the Faculty of Science.

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 193 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. Entry requires permission of both the department and the school. See “Department of Mathematics” on page 211.

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 147 for more details about the requirements.

Management and Systems Science Program

In co-operation with the Department of Mathematics, 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 222 for more details about the requirements.

**Post Baccalaureate Diploma in Computing Science**

The School of Computing Science is currently not accepting students for this diploma program.

**Requirements**

Students 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 Systems and Structures
- additional upper division computing science courses
- and/or computing science graduate courses (with instructor’s consent) totaling 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 to achieve a coherent program of study. The student is responsible for satisfying the prerequisites of program courses. 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 computing 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**

- CMPT 116-3 Event-Driven Programming in Visual Basic
- CMPT 117-3 Introduction to Internet Programming – Java
- CMPT 165-3 Introduction to Multimedia and the Internet

**School of Engineering Science**

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**Director**

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**Professors Emeriti**

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V. Cuperman MSc (TI Bucharest), SB, MS, PhD (Calif), PEng

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**Professors**

J.S. Bird BASc (Br Col), PhD (Car), PEng

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**Associate Professors**

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L. KrishnaMohan BS (Br Col), PhD (Calif)

V. Kalyan BSc (Madr), MSc (Qu), PhD (Calif), PEng

**Assistant Professors**

K. Karim BASc, PhD (Wat)

A. Mihailidis BASc, MASC (Tor), PhD (Strath)**

**Adjunct Professors**

D. Gelbart BSc, MSc (Technion, Israel)

D. Kotak MSIE (Calif), BEng (Bom)

T. Maimon BS (Col), MS, PhD (Stan)

J.A. McEwen BASc, PhD (Br Col), PEng

T. Randhawa BEng (Thapar IET), MSc (Sask), PhD (S Fraser)

J. Wu BSc (Shandong Polytech), BSc (Coventry), PhD (Wales)

**Associate Members**

P.N.S. Bawa, Kinesiology

R.F. Frindt, Physics

J.A. Hoffier, Kinesiology

K. Kavanagh, Physics

E. Love, Business Administration

S. Robinovitch, Kinesiology

**Senior Lecturers**

P. Leung BSEE (Texas Tech), PEng

S.A. Stevenson BA, MA (Br Col)

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*Joint appointment with computing science

**Joint appointment with physics

***Joint appointment with physics, gerontology

**Programs Offered**

Please refer to the on-line Calendar at www.reg.sfu.ca/calendar for the most current program information.

**Engineering Science Program**

This program leads to a BASc or BASC (Honors) degree.

**Transfer to Engineering Science**

A limited number of places are available for students who wish to transfer into the School of Engineering Science from other departments and institutions. Successful applicants have usually attained a CGPA of 3.25 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 a grade of C or higher in the following science courses prior to entry.

**Admission**

Students must be eligible for University admission and must submit applications as described in “Admission and Readmission”. Concurrent to the SFU application admission, students must also submit a separate application to the admissions committee, School of Engineering Science, which includes a resume and a copy of the most recent report card. Successful applicants have usually attained a CGPA of 3.25 or equivalent in a full course load of relevant courses prior to entry. Successful applications must be submitted by e-mail to ensc-adm@sfu.ca. More detailed admission information is on the web at www.ensc.sfu.ca.

**Transfer Credit and Residency Requirements**

Transfer students are advised that residency requirements apply to all programs offered by the School of Engineering Science. See “Residency Requirements” on page 125.
BASc Program

Engineering science students develop skills in systems design along with a high level of scientific knowledge. This demanding program is aimed at the superior student. The program's goal is to produce well-educated, innovative engineer/scientists who have entrepreneurial skills and attitudes and who are oriented to new technologies. Program entry is on a competitive basis.

Students must maintain both a cumulative grade point average (CGPA) and an upper division grade point average (UDGPA) of at least 3.0 to remain in the honors program. The honors program requires an undergraduate thesis.

The general degree program substitutes a final year project for the undergraduate thesis and requires a CGPA and UDGPA each of at least 2.4 for continuation. If either GPA falls below 2.4, the student is placed on probationary standing with the school. Courses available to probationary students may be limited. Each semester, probationary students must consult an advisor prior to course registration.

Students undertake a basic core of pure, applied and engineering sciences followed by studies in a specialized option. The general BASc program may be completed in four years, which includes eight semesters. A BASc (honors) typically requires an additional two semesters for thesis completion.

There are four major areas of concentration where the faculty members' research strengths are interrelated 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.

ENSC courses 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, integrated communications course taken through the program ensures that all graduates have the communication skills necessary to be effective engineers.

Industrial Experience

Every student completes a co-op education program of at least three work semesters (not including ENSC 194) and a thesis or capstone project. After the first year, students typically alternate between academic and work semesters, resulting in a combination of work in an industrial or research setting with study in one of the four engineering options.

Students may also participate in additional work semesters for further valuable experience and the chance to investigate career choices. The engineering science co-op program is administered through the Engineering Science by the school’s co-op co-ordinators whose responsibility is to find and maintain appropriate work placements.

Toward the end of academic studies and under the direction of a practising engineer or scientist, honors students work on a major project in an industry or research setting. This forms the basis for the honors thesis. A thesis proposal is typically submitted in the ninth semester and all thesis requirements are completed by the end of the tenth semester.

BASc Requirements

All requirements of one of the four options must be completed. Each option provides a mix of basic science, general studies, engineering science, specialized engineering and science, plus project and laboratory work. For an honors degree in conjunction with any option, a capstone project course (ENSC 440) must be completed. For a general degree in conjunction with any option other than engineering physics, a capstone project course (ENSC 440) must be completed. The engineering physics option is only available with the honors degree.

Graduation with BASc (honors) requires both a cumulative grade point average (CGPA) and an upper division grade point average (UDGPA) of at least 3.0. Graduation in the general BASc program requires both a CGPA and a UDGPA of at least 2.4.

Students must complete a three semester co-operative education 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.

Specialized study is completed in one of four options: systems, electronics engineering option, computer engineering option, engineering physics option, systems option.

Although there is no strict requirement to follow these course sequences, taking less may lead to scheduling and prerequisite problems in subsequent semesters. Failure to take courses identified with an asterisk in the designated semester will almost certainly lead to such problems. Any semester 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 available with the honors degree.

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* 17 credit hours

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 225-4 Microelectronics I* MATH 232-3 Elementary Linear Algebra* MATH 251-3 Calculus III* (P,E,S) PHYS 310-3 Intermediate Differential Equations* 18 credit hours

Semester Three (Fall)

ECON 103-3 Principles of Microeconomics ENSC 220-3 Electric Circuits I* ENSC 350-3 Digital Systems Design (C,E) MACM 101-3 Discrete Mathematics I* (C,S) MATH 232-3 Elementary Linear Algebra* MATH 251-3 Calculus III* (E,P,S) STAT 270-3 Introduction to Probability and Statistics* 18 credit hours (C,S); 17 credit hours (P,E) *should be taken in the designated semester; consequences of deviating from this schedule are the responsibility of the student.

Courses are only required by the program option that appears in parenthesis next to them: C (computer engineering), E (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.

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

The courses and typical schedule for both the general degree and the honors degree are listed below. The notation (G) is used for requirements applying to the general degree only, while the notation (H) is used for requirements applying to the honors degree only.

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 254-1 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* 18 credit hours (C,S); 17 credit hours (P,E) *should be taken in the designated semester; consequences of deviating from this schedule are the responsibility of the student.

Courses are only required by the program option that appears in parenthesis next to them: C (computer engineering option), E (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.

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 18 credit hours

Semester Six (Fall)

Cmpl I-3 first complementary elective (G) ENSC 305-1 Project Documentation and Team Dynamics* (H) ENSC 325-4 Microelectronics II* ENSC 327-4 Communication Systems* ENSC 340-3 Engineering Science Project* (H) ENSC 383-4 Feedback Control Systems* Scie I-3 science elective (G) 18 credit hours (G); 17 credit hours (H) Semester Seven (Spring)

Cmpl I-3 first complementary elective (H)
can be done on or off campus, either integrated with an elective in between semesters seven and eight. Theses can be submitted between semesters seven and eight. This work can be done on or off campus, either integrated with an optional (or mandatory) work term or as independent work with appropriate supervision.

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, and a solid engineering base.

Courses and Typical Schedule
The courses and typical schedule for both general and honors are listed. The notation (G) is for general degree requirements only, while (H) is for requirements applying to the honors degree only.

Semester Five (Spring)
CMPT 275-4 Software Engineering* 17 credit hours
MACM 201-3 Discrete Mathematics II* 17 credit hours
ENSC 304-1 Human Factors and Usability Engineering* 17 credit hours
ENSC 320-3 Electric Circuits II* 17 credit hours
ENSC 351-4 Real Time and Embedded Systems* 17 credit hours
ENSC 380-3 Linear Systems* 18 credit hours

Semester Six (Fall)
CMpl I-3 first complementary elective1 (G) 17 credit hours
ENSC 305-1 Project Documentation and Team Dynamics* (G) 17 credit hours
ENSC 325-4 Microelectronics II* 17 credit hours
ENSC 327-4 Communication Systems* 17 credit hours
ENSC 340-4 Engineering Science Project* (H) 17 credit hours
ENSC 383-4 Feedback Control Systems* 17 credit hours
Scie I-3 first science elective2 (G) 18 credit hours
Scie II-3 second science elective3 (G) 18 credit hours
Scie III-3 third science elective3 (G) 18 credit hours
Scie IV-3 fourth Engineering Science elective1 (G) 18 credit hours
Tech I-3 technical (computing science, science or math) elective1 (G) 18 credit hours
Tech II-3 or Ensc V-41 (H) 18 credit hours

Other Requirements
ENSC 498-3 Engineering Science Thesis Proposal (H) 18 credit hours
ENSC 499-9 Engineering Science Undergraduate Thesis (H) 18 credit hours
Total 142 credit hours (G); 154 credit hours (H)

Note: In the typical schedule shown above, honors students will start their thesis work (ENSC 498 and 499) between semesters seven and eight. This work can be done on or off campus, either integrated with an optional (or mandatory) work term or as independent work with appropriate supervision.

Engineering Physics (Electronics) Option
This option prepares for work in engineering, applied sciences and is strongly dependent on a sound knowledge of physics and engineering fundamentals.

Courses and Typical Schedule
The courses and typical schedule for the honors degree are listed below. The Engineering Physics option is not available through the general degree.

Semester Five (Spring)
CMpl I-3 first complementary elective1 (G) 17 credit hours
ENSC 305-1 Project Documentation and Team Dynamics* (G) 17 credit hours
ENSC 325-4 Microelectronics II* 17 credit hours
ENSC 327-4 Communication Systems* 17 credit hours
ENSC 340-4 Engineering Science Project* (H) 17 credit hours
ENSC 383-4 Feedback Control Systems* 17 credit hours
Scie I-3 first science elective2 (G) 18 credit hours
Scie II-3 second science elective3 (G) 18 credit hours
Scie III-3 third science elective3 (G) 18 credit hours
Scie IV-3 fourth Engineering Science elective1 (G) 18 credit hours
Tech I-3 technical (computing science, science or math) elective1 (G) 18 credit hours
Tech II-3 or Ensc V-41 (H) 18 credit hours

Other Requirements
ENSC 498-3 Engineering Science Thesis Proposal (H) 18 credit hours
ENSC 499-9 Engineering Science Undergraduate Thesis (H) 18 credit hours
Total 140 credits (G); 152 credits (H)

Note: In the typical schedule shown above, honors students will start their thesis work (ENSC 498 and 499) between semesters seven and eight. This work 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
The courses and typical schedule for both the general degree and the honors degree are listed below. The notation (G) is used for requirements applying to the general degree only, while the notation (H) is used for requirements applying to the honors degree only.

Semester Five (Spring)
ENSC 230-4 Introduction to Mechanical Design*
ENSC 320-3 Electric Circuits II*
ENSC 330-4 Engineering Materials
ENSC 351-4 Real Time and Embedded Systems*
ENSC 380-3 Linear Systems*  19 credit hours

Semester Six (Fall)
Cmpl I-3 first complementary elective1 (G)
ENSC 305-1 Project Documentation and Team Dynamics* (G)
ENSC 325-4 Microelectronics II*
ENSC 340-4 Engineering Science Project  (G)
ENSC 383-4 Feedback Control Systems*
ENSC 387-4 Introduction to Electromechanical Sensors and Actuators*
SciE I-3 science elective1 (G) 18 credit hours (G); 17 credit hours (H)

Semester Seven (Spring)
Cmpl I-3 first complementary elective1 (H)
ENSC 305-1 Project Documentation and Team Dynamics* (G)
ENSC 440-4 Capstone Engineering Science Project (G)
Ensc I-4 first Engineering Science elective2
ENSC 406-2 Social Responsibility and Professional Practice*
ENSC 483-4 Modern Control Systems*
MACM 316-3 Numerical Analysis I 18 credit hours (G); 16 credit hours (H)

Semester Eight (Fall)
Cmpl II-3 second complementary studies elective1
ENSC 489-4 Computer Aided Design and Manufacturing*
Ensc II-4 second Engineering Science elective2
SciE I-3 science elective1 (H) 15 credit hours (G); 18 credit hours (H)

Other Requirements
ENSC 498-3 Engineering Science Thesis Proposal (H)
ENSC 499-9 Engineering Science Undergraduate Thesis (H)
Total 141 credits (G); 153 credits (H)

*should be taken in the designated semester; consequences of deviating from this schedule are the responsibility of the student.

1must be an approved course. A pre-approved list of complementary studies courses is available from the School of Engineering Science.

2chosen from ENSC 424, 425, 426, 427, 428, 429, 450, 481, 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.

3must 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, honors students will start their thesis work (ENSC 498 and 499) between semesters seven and eight. This work 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.

BISC 101-4 General Biology
KIN 205-3 Introduction to Human Physiology
MBB 221-3 Cellular Biology and Biochemistry and one of
KIN 305-3 Human Physiology I
KIN 306-3 Human Physiology II (Principles of Physiological Regulation)

Two additional upper division courses are also required from the biomedical area, with the school’s approval. A list of eligible courses is available from the School of Engineering Science.

It is recommended that students choose from the above courses for their science electives in their undergraduate option.

Students intending to pursue an MSc degree can co-ordinate their undergraduate proposal and thesis (ENSC 498 and 499) with their MSc proposal, thereby satisfying both requirements. Contact the departmental assistant for further details.

Minor in Computer and Electronics Design
Admission Requirements
Minor program entrance is open to all non-engineering science majors enrolled at SFU. Students should apply by letter to the Admissions Chair, School of Engineering Science, after completing a minimum of 15 credit hours, including CMPT 150 or ENSC 150, with a cumulative GPA of at least 3.5. Enrolment is limited.

Program Requirements
This program is comprised of courses from the computer engineering option and the electronics engineering option. Students must complete all of
ENSC 150-3 Introduction to Computer Design
ENSC 151-2 Digital and Computer Design Laboratory
ENSC 220-3 Electric Circuits I
ENSC 250-3 Introduction to Computer Architecture
ENSC 305-1 Project Documentation and Group Dynamics
ENSC 320-3 Electric Circuits II
ENSC 340-3 Engineering Science Project
ENSC 380-3 Linear Systems
plus at least one of
ENSC 225-4 Microelectronics I
ENSC 351-4 Real Time and Embedded Systems
ENSC 380-3 Linear Systems
plus at least three, and no more than five (students cannot count the same course twice) of the following
ENSC 225-4 Microelectronics I

Alternatively, students may continue on with the general studies program leading to the Bachelor of General Studies (Applied Sciences). Course planning for second and subsequent years should be carried out in consultation with the program advisor.

Applied Sciences Program
This is a challenging program of first year study for those who are interested in the applied sciences. It includes courses relevant to the study of communication, computing science, engineering science and kinesiology.

Applied Sciences One consists of two semesters of course work based on the following models. Students may vary these models and make substitutions in consultation with the program advisor.

Recommended First Semester Course Work*
CMNS 110-3 Introduction to Communication Studies
CMPT 101-4 Introduction to Computer Programming
ENSC 150-3 Introduction to Computer Design
KIN 142-3 Introduction to Kinesiology
MATH 151-3 Calculus I

Recommended Second Semester Course Work
one of
CMNS 130-3 Explorations in Mass Communication
REM 100-3 Global Change

all of
ENGL 199-3 University Writing
MATH 152-3 Calculus II

and one of
BISC 101-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
PHYS 120-3 Modern Physics and Mechanics

On completion of Applied Science One, it is expected that most students will choose to apply to one of the major programs offered by schools within the Faculty of Applied Sciences. Students may also wish to pursue a major-minor combination involving two schools.
General Studies Degree Program
This is a nonspecialist 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:
• 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 student majors), at least one of which must be in the Faculty of Applied Sciences. If the only minor from the Faculty of Applied Sciences is in the School of 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.

Admission
Faculty of Applied Sciences students may apply for admission to either the general applied sciences option or the double minor option at any time. Students in other faculties may apply for the double minor option upon acceptance into two qualifying minors by the schools or departments concerned.

In addition, limited spaces are available 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, 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.

School of Kinesiology
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Adjunct Professors
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D.O. Cheyney BSc, MA (S Fraser), PhD (Wat)
B.D. Fisher BA (Hiram Coll), PhD (Calif)
K.M. Hamilton BA (PEI), MSc, PhD (York, Can)
A.J. Lomax MBChB (Manc), DOBst (Royal College of Obstetrics and Gynaecology), FRCS
G.I. Morariu Dipl. Eng. (Traian Viua), PEng
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Faculty of Applied Sciences – School of Kinesiology 135

*joint appointment with kinesiology, sociology and anthropology, statistics and actuarial 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, psychologists and physicists. We apply our knowledge to study structure and function throughout the life cycle in health and disease, in benign and extreme environments, at work, at home, at sports and at play. Our educational goals 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

Transfer Credit and Residency Requirements
Transfer students are advised that residency requirements apply to kinesiology programs. See “Residency Requirements” on page 125.

Programs
The school 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. Co-op education helps kinesiology majors gain valuable work experience during their undergraduate studies.

Areas of concentration offer cross-disciplinary undergraduate programs specializing in the following complementary areas.
• active health and rehabilitation kinesiology
• health and physiological sciences
• human factors/ergonomics

Choosing an area of concentration is not necessary to receive a BSc (Kinesiology); a general kinesiology option is available. The general option and the three areas of concentration include a common core covering basic anatomy, physiology, biomechanics 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 appropriate courses can apply to the British Columbia College of Teachers (BCCT) to have their degree accepted for professional certification. BCCT reviews each application individually. 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 spaces available and subject to the dean’s approval.

Admission averages are calculated on five required courses from high school or five or more required post secondary courses. If one or more courses have been duplicated (repeated), the grades from all course attempts will be used equally in calculating the kinesiology admission GPA.
Direct Admission – High School and Direct Transfer, Post Secondary Institutions

See “British Columbia and Yukon Applicants” on page 41.

Internal Transfer

Simon Fraser University students applying for School of Kinesiology admission must complete the following courses with a grade of C- or better:

- BISC 101-4 General Biology
- CHEM 121-4 General Chemistry and Laboratory I
- KIN 142-3 Introduction to Kinesiology
- one of MATH 153-3 Calculus I
- MATH 154-3 Calculus I for the Biological Sciences
- one of
- PHYS 101-3 General Physics I
- PHYS 120-3 Modern Physics and Mechanics

Applicants are selected based on an admission GPA calculated over these five required courses together with any of the following 10 courses taken:

- CHEM 122-2 General Chemistry II
- CHEM 281-4 Organic Chemistry I
- KIN 201-3 Biomechanics
- KIN 205-3 Introduction to Human Physiology
- KIN 207-3 Information Processing in Human Motor Systems
- MBB 221-3 Cellular Biology and Biochemistry
- one of MATH 152-3 Calculus II
- MATH 155-3 Calculus II for the Biological Sciences
- one of
- PHYS 102-3 General Physics II
- PHYS 121-3 Optics, Electricity and Magnetism
- and one of
- PHYS 130-2 General Physics Laboratory A
- PHYS 131-2 General Physics Laboratory B
- and
- STAT 201-3 Statistics for the Life Sciences

Students may apply for admission as soon as the five required courses have been completed. Unsuccessful applicants may take any of the 10 additional courses to improve the admission GPA. A C- or better grade is required in each course used for the admission application. Students who do not meet the kinesiology admission GPA upon completion of all four additional courses will be advised of alternative options.

For students transferring some of core courses from another post secondary institution: only courses completed at SFU (and not previously taken elsewhere) are used in the kinesiology admission GPA. Normally, at least 15 credits from core courses are required as a basis for the GPA calculation. Exceptions must be approved by the school.

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

Please read descriptions of required courses before enrolling in the major or honors program (see “Kinesiology KIN” on page 280). The following is a summary outline of the general degree requirements for a bachelor of science (kinesiology):

Kinesiology (lower division specified) – 12 credit hours
- Faculty of Science (lower division specified) – 34 credit hours
- Kinesiology (upper division specified) – 13 credit hours

Kinesiology (upper division unspecified) – 27 credit hours
- Electives (lower division partly specified) – 6 credit hours
- Electives (upper division unspecified) – 5 credit hours
- Free electives (upper or lower division unspecified) – 23 credit hours

Total 120 credit hours

Areas of Concentration

The school has defined three areas of concentration for those wishing to take a more specialized approach to their studies in kinesiology. They are as follows:

- active health and rehabilitation kinesiology
- health and physiological sciences
- human factors/ergonomics

Details regarding courses required for areas of concentration may be obtained from the School. Each area of concentration has recommended courses outside the core. Core refers to required program aspects, regardless of concentration area. Choosing an area of concentration is not necessary to receive a bachelor of science (kinesiology). A general option is outlined below. For more information on areas of concentration and 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

Biological Sciences
- BISC 101-4 General Biology

Chemistry
- CHEM 121-4 General Chemistry and Laboratory I
- CHEM 122-2 General Chemistry II
- CHEM 281-4 Organic Chemistry I

Total 10 credit hours

Mathematics

- one of
- MATH 151-3 Calculus I
- MATH 154-3 Calculus I for the Biological Sciences

- plus one of
- MATH 152-3 Calculus II
- MATH 155-3 Calculus II for the Biological Sciences

Total 6 credit hours

Physics

- one of
- PHYS 101-3 General Physics I
- PHYS 120-3 Modern Physics and Mechanics

- plus one of
- PHYS 102-3 General Physics II
- PHYS 121-3 Optics, Electricity and Magnetism

Total 8 credit hours

Statistics

- STAT 201-3 Statistics for the Life Sciences

Total 3 credit hours

Lower Division Electives

Each area of concentration has its own set of recommended courses within the following framework. A minimum of six credit hours must be selected from the Faculty of Arts.

Total 52 credit hours

Upper Division Requirements

Upper Division Core

The following courses are specified for all areas of concentration and must each be completed with a grade of C- or higher.

Kinesiology
- KIN 305-3 Human Physiology I
- KIN 306-3 Human Physiology II
- KIN 326-4 Functional Anatomy
- and one of
- KIN 301-3 Biomechanics Laboratory
- KIN 407-3 Human Physiology Laboratory

Total 13 credit hours

Upper Division Electives

Each area of concentration has its own set of recommended courses within the following framework.

Students must take a minimum of 27 credit hours of kinesiology upper division credit, chosen from the following.*

- KIN 301-3 Biomechanics Laboratory
- KIN 303-3 Kinanthropometry
- KIN 304-3 Inquiry and Measurement in Kinesiology
- KIN 310-3 Exercise/Work Physiology
- KIN 311-3 Applied Human Nutrition
- KIN 312-3 Nutrition for Fitness and Sport
- KIN 336-3 Microscopic Anatomy (Histology)
- KIN 340-3 Active Health: Behavior and Promotion
- KIN 343-3 Active Health: Assessment and Promotion
- KIN 367-3 Psychology of Motor Skill Acquisition
- KIN 375-3 Human Growth and Development
- KIN 380-3 Occupational Biomechanics
- KIN 381-3 Psychology of Work
- KIN 382-3 Physical Hazards in the Workplace
- KIN 383-3 Human-Machine and Human-Computer Interaction
- KIN 402-3 Mechanical Behaviour of Tissues
- KIN 407-3 Human Physiology Laboratory
- KIN 412-3 Molecular and Cellular Cardiology
- KIN 415-3 Neural Control of Movement
- KIN 416-3 Control of Limb Mechanics
- KIN 416-4 Electrophysiological Techniques Lab
- KIN 420-3 Selected Topics in Kinesiology I
- KIN 421-3 Selected Topics in Kinesiology II
- KIN 422-3 Selected Topics in Kinesiology III
- KIN 423-3 Selected Topics in Kinesiology IV
- KIN 424-3 Selected Topics in Kinesiology V
- KIN 426-3 Neuromuscular Anatomy
- KIN 430-3 Human Energy Metabolism
- KIN 431-3 Environmental Carcinogenesis
- KIN 442-3 Biomedical Systems
- KIN 444-3 Cardiac Disease: Prevention and Rehabilitation
- KIN 445-3 Cardiac Rehabilitation Laboratory
- KIN 446-3 Neurobiology of Disease
- KIN 448-3 Rehabilitation of Movement Control
- KIN 461-3 Physiological Aspects of Aging
- KIN 467-3 Human Motor Performance
- KIN 481-3 Activity-Generated Musculoskeletal Disorders
- KIN 484-3 Altitude and Aerospace Physiology
- KIN 485-4 Human Factors in the Underwater Environment
- KIN 486-3 Human Factors in Industrial Design
- KIN 496-3 Directed Study I
- KIN 498-3 Directed Study II

*students may substitute MBB 321 to help satisfy this requirement.

Total 27 credit hours

Students must also take five credit hours of upper division courses offered in any discipline within the University.

Total 5 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 either 301 or 407)
• 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 SFU and must be acceptable for transfer credit to the University. Candidates 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 three 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 154-3 Calculus I for the Biological Sciences

Semester 2
CHEM 122-2 General Chemistry II
CHEM 281-4 Organic Chemistry I
MATH 155-3 Calculus II for the Biological Sciences
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 220 for requirements.

Minor Program
Application Requirements
Application for a minor in kinesiology requires the following.
• completion of KIN 105 or 205, and KIN 142 and 143 with a minimum grade of C- in each course
• completion of two of KIN 110, 201, 207 or 241 with a minimum grade of C- in each
• submission of a program approval form to the undergraduate advisor.

Admission is competitive. An admission GPA is established each semester and will be calculated on the five required courses listed above. If one or more courses have been duplicated (repeated), the grades from all course attempts will be used equally in calculating the kinesiology admission GPA.

Program Requirements
There is a maximum number of allowable transferable credits that count towards the minor program from any other institution, including the Open Learning Agency. See “Residency Requirements” on page 125.

Students must complete one of KIN 105-3 Fundamentals of Human Structure and Function
KIN 205-3 Introduction to Human Physiology
and both of KIN 142-3 Introduction to Kinesiology
KIN 143-3 Exercise Management
and one of KIN 110-3 Human Nutrition: Current Issues
KIN 201-3 Biomechanics
KIN 207-3 Information Processing in Human Motor Systems
KIN 241-3 Sports Injuries — Prevention and Rehabilitation

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 “Admission and Readmission” on page 38. After being admitted to the University, submission of a completed program approval form to the kinesiology undergraduate advisor is required for formal acceptance in the program.

Requirements
There is a maximum number of allowable transferable credits that count towards the certificate program from any other institution, including the Open Learning Agency. See “Residency Requirements” on page 125.

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 212-3 Food and Society
KIN 311-3 Applied Human Nutrition

Students must also complete nine credit hours (three courses) of electives chosen from the following.
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 340-3 Human Energy Metabolism†
KIN 375-3 Human Growth and Development**†
KIN 430-3 Human Energy Metabolism†
KIN 431-3 Environmental Carcinogenesis†

*courses available by distance education
†courses which have additional prerequisites

Post Baccalaureate Diploma in Kinesiology
This program is normally available for students who have completed a degree other than kinesiology. For information, see “Faculty of Applied Sciences” on page 125.

Requirements
Successful completion of an approved program comprised of 30 credit hours of upper division or graduate level courses, including the following courses.
KIN 304-3 Inquiry and Measurement in Kinesiology
KIN 305-3 Human Physiology I
KIN 306-3 Human Physiology II
KIN 326-4 Functional Anatomy
and one of KIN 301-3 Biomechanics Laboratory
KIN 407-3 Human Physiology Laboratory

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 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 38.

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

There is a maximum number of allowable transferable credits that count towards the certificate from any other institution, including the Open learning Agency. See "Residency Requirements" on page 125. Students must complete all of 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*
and one of KIN 342-3 Active Health*
KIN 343-3 Active Health: Assessment and Promotion†
Students must also complete nine credit hours (three courses) of electives chosen from the following:
KIN 207-3 Information Processing Human Motor Systems
KIN 221-3 Special Topics in Kinesiology

KIN 241-3 Sports Injuries – Prevention and Rehabilitation
KIN 303-3 Kinanthropometry†
KIN 310-3 Exercise/Work Physiology†
KIN 312-3 Nutrition for Fitness and Sport*
KIN 325-3 Basic Human Anatomy*
KIN 340-3 Active Health: Behavior and Promotion
KIN 367-3 Psychology of Motor Skill Acquisition†
KIN 375-3 Physiological Basis of Growth and Development*
KIN 461-3 Physiological Aspects of Aging†
*courses available by distance education
†courses which have additional prerequisites

Students must have a minimum 2.00 GPA calculated on courses counting toward the certificate, and a current cardiopulmonary resuscitation (CPR) certificate at time of completion. The certificate is normally completed within five years of admission to the certificate program.

Credits applied to one certificate may not be applied to another certificate or diploma.
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
A.R. Blackman BSc (Lond), BSc (Edin), MSc, PhD (McG)
T.A. Perry BA (Wabash), MA, PhD (Indiana)
J.H. Tietz BA (Pacific Lutheran), PhD (Claremont)

Advisors
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 Fine Arts
Bachelor of General Studies

Diplomas and Certificates Offered
Certificate in Chinese Studies
Certificate in Community Economic Development
Certificate in Criminology (General)
Certificate in Criminology (Advanced)
Certificate in Ethnic and Intercultural Relations
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 Labor 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 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

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 for 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 Faculty of Arts department 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 Faculty of Arts bachelor’s degrees 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 SFU 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 course duplications will count toward a BA. A maximum of five will count toward all programs taken in the Faculty of Arts at SFU. A maximum of nine credit hours taken through the Tri-Education Summer Institute may count toward a Faculty of Arts degree or post baccalaureate program.

Co-operative Education Program in Liberal Arts
6046 Academic Quadrangle, 604.291.3041/5751/3776/56393 Tel
Co-ordinators
P. Johnston BA (S Fraser)
C. Rose BA (S Fraser)
E. Lewis BA (S Fraser)

This program is available for students who wish to acquire practical experience in conjunction with their academic programs. The student normally spends alternate semesters on campus and in paid, study-related jobs.

Refer also to Archaeology, Criminology, Economics, English, First Nations, History, Humanities, Latin American Studies, Linguistics, Political Science, Psychology, Sociology/Anthropology, and Women’s Studies as well as the Co-operative Education sections of this Calendar.

Students who are completing programs in departments that do not list co-operative education practicum courses can register in LBRL 101, 201, 301 and 401.

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 (page 141), and at least 12 hours of required lower division courses in the major program.

Students Without Majors (BGS/BEd)
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 either ENGL 199-3 Introduction to University Writing or any two 100 division ENGL courses.

A quantitative research course in your area of interest is strongly recommended. Computer literacy is a requirement. For further information, contact one of the Faculty of Arts co-operative education co-ordinators for further information (see “Co-operative Education” on page 226 for a list of Faculty of Arts co-op advisors).

Students are encouraged to complete a Certificate in Liberal Arts in conjunction with the co-operative education program.

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.

Transfer Students
Transfer students should contact the co-ordinators in the first week of their first SFU semester. College transfer students who participated in co-op programs elsewhere may be credited with the semesters already taken. Students contemplating transfer to the SFU Faculty of Arts co-op program should contact an admissions advisor in the Office of the Registrar early.

Bachelor of Arts Degree
Students can meet the bachelor of arts requirements in one of five ways: 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. In addition to the degree requirements set out below, students may also fulfill the requirements for an extended minor or a minor as noted under the Options headings.

Major Program
To concentrate in a subject area, students may take a major consisting of at least 30 upper division credit hours in that subject area. A major provides a strong subject background and is preparation for a range of occupations, or for further study following graduation. The major program is the most common option chosen by students pursuing a bachelor of arts degree.

At least 120 credit hours are required including:
- at least 65 credit hours in arts subjects
- at least 45 upper division credit hours, 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
A joint major is a combination of two subject areas. Students must complete at least 20 upper division credit hours in each of the two joint major subject areas. Students are advised to check individual department listings for possible additional requirements.
Joint Honors Program
At least 132 credit hours which include the following:
• at least 65 credit hours in Arts subjects
• at least 60 upper division credit hours which must include at least 28 in upper division courses in each of the two honors subjects. No more than 15 upper division credit hours 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)

Breadth Requirements
In addition to completing courses required for any Faculty of Arts degree, students must complete breadth requirements that provide knowledge and modes of thought outside a specialized discipline. The breadth requirement:
• a minimum of 30 credit hours outside the Arts honors, major or extended minor department (for 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 count toward the total of 30 required credit hours
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 (FFA)
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 (EVSC), Resource and Environmental Management (REM)
First Nations (FNST)
French (FREN)
Geography (GEOG)
Gerontology (GERO)
History (HIST)
Humanities (HUM)
Kinesiology (KIN)
Linguistics (LING)
Mathematics (MATH)
Molecular Biology and Biochemistry (MBB)
Philosophy (PHIL)
Physics (PHYS)
Political Science (POL)
Psychology (PSYC)
Science (SCI)
Sociology and Anthropology (SA)
Statistics (STAT)
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 SFU equivalence may count toward these requirements on an individual basis and upon application to the Dean of Arts Office (AQ 6168).

In completing the breadth requirements, students are encouraged to earn a Certificate in Liberal Arts, a program that is tailored for breadth of learning. Whether or not students complete the certificate, they may take the faculty breadth requirements to explore study in advance of choosing a major discipline. Departments will advise about subject areas and specific courses to prepare for a major. A substantial proportion of these requirements may apply to many cross-disciplinary major, extended minor or minor programs within the faculty. To effectively plan ways to fulfill breadth requirements, students should seek advice from Student Academic Resources and in any departments in which they plan 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 minors 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.

Degree programs may be changed any time prior to graduation. A new formal declaration must be approved by the new program department and the Dean of Arts Office if a faculty change is involved. The Calendar then in effect becomes the new Graduating Calendar, and the requirements it specifies for the program must be fulfilled.

Honors Program
Program acceptance is contingent upon satisfying the entrance requirements of the department concerned. Applicants normally have a 3.0 GPA in subject(s) of the honors field. When admission is granted, the student then registers as an honors student. To continue, 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 reinstated into the honors program, the graduating Calendar is that which was in effect at the time of the original program acceptance.

Graduation Requirements
Please see “Grade Point Averages Needed for Graduation” on page 55 for current GPA requirements for graduation.

Individual departments/schools may have additional GPA requirements for graduation. Please check individual department/school Calendar listings for further information.

Please note that the minimum GPA requirements for graduation differed during the following time periods:
September 1965 to August 1991; September 1991 to August 2003. Please see the appropriate Calendar’s(s)” for information about GPA requirements during these time periods.

*Calendar in effect at the time of entry to Simon Fraser University and the Calendar that was in effect at the time of approval to credential and/or program.*
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. Caulfield, 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. Students choosing to complete an extended minor or minor program must have a program cumulative GPA of 2.0 calculated on all lower and upper division courses in the department of the program. Students are advised to check individual department listings in case these have a higher minimum GPA or other additional requirements for graduation.

University regulations governing the duplication of courses (see “Limit on Duplication of Courses” on page 50) are rigorously applied in the Faculty of Arts. Students who do not meet the minimum GPA requirements in their programs within the limits of five duplications will not be able to complete a major, joint major, extended minor or minor program within the Faculty of Arts.

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. A maximum of nine credit hours offered through the Tri-Education Summer Institute may count towards the BGS.

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 toward 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 38 for regulations.

Integrated Studies Program
Information is available from the director of integrated studies, 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 designed 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 credit hours 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 36 in the General Information section.

Certificate Programs
The certificate programs below are administered by the Faculty of Arts.

Certiﬁcate Programs
Certiﬁcate programs are applied toward any other Simon Fraser University program, to include at least seven upper division credit hours earned at Simon Fraser University. See “Admission and Readmission” on page 38 for regulations.

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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 approved 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, published annually, are available at Student Academic Resources and the Dean of Arts office. Lists include courses approved by senate for program inclusion and occasional courses approved as certificate courses only for a single offering. Some have prerequisites. In most instances, the specific 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**

A 15 credit hour maximum is permitted. Normally, only credit assigned as directly equivalent to a course regularly listed within the program may be transferred.

**Relation to Faculty of Arts Breadth Requirements**

It is recommended that students planning to major within the Faculty of Arts complete the Faculty’s breadth requirements through the certificate program. Certificate completion does not ensure fulfillment of faculty requirements, but it is possible to fulfill 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 achievement. 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**

Admission regulations apply, most as either secondary school graduates or under the terms of mature student entry (see “Admission and Readmission” on page 38). 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 SFU and not more than six credit hours of approved transfer credit for university/college work may be applied toward certificate requirements.
Upper Division Requirements
At least 16 hours of upper division archaeology are required 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 173.

Joint Major in Archaeology and Anthropology
Advisors
Ms. A. Sullivan, Department of Archaeology. 9633A Education Building, 604.291.4687
Ms. K. Payne, Department of Sociology and Anthropology, 5056 Academic Quadrangle, 604.291.3726

Co-operative Education Program
This program offers work experience in archaeology and physical anthropology and entails planned semesters of study and employment (term practicum) 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.

- ARCH 131-3 Human Origins
- ARCH 201-3 Introduction to Archaeology
- one of ARCH 272-3 Archaeology of the Old World
- ARCH 272-5 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 226 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 continuance 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.

Asia-Canada Program
5115 Academic Quadrangle, 604.291.3689 Tel, 604.291.4504 Fax, www.sfu.ca/AsiaCanada

Director
J.W. Walls BA, MA, PhD (Indiana)

Advisory Committee
D. Duguid, Humanities
T. Kawasaki, Political Science/Humanities
J. Matsumura, History
Z. McRobbie, Linguistics
R. Miki, English
B. Ng, Linguistics
N. Omae, Linguistics
T. Perry, Linguistics
J.W. Walls, Humanities
D. Yang, Archaeology
T. Yu, Humanities

Advisor
Ms. C. Prisland, 5114 Academic Quadrangle, 604.291.4094, prisland@sfu.ca

The Asia-Canada Program offers opportunities to investigate 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

Lower Division Requirements
18 credit hours including
- ASC 101-3 Introduction to Asia-Canada Studies
- ASC 102-3 Introduction to Asia-Canada Studies

- one of
- ASC 200-3 Introduction to Chinese Culture
- ASC 201-3 Introduction to Japanese Culture and History
- one of
- CNS 160-3 The Social Background of Canada
- CNS 210-3 Foundations of Canadian Culture
- HIST 102-3 Canada Since Confederation
- HIST 204-3 The Social History of Canada
- SA 100-4 Perspectives on Canadian Society
- and six credit hours of Chinese or Japanese or another Asian language (to be approved by the advisor). Students who can demonstrate prior knowledge and proficiency that is equivalent to a 100 level course in an Asian language are encouraged to choose another Asian language, or they can substitute the six language credit hours with further lower division Asia-Canada courses. Students eligible for these options must have their language level assessed and receive prior approval from the director and advisor.

Upper Division Requirements
15 credit hours including at least one of
- ASC 300-3 Asians and North Americans in Public Discourse
- ASC 301-3 Asia-Canada Identities: Experiences and Perspectives

and at least one other upper division Asia-Canada course.

Note: If both ASC 300 and 301 are taken, students can count one course toward fulfilling the remaining upper division requirements. To satisfy the remaining nine required credit hours, students must complete courses from the following. With prior permission from the director, students may count other Asia-Canada related courses at the upper division which do not appear on this list. Consult with the program advisor.

- ASC 302-3 Selected Topics in Chinese Studies
- ASC 303-3 Selected Topics in Japanese Studies
- ASC 400-3 Selected Topics in Asia-Canada Studies
- ASC 401-3 Directed Studies
- BUS 431-3 Business with East Asian Countries
- ENGL 394-4 World Literature in English II: Designated by Topic* (Note: This course is offered at the discretion of the instructor)
- HIST 365-4 Self and Society in Imperial China
- HIST 471-3 Women in Modern Japanese History
- HIST 474-4 Modern Chinese Identities
- HIST 481-4 British India
- HUM 340-4 Great Cities in Their Time*
- HUM 350-4 Great Figures in the Humanities*
- 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 381-4 Politics and Government of Japan I
POL 382-4 Politics and Government of Japan II
POL 430-4 Government and Politics: Selected Asian Nations
*when the topic is Asia-China related. Consult program advisor.

Note: Students are responsible for meeting the prerequisites for the upper division courses they are applying to the minor.

Certificate in Chinese Studies
This 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-China Program/Department of Humanities and is administered by the program advisory committee appointed by the Dean of Arts. Those who plan to do part of their program in China should contact the advisor at least two semesters before the field school.

Admission
There are no special admission requirements. See the Asia-China advisor for certificate program approval. Note that China Field School students must apply to the SFU International office. Acceptance into this part will normally require that the student have completed 30 credit hours and be in good academic standing.

Program Requirements
Eighteen credit hours of which 12 are earned by completing four required core courses. The remaining six are selected from the list of electives below.

Core (12 credit 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 take CHIN 185-6 (Intensive Mandarin Chinese in the China Field School) can apply the 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.

Elective (6 credit hours)
ASC 202-3 Studies in Asian Cultures*
ASC 302-3 Selected Topics in Chinese Studies
CHIN 200-3 Mandarin Chinese III
CHIN 201-3 Mandarin Chinese IV
HIST 254-3 China to 1800
HIST 474-4 Modern Chinese Identities
HUM 203-3 Great Texts in the Humanities III
HUM 582-4 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.

With prior permission from the director, students may count other China-related courses which do not appear on this list. Consult with the program advisor.

Centre for Canadian Studies
6067 Academic Quadrangle, 604.291.4293 Tel, 604.291.4786 Fax
Director
A. Seager BA, MA (McG), PhD (York, Can)
Associated Faculty
Faculty of Applied Sciences
School of Communication

Faculty of Arts
Department of Archaeology
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
S. Djeza, C. Gerson, K. Mezei, R.A. Miki, D. Struck, P.M. St. Pierre

Department of French

Department of Geography
N.K. Blomley, B.E. Bradshaw, A.M. Gill, M. Hayes, R. Hayler, P.M. Koroscil, J.T. Pierce, M. Roseland

Department of History

Department of History
I. Angus, D. Grayston, J.W. Walls

Department of Linguistics
N.J. Lincoln

Department of Political Science

Department of Sociology and Anthropology
D. Cuthane, N. Dyck, K. Froshcauer, A.T. McLaren, G.B. Teeple

Department of Women's Studies
M.G. Cohen, A. Lebowitz

Faculty of Business Administration
G.A. Mauser, J.G. Richards, W.C. Wedley, M. Wexler

Faculty of Education
J.D. Beynon, S.C. de Castelli, J. Dawson, A.A. Obadia

Faculty of Science
Department of Biological Sciences
R.W. Mathewes

Library
J. Corse
Advisor
Mrs. C. Sauro, 604.291.3588

The Centre for Canadian Studies promotes study and understanding of Canada from a comprehensive cultural, social, political and economic perspective, emphasizing both historical context and contemporaneous development. The centre fully utilizes programs developed by other academic departments that contain relevant Canadian subject matter, and offers limited interdisciplinary courses that integrate knowledge from several relevant disciplines.

For those with a predominant interest in Canadian studies, a major and honors program is provided. The centre also accommodates students whose primary interest is in another discipline. 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 may be taken concurrently with, and as part of, specialization in Canadian studies honors, major or minor programs, or it may be taken independent of such specialization. Details are given at the end of this section.

Major Program
The requirements are as follows. See “General Information” on page 35 for additional information.

Lower Division Requirements
Students must complete all of
CNS 160-3 The Social Background of Canada
CNS 210-3 Foundations of Canadian Culture
HIST 102-3 Canada Since Confederation
and one of
CNS 280-3 Canadian Political Economy
POL 223-3 Canadian Political Economy

and one of
POL 221-3 Introduction to Canadian Government
POL 222-3 Introduction to Canadian Politics

Students must demonstrate a working knowledge of French determined by completing FREN 122, or the former FREN 298, or equivalent, or by passing a placement exam at this level.

Upper Division Requirements
one of
CNS 481-3 Special Regional Topics
CNS 490-5 The Canadian Intellectual Tradition
CNS 491-3 Technology and Canadian Society

At least three other 300-400 level CNS courses must be completed plus 18 additional hours in upper division Canadian studies/Canadian content courses. No more than 12 credit hours of this requirement may be from curriculum of any single department or program other than Canadian studies.

Distribution Requirements
To ensure adequate breadth of knowledge, students must complete at least eight required key courses from at least five departments having courses recognized as carrying Canadian studies credit. These courses can be both upper and lower division.

Honors Program
For Canadian Studies honors, students take the same lower division courses and meet the same distribution requirements that apply to the Canadian Studies major, and must also complete the following courses.

Lower Division Requirements
HIST 101-3 Canada to Confederation
POL 221-3 Introduction to Canadian Government

Upper Division Requirements
CNS 490-5 The Canadian Intellectual Tradition
CNS 491-3 Technology and Canadian Society
CNS 495-5 Canadian Studies Honors Essay
At least two other 300-400 level CNS courses must be completed, plus 33 additional upper division credit hours in Canadian studies/Canadian content. No more than 18 hours of this requirement may be from curriculum of any single department or program other than Canadian studies. Honors students must demonstrate functional bilingual English/French proficiency by completing FREN 221.

See below in the Joint Honors Program regarding level of entry and course challenge procedures.

**Minor Program**

Students must complete nine Canadian studies lower division credit hours which must include two of CNS 160-3 The Social Background of Canada CNS 210-3 Foundations of Canadian Culture CNS 280-3 Canadian Political Economy Also, 15 hours of upper division Canadian studies/Canadian content course work are required, one of which must be a CNS 300-400 level course. Students taking the Canadian studies minor with a major, minor or honors in another department or program may not count any Canadian content course being used by that department or program as part of their Canadian studies minor requirement. A working knowledge of French is recommended. Students pursuing a Canadian studies minor do not have to satisfy any key course requirements.

**Joint Major Programs**

Joint majors with the Centre for Canadian Studies are available with the Departments of Archaeology, Criminology, Economics, English, Geography, History, Political Science, and Sociology and Anthropology, and with the School of Communication and the Faculty of Business Administration. With the exception of a joint major in history (see page 145), students must complete all requirements for a Canadian studies major 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 major students are required to complete all the key courses listed for the department in which they are pursuing the other major. **Joint Major in Canadian Studies and Business Administration and/or Economics** For a joint major with business administration and economics, there are three Canadian studies joint major combinations; business administration, economics, or business administration and economics combined. For the latter combination, all requirements for the major in business administration and economics as well as those for the Canadian studies major must be met. The total upper division requirement for the Canadian studies and business administration and economics joint major is 69 credit hours (30 Canadian studies plus 26 business administration plus 25 economics minus 12 overlap with Canadian studies).

**Joint Major in Canadian Studies and Sociology and/or Anthropology**

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 Major in Canadian Studies and History**

Students must complete all requirements for a Canadian Studies major plus 24 upper division history credit hours, of which 12 credit hours must be at the 400 level. All upper division courses must be distributed within groups 1, 2 and 3. Students must take at least two from any two groups, and at least one from the remaining group. For a description of the three groups, see “Major Program” on page 168.

**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 toward 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 51.

**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. **Canadian Studies Courses**

There are two categories that carry Canadian studies credit. “Internal” Canadian studies (CNS) courses are multidisciplinary or may be special topics courses, and are unique to the Canadian studies curriculum. See “Canadian Studies CNS” on page 237. The other category comprises predominantly Canadian content courses offered by other departments. These are listed below. Some are considered key and are identified at the bottom of each departmental listing. Asterisked courses (*) taken for Canadian studies credit require the approval of the Centre for Canadian Studies director. Additional courses may be approved for Canadian studies credit while others may be dropped. Check with the Centre for Canadian Studies for a current list.

**Faculty of Arts – Centre for Canadian Studies 145**

**Faculty of Applied Sciences**

**School of Communication**


**School of Criminology**

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 151-3 Introduction to Policing CRIM 230-3 Criminal Law CRIM 231-3 Introduction to the Judicial Process CRIM 311-3 Minorities and the Criminal Justice System 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

**Faculty of Arts**

ARCH 223-3 The Prehistory of Canada ARCH 332-3 Special Topics in Archaeology I* ARCH 333-3 Special Topics in Archaeology II* ARCH 334-3 Special Topics in Archaeology III* ARCH 335-5 Special Laboratory Topics in Archaeology* ARCH 336-3 Special Topics in Prehistoric and Indigenous Art* ARCH 380-5 Native Cultures of North America ARCH 378-3 Pacific Northwest North America Key courses for Archaeology: ARCH 223, 360, 378

**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 498-3 Selected Topics in Economics*  
ECON 498-3 Directed Studies*  
Key courses for Economics: BUEC 391, ECON 353; any three of 381; ECON 384, 485; 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 National Studies: FNST 101, 201

Department of French  
FREN 230-3 Introduction to French-Canadian Literature  
FREN 342-4 Literature in Translation from the Francophone World*  
FREN 422-3 Canadian French  
FREN 430-3 The French-Canadian Novel and Canadian French  
FREN 480-2 Seminar I*  
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  
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 262-4 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 424-2 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 291, 435, 436; one of 424, 429; 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 352-4 Local and Urban Governance in Canada  
POL 353-4 Public Sector Management  
POL 354-4 Comparative Metropolitan Governance  
POL 355-4 Governing Instruments  
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 Behavior  
POL 428-4 Selected Topics in Canadian Government and Politics  
POL 429-4 Selected Topics in Canadian Governance and Politics II  
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 Aboriginal Peoples and British Columbia: Introduction  
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 396-4 Selected Regional Areas*  
SA 400-4 Canadian Ethnic Minorities  
SA 486-4 Aboriginal Peoples and British Columbia: Advanced Seminar  
SA 495-4 Selected Regional Areas*  
Key courses for Anthropology: SA 100, 400, 486  
Key courses for Sociology: SA 100, 300, 400  
Key courses for Sociology and Anthropology: SA 100, 300, 400, 486

Department of Women's Studies  
WS 103-5 Introduction to Women's Issues in Canada  
WS 201-2 Women in Canada 1900-1920  
WS 202-3 Women in Canada 1920 to the Present  
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, Society and Ethics  
BUS 344-3 Business to Business Marketing  
BUEC 384-3 Industrial Relations  
BUS 391-3 Law in the Economic Society  
BUS 393-3 Commercial Law  
BUEC 396-3 The Structure of Industry  
BUS 403-3 Seminar in Business and Society*  
BUS 449-3 Marketing and Society  
BUEC 433-5 Forecasting in Business and Economics  
BUEC 485-3 Collective Bargaining  
BUS 492-3 Selected Topics in Business Administration  
BUS 493-3 Selected Topics in Business Administration  
BUS 494-3 Selected Topics in Business Administration  
BUS 499-5 Directed Studies*  
Key courses for Business Administration: BUS 303, BUEC 280, BUEC 396.  
Key courses for Business Administration and Economics: BUS 303, ECON 353, BUEC 391; any three of ECON 381, 390; BUEC 384, 485, 396, 397

Faculty of Science  
Department of Biological Sciences  
BISC 310-3 The Natural History of British Columbia

Certificate in French Canadian Studies  
The program serves full and part time students, and those seeking educational enrichment only who may be attracted by the opportunities which the Office of Continuing Studies offers, particularly through evening courses. French Canadian background material requires basic French language competency.

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 grade 12 French level, 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 hours in group B may be counted.

Relevant Courses  
Group A French Canadian Studies  
CNS 160-3 The Social Background of Canada  
CNS 210-3 The Foundations of Canadian Culture  
CNS 293-3 Canadian Political Economy  
CNS 390-3 Hockey in Canadian Popular Culture*  
CNS 391-3 Special Canadian Topics*  
CNS 490-5 The Canadian Intellectual Tradition*  
CNS 491-3 Technology and Canadian Society*  
FREN 230-3 Introduction to French-Canadian Literature
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
Introductory Courses (25-28 credit hours)
A student must take COGS 100 plus the following.

Computing Science
CMPT 101-4 Introduction to Computer Programming
CMPT 150-3 Introduction to Computer Design
Additionally, students who choose intermediate level computing science, must be complete the following.
MACM 101-3 Discrete Mathematics

Linguistics
LING 220-3 Introduction to Linguistics
Additionally, students who choose intermediate level linguistics must complete the following course.
LING 130-3 Practical Phonetics

Psychology
PSYC 100-3 Introduction to Psychology I
PSYC 201-4 Introduction to Research Methods in Psychology
PSYC 210-4 Introduction to Data Analysis in Psychology

Psychological Science
Any three of
CMPT 384-3 Symbolic Computing
CMPT 385-3 Comparative Programming Languages
CMPT 412-3 Computational Vision
CMPT 413-3 Computational Linguistics
CMPT 414-3 Model-based Computer Vision
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 332-4 Memory and Mind
PSYC 333-4 Attention
PSYC 335-3 Sensation
PSYC 382-3 Cognitive Neuroscience

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 490-3 Honors Project I and COGS 491-3 Honors Project II.

Computing Science
MACM 300-3 Formal Languages and Automata

Psychology
PSYC 330-4 Attention
PSYC 482-4 Selected Topics in Biological Psychology

Linguistics
LING 400-3 Formal Linguistics
LING 401-3 Advanced Phonetics
LING 406-3 Advanced Semantics
LING 423-3 Advanced Morphology

Philosophy
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

Psychological Science
Any three of
CMPT 385-3 Comparative Programming Languages
CMPT 413-3 Computational Linguistics
CMPT 414-3 Model-based Computer Vision
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 332-4 Memory and Mind
PSYC 333-4 Attention
PSYC 335-3 Sensation
PSYC 382-3 Cognitive Neuroscience

Breadth Requirements
Students must fulfill the Faculty of Arts breadth requirements (see page 140).

Faculty of Arts – 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, hedberg@sfu.ca, www.sfu.ca/cognitive-science

The following programs are offered.
BA with a major in cognitive science
Honors in cognitive science: option A and option B

In the last 30 years research has surged in 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 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.

Those working in these areas find they read the same literature and ask closely related questions in their research and teaching. Evidently, an increasing amount of work in these fields belongs to a common area which cuts across traditional departmental organization. Several journals and many essay collections 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; courses in cognition and language are spread over 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 must fulfill the Faculty of Arts breadth requirements (see page 140).

Faculty of Arts – 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, hedberg@sfu.ca, www.sfu.ca/cognitive-science

The following programs are offered.
BA with a major in cognitive science
Honors in cognitive science: option A and option B

In the last 30 years research has surged in 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 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.

Those working in these areas find they read the same literature and ask closely related questions in their research and teaching. Evidently, an increasing amount of work in these fields belongs to a common area which cuts across traditional departmental organization. Several journals and many essay collections 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; courses in cognition and language are spread over 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 must fulfill the Faculty of Arts breadth requirements (see page 140).
Economic Development

This program, for qualified students who wish to pursue advanced studies in community economic development, entails planned study and employment semesters. To be eligible, students must normally have completed 30 credit hours including COGS 100 and four other COGS courses. At least 15 of these 30 must be completed at SFU with a minimum CGPA of 2.75. College transfer students must complete at least 15 credit hours at SFU for co-op admission and must satisfy the requirements given above, or their equivalents. College transfer students who 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 Cognitive Science Program.

The following four courses are completed during four work semesters.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>COGS 370-0</td>
<td>Cognitive Science Practicum I</td>
</tr>
<tr>
<td>COGS 371-0</td>
<td>Cognitive Science Practicum II</td>
</tr>
<tr>
<td>COGS 470-0</td>
<td>Cognitive Science Practicum III</td>
</tr>
<tr>
<td>COGS 471-0</td>
<td>Cognitive Science Practicum IV</td>
</tr>
</tbody>
</table>

Arrangements for work semesters are made through the Faculty of Arts co-op co-ordinator at least one semester in advance.

To continue in the program, students must maintain a minimum 2.75 CGPA in the academic course work. Contact the cognitive science co-ordinator for further information and refer to the Co-operative Education section (page 226).

Community Economic Development Centre

2100 East Academic Annex, 604.291.5849 Tel, 604.291.5473 Fax, www.sfu.ca/cedc

Director
M.L. Roseland, BA MA (Wesleyan, Conn), PhD
(Br Col)

Advisor
Ms. C. Lai BA (Singapore), 2128 East Academic Annex, 604.291.5849, cedadmin@sfu.ca

Community Economic Development enables communities to initiate and generate solutions for their own economic development problems and thereby build long term community capacity and foster 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.

Certificate in Community Economic Development

This program offers basic accreditation in community-based social and economic development, or who seek an holistic, active, practical credential with an undergraduate degree. It offers 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 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.

New program application deadlines: May 1 for fall semester, October 1 for spring semester, February 1 for summer semester, Intercession and summer session.

Program Requirements

Students must complete a minimum of 19 credit hours of required courses and approved elective courses, attain at least a C+ grade in CED 201 and CED 301 for program continuance, and must maintain at least a 2.5 CGPA in all CED courses 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 program admission, may be approved toward program fulfilment provided they meet CED Centre requirements for community economic development relevance and that at least half of the total credit hour requirements are taken at SFU. All other requirements for transfer credits under general undergraduate regulations apply.

Limits

Those who complete the undergraduate certificate cannot enrol in the post baccalaureate diploma program (PBD). Those who have taken the CED PBD may not enrol in this certificate. Those who have taken CED 400 or CED 402 may not take CED 201 or CED 301 for credit toward the certificate.

More information is available at www.sfu.ca/cedc.
See also “Community Economic Development Centre” on page 401.

Post Baccalaureate Diploma in Community Economic Development

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.

New program application deadlines: May 1 for fall semester, October 1 for spring semester, February 1 for summer semester, Intercession and summer session.

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 courses 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.
- a proposed directed studies course from another department requires a detailed study plan to be approved in advance by the CEDC academic supervisor and the chosen faculty supervisor. The project’s final report must 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 or other clearances to gain course entry. Many departments waive introductory courses for those with extensive experience. However, other SFU 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 department and CEDC advisors 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 provided it meets CED requirements for relevance to community economic development and provided that at least 18 of the total credit hour requirements are taken at Simon Fraser University. 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 a Letter of Permission from the admissions office. A GPA of 2.5 in all required and elective courses to be credited toward the diploma must be maintained for continuance in the program.

More information on the centre and its programs is available at the Community Economic Development Centre and its website www.sfu.ca/cedc.
See also “Community Economic Development Centre” on page 401.
School for the Contemporary Arts
Room 600 SCA, 604.291.3363 Tel, 604.291.5907 Fax, www.sfu.ca/sca, ca@sfu.ca

Director
M.S. Gotfrit BA (C’dia), MA (McG)
Professor Emeritus
G. Strate BA, LLB (Alta) – dance

Professors
S.A. Alois BA (Cornell), MA (Col) – dance
M. Diamond BA (WOnt), MA, PhD (Tor) – theatre
D.K. Maclntyre BMus, MMus (Vic, BC) – music/interdisciplinary
G. Snider BS, MFA (Wis) – visual art
B.D. Truax BSc (Qc), MMus (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
H. Dawkins BFA (Nova Scotia Art & Des), MA, PhD (Leeds) – interdisciplinary
M. Eist BA (American DC), MFA (NY) – dance
J. Garay – dance
M.S. Gotfrit BA (C’dia), MA (McG) – music
P. Gruben BA (Rice) – film
D.D. Kugler BA (Ohio Northern), MFA (York, Can) – theatre
J. Levitin BA, MA (Wash), PhD (NY State) – film
P. Stella AB (II) – theatre
C. Welsby BA (Lond Inst) – film
J. Yoan BA (Br Col), BFA (Emily Carr), MFA (C’dia) – visual art

Assistant Professors
H. Daniel MA (City University, London, UK) – dance
J. Rudal BA (S Fraser), MFA (Bard) – visual art

Senior Lecturers
A. Eigenbeltl BMus (Br Col), MA (S Fraser), DM (Northwestern) – music
R. Groeneboer BA (Calvin Coll, Michigan), MSc (Wis) – film
G. Harris – technical theatre
B. Hegland BA (Leth), MFA (Ill) – technical theatre
J.A. Macfarlane BA (Reed) – technical theatre
C. Prophet BA (York, Can) – dance

Labatory Instructors
T. Kerr – film
A. Smith – dance, music

Advisor
Ms. L. Hegland BGS (S Fraser), CA 601, 604.291.3363, hegland@sfu.ca

*joint appointment with communication
**joint appointment with women’s studies

The school 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 must 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 (BA)
Major in Film (BA)
Major in Music (BA)
Major in Theatre (BA)
Major in Visual Arts (BA)
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
Minor in Art and Culture Studies
Minor in Art and Performing Arts
Minor in Film and Visual Studies
Master of Fine Arts – page 346

About the School’s Course Offerings
Students are encouraged to take advantage whenever possible of interdisciplinary offerings with 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 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 I*
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
FPA 243-3 Gamelan I
FPA 247-3 Electroacoustic Music I
FPA 249-3 Selected Topics in Music I*
FPA 259-3 Selected Topics in Theatre I*
FPA 262-3 Drawing I
FPA 263-3 Painting
FPA 265-3 Photography I
FPA 269-3 Selected Topics in Visual Arts I*
FPA 270-3 Technical Theatre
FPA 289-3 Selected Topics in the Fine and Performing Arts I*
FPA 290-2 Video Production I

This course may only count in this category when it is offered as a studio course.

Upper Division Theory and History Courses
FPA 311-3 Interdisciplinary Studies in the Arts
FPA 315-3 Arts, Audience, Patronage, Institutions
FPA 335-3 Introduction to Film Theory
FPA 337-3 Intermediate Selected Topics in Film and Video Studies
FPA 341-3 World Music
FPA 344-3 Contemporary Music Analysis and Criticism
FPA 349-3 Selected Topics in Music I*
FPA 357-3 Context of Theatre II
FPA 359-3 Selected Topics in Theatre II*
FPA 366-3 Seminar in Visual Art I
FPA 367-3 Seminar in Visual Art II
FPA 369-3 Selected Topics in Visual Art II*
FPA 389-3 Selected Topics in the Fine and Performing Arts II*

FPA 411-3 Interdisciplinary Topics in the Contemporary Arts
FPA 412-4 Advanced Seminar in Art and Culture Studies
A minimum of 30 credit hours must be completed as
Arts.

Studio Courses
from the School for the Contemporary

Students must complete at least six credit hours of
Studio Courses
program may count toward this requirement.

Note:

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.

Lower Division Requirements
Limitations on course selection beyond the program’s core is
flexible

Bachelor of Arts Degree Program
Art and Culture Studies Major Program
This major leads to a bachelor of arts degree. Within the
fine and performing arts, there are lively debates about the
meaning and significance of individual artworks, as well as their relationships to audiences
and to other forms of culture. The program investigates art and culture with attention to the
historically changing forms of class, gender, race,
etnicity, sexuality and aesthetics. It aims to provide
students with the knowledge, research and
communication skills needed to participate effectively in
debates about art and culture. The core program includes two introductory art making
courses from a multidisciplinary range of choices;
these provide students with experience of the creative
practice in dance, film, music, theatre or visual art.
Course selection beyond the program’s core is
flexible

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 breath requirements.
(See “Breath Requirements” on page 140.) 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
umbined

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.

Lower Division Requirements
A minimum of 40 credit hours must be completed
including all of

Program with National Ballet School
In addition to the BFA in dance and the extended
minor, the School for the Contemporary Arts offers a
combined 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
courses.
The upper division FPA course may be substituted for one of the following.

- FPA 430-5 Filmmaking IV
- FPA 339-3 Directing and Acting for Film and Video
- FPA 338-3 Screenwriting II
- FPA 334-3 Selected Topics in Film and Video
- FPA 332-3 Film Production Seminar

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 136-4 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 The Techniques of Film

- plus one of FPA 235-3 Cinema in Canada
- plus one of FPA 237-3 Selected Topics in Film and Video Studies**

FPA 232-3 Film Sound

FPA 238-3 Screenwriting I

FPA 290-2 Video Production I

*with prior approval, students may substitute courses from other departments devoted to a film or video topic 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 one of 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 339-3 Screenwriting II
- FPA 359-3 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.

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 145-3 Introduction to Music Composition and Theory

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

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 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

plus one of FPA 311-5 Interdisciplinary Studies in the Arts

plus eight credit hours from outside music (CMNS 358 or 359 may be substituted for one of these FPA non-music courses).

*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 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.

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 129-3 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 250-3 Acting I

FPA 251-3 Acting II

FPA 252-3 Playmaking I

FPA 253-3 Playmaking II

FPA 254-2 Theatre Laboratory I

FPA 255-3 Theatre Laboratory II

FPA 257-3 Context of Theatre I

plus one of FPA 171-3 Stage and Production Management

FPA 270-3 Technical Theatre

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 350-3 Acting II

FPA 351-3 Acting IV

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 Arts, Audience, Patronage, Institutions
Lower Division Requirements for the Production and Design Stream
A minimum of 39 credit hours including all of
FPA 111-3 Issues in Fine and Performing Arts
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 Art I
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 120-3 Introduction to Contemporary Dance
FPA 129-3 Fundamental Integration of Human Movement
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 including all of
FPA 265-3 Photography I
FPA 263-3 Painting I
FPA 260-3 Studio in Visual Art I
FPA 261-3 Studio in Visual Art II
plus two of
FPA 362-3 Drawing II
FPA 363-3 Painting II
FPA 364-3 Sculpture II
FPA 365-3 Photography II
FPA 359-3 Selected Topics in Visual Art II
FPA 390-3 Video Production I
plus one of
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Arts, 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.

Visual Art Major Program
The bachelor of fine arts – major in visual art prepares students to become practising artists. A combination of broad-based practical studio courses in conjunction with theoretical and historical seminars allows students to understand their own production in relation to current developments in visual art and other disciplines. A strong emphasis is placed on developing an understanding of the position and responsibilities of the artist in contemporary society.

Entry to visual art studio courses, and to the visual art major program is by portfolio interview. Contact the general office for further information. Students applying to the major program must have completed their first year requirements or the equivalent. The attention of students whose interest in visual art 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
A minimum of 39 credit hours must be completed including all of
FPA 111-3 Issues in the Fine and Performing Arts
FPA 160-3 Introductory Studio in Visual Art I
FPA 161-3 Introductory Studio in Visual Art II
FPA 167-3 History of Art: 1839-1939
FPA 168-3 History of Art: 1940 - Present
FPA 211-3 Introduction to Contemporary Theory in the Arts
FPA 260-3 Studio in Visual Art I
FPA 261-3 Studio in Visual Art II
plus two of
FPA 163-3 Issues in Spatial Presentation
FPA 170-3 Introduction to Production Technology
FPA 262-3 Drawing I
FPA 263-3 Painting I
FPA 265-3 Photography I
FPA 269-3 Selected Topics in Visual Art I
FPA 290-2 Video Production I
plus nine additional credit hours in lower division FPA courses outside of visual art. One must be a history or theory course, and one must be a studio.

Upper Division Requirements
A minimum of 37 credit hours must be completed including all of
FPA 360-3 Studio in Visual Art III
FPA 361-3 Studio in Visual Art IV
FPA 366-3 Seminar in Visual Art I
FPA 367-3 Seminar in Visual Art II
FPA 460-3 Studio in Visual Art V
FPA 461-5 Studio in Visual Art VI
plus two of
FPA 362-3 Drawing II
FPA 363-3 Painting II
FPA 364-3 Sculpture II
FPA 365-3 Photography II
FPA 359-3 Selected Topics in Visual Art II
FPA 390-3 Video Production II
plus one of
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Arts, Audience, Patronage, Institutions
plus six additional credit hours in upper division FPA courses outside visual art.

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 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 Arts, Audience, Patronage, Institutions
plus 12 hours from
FPA 335-4 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.
both of
FPA 311-5 Interdisciplinary Studies in the Arts*
FPA 313-5 Arts, Audience, Patronage, Institutions*

*these courses may include studies in

Film and Video* etc. and may be repeated for credit when a different topic changes

plus seven credits of upper division history or theory courses from within the School for the Contemporary Arts.

Dance Extended Minor
This program is intended primarily for students pursuing a BA general degree with a view to teaching dance in the public schools, but may also be 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 26 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 in dance must be completed including all of
FPA 320-4 Contemporary Dance V
FPA 321-4 Contemporary Dance VI
FPA 426-3 Dance/Movement Analysis
plus six credit hours minimum selected from the following
FPA 322-3 Ballet I
FPA 323-3 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

Film Extended Minor
This program is for students who wish to apply their broad range of studies from other University programs to film and video production. Film has affinities with many disciplines including social sciences and humanities, English, business and communications. Students from other contemporary arts areas may develop specific skills such as composing for film, multimedia installation, or directing actors through a combination of an extended film minor with another in an appropriate area.

Entry to all film production courses is by questionnaire 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 137-3 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 290-5 Filmmaking II
FPA 231-5 Filmmaking III
FPA 232-3 Film Sound
FPA 233-2 The Techniques of Film
FPA 238-3 Screenwriting I
FPA 290-2 Video Production I
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 332-3 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 Techniques of Video

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.

plus at least one 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

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 allows experience in a particular area. This minor may be used 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 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 II
FPA 443-3 Gamelan III
FPA 445-3 Music Composition V
FPA 446-3 Music Composition VI
FPA 447-3 Computer Music Composition
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.

An additional music course may be used to fulfill this requirement.

Theatre Extended Minor
This program is for students interested in technical, design and administrative aspects of theatre.

Interdisciplinary requirements place theatre study in the context of contemporary art theory and practice.

Lower Division Requirements
A minimum of 30 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

plus any two lower division FPA history or 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 325-3 Special Projects in Dance Composition
FPA 353-3 Playmaking IV
FPA 364-3 Sculpture II
FPA 373-3 Technical Production II
FPA 374-3 Stage Lighting
FPA 389-3 Selected Topics in the Fine and Performing Arts II
FPA 390-3 Video Production II
FPA 426-3 Dance/Movement Analysis
FPA 457-3 Context of Theatre III
plus one of
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Arts, Audience, Patronage, Institutions

Visual Art Extended Minor
This extended minor may be of interest to students who wish to obtain a BA degree by completing two extended minors. This program offers a balanced selection of studio, history and theory courses in the visual art area, offering students a good introduction to contemporary art issues and practices. Students may use this minor for the purpose of teaching in the schools.

Entry to visual art studio courses, and to the extended minor in visual art, is by portfolio interview. Contact the general office for further information.

Lower Division Requirements
A minimum of 26 credit hours must be completed including all of
FPA 111-3 Issues in the Fine and Performing Arts
FPA 160-3 Introductory Studio in Visual Art I
FPA 161-3 Introductory Studio in Visual Art II
FPA 211-3 Introduction to Contemporary Theory in the Arts
FPA 260-3 Studio in Visual Art I
one of
FPA 167-3 History of Art: 1839-1939
FPA 168-3 History of Art: 1940 - Present
three of
FPA 163-3 Issues in Spatial Presentation
FPA 170-3 Introduction to Production Technology
FPA 262-3 Drawing I
FPA 263-3 Painting I
FPA 265-3 Photography I
FPA 290-2 Video Production I

Upper Division Requirements
A minimum of 17 credit hours must be completed including three of
FPA 362-3 Drawing II
FPA 363-3 Painting II
FPA 364-3 Sculpture II
FPA 365-3 Photography II
FPA 369-3 Selected Topics in Visual Art II
FPA 375-3 Stage Design
FPA 390-3 Video Production II
one of
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Arts, Audience, Patronage, Institutions
plus three additional upper division FPA credit hours.

An additional visual art course may be used to fulfill this requirement.
Joint Major in Anthropology or Sociology, and Art and Culture Studies

These joint majors are interdisciplinary programs that link the study of contemporary arts with the social sciences. Students explore interrelationships between fine and performing arts, cultural criticism, intercultural relations, and social, economic or political processes. Alternatively, they may choose courses that pertain to one or two areas in particular.

Art and Culture Studies Lower Division Requirements
Students must complete 18 credit hours as follows.

Interdisciplinary Theory Core Courses
FPA 111-3 Issues in the Fine and Performing Arts
FPA 211-3 Introduction to Contemporary Theory in the Arts

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 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 312-5 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 392-3 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 218-4 Illness, Culture and Society (SA)
SA 263-4 Peasants, Proletarians and the Global Economy (A)
SA 280-4 Aboriginal Peoples and British Columbia: Introduction (A)
SA 293-4 Special Topics in Anthropology (A)
SA 294-4 Special Topics in Anthropology and Sociology**
WS 200-3 Women in Cross-Cultural Perspective

highly recommended

**Applicable only when the topic is anthropology

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 Issues in Canadian Ethnic Relations (SA)*
SA 360-4 Special Topics in Sociology and Anthropology (SA)**
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 386-4 Native Peoples and Public Policy (SA)
SA 387-4 Canadian Native Peoples (SA)
SA 388-4 Comparative Studies of Minority Indigenous Peoples (SA)
SA 400-4 Canadian Ethnic Minorities (SA)
SA 402-4 The Practice of Anthropology (A)*
SA 447-4 Selected Issues in Social Policy Analysis (SA)
SA 451-4 Issues in Anthropological Theory (A)
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 472-4 Anthropology and the Past (A)
SA 486-4 Aboriginal Peoples and British Columbia: Advanced Seminar (A)
SA 496-4 Directed Readings in Anthropology (A)

highly recommended

**Applicable only when the topic is anthropology

Sociology Lower Division Requirements
Students complete 19 credit hours including all of
SA 150-4 Introduction to Sociology (SA)
SA 250-4 Introduction to Sociological Theory (S)
SA 255-4 Introduction to Social Research (SA)
STAT 203-3 Introduction to Statistics for the Social Sciences

plus four credit hours chosen from
SA 200-4 Post-Industrial Societies (S)
SA 203-4 Comparative Ethnic Relations (SA)
SA 216-4 Sociology of Leisure (S)
SA 231-4 The Sociology of Domestic Life (S)
SA 260-4 Individual and Society (S)
SA 292-4 Special Topics in Sociology (SA)
SA 294-4 Special Topics in Sociology and Anthropology (SA)**

**Applicable only when the topic is sociology

Sociology Upper Division Requirements
Students must complete 20 credit hours as follows. both of
SA 350-4 Classical Sociological Thought
SA 355-4 Quantitative Methods

plus an additional 12 credit hours chosen from
CMNS 334-4 Cultural Policy*
SA 300-4 Canadian Social Structure (SA)
SA 303-4 Ethnic Conflicts (SA)
SA 304-4 Social Control (S)
SA 316-4 Tourism and Social Policy (SA)
SA 319-4 Culture, Ethnicity and Aging (SA)
SA 320-4 Population and Society (SA)
SA 321-4 Social Movements (S)
SA 322-4 Sociology of Religion (S)
SA 325-4 Political Sociology (S)
SA 326-4 Ecology and Social Thought (S)
SA 327-4 Sociology of Knowledge (S)
SA 333-4 Schooling and Society (S)
SA 335-4 Gender Relations and Social Issues (S)
SA 340-4 Social Issues and Social Policy Analysis (SA)**
SA 345-4 Issues in Canadian Ethnic Relations (SA)
SA 351-4 Classical Marxist Thought (SA)
SA 357-4 Survey Methods (SA)*
SA 360-4 Special Topics in Sociology and Anthropology (SA)**
SA 362-4 Sociology and the Changing Global Division 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

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

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Director
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Professor Emeritus
E.A. Fattah LLL (Cairo), MA, PhD (Montr), FRSCan
Professors
N.T. Boyd WA (Wont), LLB, LLM (Law Soc Upper Canada)
P.J. Brantingham AB, JD (Col)
P.L. Brantingham AB (Col), MA (Fordham), MSP, PhD (Florida State)
J. Brockman BA (Sask), MA (Alta), LLB (Calg), LLM (Br Col)
B. Burch BA (Qu), MA (Tor), PhD (Br Col)
D.E. Chunn BA (Br Col), MA, PhD (Toronto)
R.R. Corrado BA (Mich), MA, PhD (Northwestern)
K. Faith BA, PhD (Calif)
R.M. Gordon BA (La Trobe), MA (S Fraser), PhD (Br Col)
C.T. Griffiths BA, MA, PhD (Montana)
M.A. Jackson BA (Calif), MA, PhD (Tor)
covers the following areas.
computing science, and mathematics are integrated
business administration, economics, philosophy,
sociology and anthropology, political science,
knowledge of the criminal justice system and its
concurrently acquire a theoretical and practical
society's reaction to crime and deviance. Students
criminal, delinquent, and deviant behavior and of
an in-depth understanding of the complexities of
approach. The curriculum assists students to acquire
of crime by an interdisciplinary and integrative

*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 to unify all aspects
of crime by an interdisciplinary and integrative
approach. The curriculum assists students to acquire
an in-depth understanding of the complexities of
criminal, delinquent, and deviant behavior and of
society's reaction to crime and deviance. Students
concurrently acquire a theoretical and practical
knowledge of the criminal justice system and its
components, and gain insight 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

Enrolment Limitations
Admission
The school limits admission to the upper division of its
major, minor and honors programs. Entry into the major/
or 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
lower the 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.

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/
or 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 continuation, 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 35 and the following
requirements.)

Students majoring in criminology must obtain a
minimum grade of C- in all required group A and

Lower Division Requirements
Students must complete 60 credit hours including the
requirements set out below under Group A, Group B
and General Electives.

Group A
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 additional criminology course at the 100 or
200 level. See “Criminology CRIM” on page 252 for
the list of CRIM courses.

Group B
Students are required to complete seven courses,
including all of
PSYC 102-3 Introduction to Psychology I
PSYC 103-3 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 100-3 Critical Thinking

PHIL 103-3 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 234-3 Introduction to the Philosophy of Natural
and Social Science

PHIL 280-3 Introduction to Existentialism

plus a minimum of three lower division credit hours
chosen from the following disciplines:
archaeology (ARCH)  
business administration (BUS)  
canadian studies (CNS)  
communication (CMNS)  
computing science (CMPT)  
economics (ECON and BUEC)
Joint Major in Criminology and Canadian Studies
See “School of Criminology” on page 145.

Joint Major in Criminology and Psychology
This program explores relationships between the study of criminology and psychology. Students should consult advisors in both departments. Students must satisfy the admission requirements for both the criminology and psychology major programs and be approved by the School of Criminology before they will be approved by the Department of Psychology. 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 CRIM 320 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 230-3 Criminal Law
plus one of
CRIM 220-3 Research Methods in Criminology*
PSYC 201-4 Research Methods in Psychology*
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 261-3 Introduction to Policing
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
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

Upper Division Requirements
all of
CRIM 300-3 Current Theories and Perspectives in Criminology
CRIM 320-3 Quantitative Research Methods 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 207-3 Introduction to the History of Psychology*
PSYC 210-4 Introduction to Data Analysis in Psychology*
plus one of
CRIM 220-3 Research Methods in Criminology*
PSYC 201-4 Introduction to Research Methods in Psychology*
*students must obtain a final course grade of C (2.0) or better in each of these courses.

plus one of
PSYC 221-3 Introduction to Cognitive Psychology
PSYC 280-3 Introduction to Biological Psychology
plus one of
PSYC 241-3 Introduction to Abnormal Psychology
PSYC 250-3 Introduction to Developmental Psychology
PSYC 260-3 Introduction to Social Psychology
PSYC 270-3 Introduction to Theories of Personality

Upper Division Requirements
Students must complete 21 credit hours in upper division psychology courses. No more than five of these credit hours may be in directed studies. At least 11 upper division psychology credit hours must be taken at Simon Fraser University.

Joint Major in Sociology and Anthropology and Criminology
See “Joint Major in Sociology or Anthropology and Criminology” on page 184.

Joint Major in Women’s Studies and Criminology
See “Joint Major in Criminology and Women’s Studies” on page 187 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 write and defend a short thesis. Students are admitted as a group each September, 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 semester with permission of the director of undergraduate programs. Students complete a minimum of 132 credit hours with GPAs in...
accordance with general and Faculty of Arts graduation requirements including a minimum CGPA of not less than 3.00 (3.50 for first class honors). See “General Information” on page 35 and “Grade Point Averages Needed for Graduation” on page 55.

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, 321, 330, 490, 491 and 499.

The remaining credit hours, to satisfy degree requirements, may be selected at the student’s discretion. Faculty of Arts breadth requirements must be completed for graduation; general electives should be considered for that purpose.

For program continuation, students must maintain a cumulative grade point average of 3.0. Those whose CGPA falls below 3.0 cannot register in CRIM 499 and therefore cannot complete the program.

Admission Procedure
Eligible students are normally identified by the school and invited to apply for program admission. Those who feel they are eligible may also apply to the undergraduate program director. The selection process normally happens each April for September admission.

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. Mclroy, 2644 Diamond Building, 604.291.3645, mclroy@sfu.ca

This program is for students who have completed a bachelor’s degree in a discipline other than criminology and wish 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, see “Continuing Studies” on page 224.

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. Mclroy, 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 criminology foundation, and the advanced certificate program provides an in-depth understanding of criminology through more intensive study.

These certificate program courses are offered through the Centre for Distance Education to assist students in understanding the complexities of illegal behaviours, as well as society’s reactions.

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 advisor in the School of Criminology for admission to the certificate programs.

Admission to the program
• 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 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 PHIL 110-3 Introduction to Logic and Reasoning POL 151-3 The Administration of Justice PSYC 100-3 Introduction to Psychology I PSYC 102-3 Introduction to Psychology II SA 150-4 Introduction to Sociology STAT 101-3 Introduction to Statistics

The remaining credit hours must be selected from specific groups of optional courses as follows.
• one course must be chosen from group A
• two courses must be chosen from group B
• the balance may be satisfied with courses chosen from groups A, B or C

Optional Courses
Group A
Students may choose from any of the remaining 100 and 200 level criminology distance education courses, such as CRIM 213-3 Introduction to Women and Criminal Justice CRIM 241-3 Introduction to Corrections CRIM 251-3 Introduction to Policing

Group B
CMNS 130-3 Explorations in Mass Communication ENGL 199-3 University Writing HIST 102-3 Canada Since Confederation SA 250-4 Introduction to Sociological Theory

Group C
Any lower division courses offered at Simon Fraser University or which transfer from another post-secondary institution (including the Open Learning Agency) to the equivalent of 100-200 level Simon Fraser University courses.

Note: Students enrolled at Simon Fraser University must obtain prior permission of the Office of the Registrar by completing the letter of permission form.

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 want practical criminology experience. 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 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
and 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 Research Methods in Criminology plus one of
PSYC 210-4 Data Analysis in Psychology
STAT 101-3 Introduction to Statistics
STAT 203-3 Introduction to Statistics for the Social Sciences
and have a 2.75 minimum CGPA. Transfer students must have completed at least 15 credit hours at SFU.
Please see “Co-operative Education” on page 226. Arrangements for work semesters are made through the Faculty of Arts co-op coordinator, who should be consulted at least one semester in advance.

Department of Economics
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Chair
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Professors Emeriti
J.F. Chant BA (Br Col), PhD (Duke)
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J.P. Herzog BS, PhD (Calif)
R.A. Holmes BA, MA (Sask), PhD (Indiana)
M.H. Khan BSc, MA (Sindh), MScSocSc (Inst Soc Stud), PhD (Wageningen)
J.L. Knettsch, BS, MS (Michigan State), MPA, PhD (Harv)
R.G. Lipsey BA (NY), MA (Tor), PhD (LSE), FRSc
G. Lewitzki BA (NY), MS, PhD (Wis)
D.R. Maki BA (Minn), PhD (Iowa State)
J.M. Munro BCom (Br Col), MBA, DBA (Indiana)
K. Strand BA (Washington), MS, PhD (Wis)
Telus Endowment University Professor
R.G. Harris BA (Qu), PhD (Br Col), FRSc
Professors
D.W. Allen BA, MA (S Fraser), PhD (Wash)
J. Arlovic BA (Sarajevo), MA, PhD (Chic)
L.A. Boland BS (Bradley), MS, PhD (Ill), FRSc
J.W. Dean BSc (Gar), MA, PhD (Harv)
D.J. DeVoretz BA, MA, PhD (Wis)
G. Dow BA (Amherst), MPP, PhD (Mich)
S.T. Easton AB (Oberlin), AM, PhD (Chic)
R.G. Harris BA (Qu), PhD (Br Col), FRSc
R.A. Jones BSc MA (Br Col), MA, PhD (Brown)
P.E. Kennedy BA (Qu), PhD (Wis)
N.D. Olevilier BA (Coll), MA (S Fraser), PhD (Br Col)
A. Robson BSc (Well), PhD (MIT)
N. Schmitt Licence (Lausanne), MA (Car), PhD (Tor)
Z.A. Spindler BA (Wis), MA, PhD (Mich State)
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A. Kessler BA (Freiburg), MSc (Wis), PhD (Bonn)
C. Lülfesmann MSc, PhD (Bonn)
G.M. Myers BA (Qu), MA, PhD (McM)
K. Pendakur BA, MA (Br Col), PhD (Calif)
C.G. Reed BA, MA, PhD (Wash)
R.W. Schwindt AB, PhD (Calif)*
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*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 (environmental specialty) 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
Major, honors and minor program admission (including joint honors and joint majors) is limited. Entry is on the basis of a formal department application. To be considered, students must have completed lower division required courses with at least a C- grade.
On recommendation of the department and the Office of the Dean of Arts, the University establishes a yearly quota — the number of students to be admitted into major, honors, and minor programs. This quota is based on projected available course space and department resources. The department announces the minimum CGPA below which students will not normally be considered.
Students apply for admission to the major, minor or honors programs after completing 45 credit hours and will be selected on the basis of CGPA and performance in required courses.
Applications for entry should be filed with the departmental advisor. Students provide the appropriate documentation. Those whose applications are not approved may appeal to the department’s undergraduate program chair. Students not accepted upon initial application may reapply.

Non-Majors Access to Courses
Lower Division
Access to lower division economics and BUED 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 BUED 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 BUED 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/BUED courses.

Requirements for the BA Degree
All majors and honors students must meet BA degree requirements for 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 backgrouns before entering upper division courses. Major and honors students must complete lower division requirements 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 232-4 Data and Decisions 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 BUED 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 333-4 Statistical Analysis of Economic Data
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 Economic Development in the Pre-industrial Period
ECON 309-5 Introduction to Marxian Economics
ECON 353-4 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 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. These courses may be within the area of concentration.
plus
at least 25 credit hours of upper division credit in ECON** or economics including
BUEC 333-4 Statistical Analysis of Economic Data
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)
**BUEC courses may count only once as business administration or economics credit.

Joint Major in Economics and Political Science
For requirements, see “Joint Major in Political Science and Economics” on page 180.

Joint Major in Geography and Economics – Environmental Specialty
For requirements, see “Joint Major in Geography and Economics – Environmental Specialty” on page 166.

Joint Major in Latin American Studies and Economics
For requirements, see “Joint Major Programs” on page 173.

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 333-4 Statistical Analysis of Economic Data
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory
ECON 331-4 Quantitative Methods in Economics
ECON 402-3 Advanced Topics in Microeconomics
ECON 403-3 Advanced Topics in Macroeconomics
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 159) and are responsible for ensuring they have also fulfilled all requirements for an honors degree set up by the Faculty of Arts.

Joint Honors in Business Administration and Economics
Lower Division Requirements
Students must satisfy the lower division requirements for a joint major in business administration and economics.

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 hours rather than business administration upper division hours. Please see “Core Courses” on page 192.
and
an area of concentration
and
at least three 400 division business administration courses* (excluding practicum courses and BUS 478) plus
at least 32 credit hours of upper division credit in economics or BUEC including
BUEC 333-4 Statistical Analysis of Economic Data
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
ECON 403-3 Advanced Topics in Macroeconomics
ECON 499-6 Honors Seminar in Economics

*these courses may be within the areas of concentration

Group Requirements
Students must include at least one course from the economics group requirements. For details, see “Group Requirements” on page 159.

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
two 200 division ECON or BUEC courses (excluding BUEC 232)

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.

Co-operative Education
This 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, students must have completed 30 credit hours including ECON 103 (or 200) and ECON 105 (or 205). At least 12 of these 30 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. See “Co-operative Education” on page 226 for further details.

Department of English
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Chair
E.A. Schellenberg BEd, BA (Winn), MA, PhD (Ott)
Professors Emeriti
S.A. Black BA, MA (Calif State), PhD (Wash)
R.F. Blaser BA, MA, MLS (Calif)
G. Bowering BA, MA (Br Col)
P.M. Buitenhuis BA, MA (Oxf), PhD (Yale)
F.H. Candelaria BA (Texas), PhD (Missouri)
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P. Delany BCom (McG), AM (Stani), MA, PhD (Calif), FRSL, FRSCan
A. Rudrum BA (Lond), PhD (Nott)
M. Sieg BA (Reed), MA, PhD (Wash)
J. Zaslove BA (Case W Reserve), PhD (Wash)*
Professors Emeriti
R.M. Coe BA (CUNY), MA (Utah), PhD (Calif)
S. Delany BA (Wellesley), MA (Calif), PhD (Col)
S. Djwa BEd, PhD (Br Col), FRSCan

Faculty of Arts – Department of English 159
Any one, but not more than one, of ENGL 101, 102, 103, 104, 105 and 199 may be replaced by any three unspecified transfer credits in English. Similarly any one, but not more than one, of ENG 206, 207, 210, 212, 214 and 216 may be replaced by any three unspecified 200 level transfer credits in English. However, to fulfill 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. ENG 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 199; 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. ENG 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. The university 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 311 to 322; one must come from within the series ENGL 354 to 360; 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, 311 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 those with a special interest in English literature and who wish 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 honors program admission. A GPA of 3.3 in all English courses taken at Simon Fraser University is required for acceptance and continue 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 from within the series ENGL 308 to 313; 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 within the series ENGL 300 to 446. Exceptionally, and only with department permission, other English courses of equivalent content may substitute for those required in the series 300 to 306; 308 to 313; 314 to 322; and 354 to 360. With department permission, 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 ‘B’ grade or higher must be achieved in the honors graduating essay (ENGL 496).

**Minor Program**

Students must also obtain credit or standing in one or more of ENGL 204-3 Introduction to Fiction, ENGL 205-3 Introduction to Poetry, ENGL 206-3 Introduction to Drama, ENGL 208-3 Introduction to Prose Genre. Students proposing to enter honors English should take the same lower division English courses as English majors. On completion, students may apply for honors program admission. A GPA of 3.3 in all English courses taken at Simon Fraser University is required for acceptance and continue 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 from within the series ENGL 308 to 313; 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 within the series ENGL 300 to 446. Exceptionally, and only with department permission, other English courses of equivalent content may substitute for those required in the series 300 to 306; 308 to 313; 314 to 322; and 354 to 360. With department permission, 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 ‘B’ grade or higher must be achieved in the honors graduating essay (ENGL 496).

**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 Canadian Studies**

See “Joint Major Programs” on page 145 for program information.

**Joint Major in English and French Literatures**

See “Joint Major in English and French Literatures” on page 163 for program information.

**Joint Major in English and Humanities**

See “Joint Major in History and Humanities” on page 170 for program information.

**Joint Major in English and Women’s Studies**

See “Joint Major in English and Women’s Studies” on page 188 for program information.
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.

Co-operative Education Program
This program, for students who wish to acquire work experience in areas related to English studies, entails planned semesters of study and employment in an area of the student’s choice.

To be admitted, 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) 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.

To continue in the program, students must maintain a minimum CGPA of 3.0 in their academic course work. Interested students should contact the Department of English for further information. Also, see “Co-operative Education” on page 226.

First Nations Studies Program
6188 Academic Quadrangle. 604.291.4774 Tel, 604.291.4989 Fax, www.sfu.ca/fns, first_nations@sfu.ca

Director
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Associate Professor
M. Boelscher Ignace MA (Georg August Universitat), PhD (S Fraser), co-ordinator, SCES/SFU Program in Kamloops

Assistant Professor
E.C. Yellowhorn BA, BSc (Calg), MA (S Fraser), PhD (McG)*

Advisory Committee
D. Burley, Archaeology
H. Coleman, First Nations Studies
D. Culhane, Sociology and Anthropology
M. Boelscher Ignace, Sociology and Anthropology
D. Mellow, Linguistics
R. Ouellet, student representative
P. Rabinov, History
R. Russell, Mathematics
E.C. Yellowhorn, First Nations Studies

Advisor
Ms. H. Coleman, 6188 Academic Quadrangle, 604.291.5595

*joint appointment with archaeology
**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, indigenous knowledge 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 Prehistory (when topic is ancient peoples of British Columbia)
ARCH 255-3 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 (former 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 electives, subject to approval by the program director.

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

FNST 403-3 Indigenous Knowledge in the Modern World

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 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 322-3 Special Topics in First Nations Studies
FNST 332-3 Ethnobotany of British Columbia First Nations
FNST 401-3 Aboriginal Rights and Government Relations**

FNST 402-3 The Discourse of Native Peoples**
FNST 403-3 Indigenous Knowledge in the Modern World**

FNST 442-3 Directed Readings
HIST 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 III**
LING 432-3 Language Structures IV**
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 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 program director.

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 Faculty of Arts departments and other faculties offering co-operative education, eligible students wishing to undertake a First nations studies minor may apply to co-op 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/Secwepemc 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.

The certificate is subject to continued funding from external sources.

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 are earned by completing six required courses.

The remaining nine credit hours are selected from the specified list of optional courses.

Faculty of Arts – First Nations Studies Program 161
• completion of a practicum, where the student can apply 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
HIST 201-3 The History of Western Canada
LING 130-3 Introduction to Practical Phonetics
SA 255-4 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 II*
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 People of Canada
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 History*
SA 201-4 Anthropology of Contemporary Life
SA 292-4 Special Topics in Sociology*
SA 293-4 Special Topics in Anthropology*
SA 386-4 Native Peoples and Public Policy
SA 387-4 Canadian Indigenous 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 (totaling 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
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Professor Emeritus
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Professors
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J. Viswanathan Lé系, (Lille), MA (III), DésL (Lille)
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Assistant Professors
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Lecturer
L. Bruneau BA (Qu), MEd (S Fraser)
Advisor
Ms. R. Gould, 8108A Robert C. Brown Hall, 604.291.4505, gould@sfu.ca
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 211
• 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 211
• BC grade 12 French completed within the last three years who do not meet either of the above two conditions: register in FREN 210
• Students who have completed grade 11 French within the last three years and have taken no more French since: register in FREN 122
• Fewer than three years of French taken in high school and no other French: register in FREN 121
• No French at all: register in FREN 120
• 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 210, and/or 211, and/or 221, and/or 222

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 210, 211 or 221, 222. Students may challenge lower level language courses only when registered in one of FREN 211 or (212), 221, 222, 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 51.

Many FREN courses were renumbered effective Fall 2003. Students with credit for French courses prior to this time should consult the department advisor.

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 210, 211 or 212, 221, 222, 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. For a degree in French, the following courses are required.

Lower Division Requirements
all of
FREN 210-3 Intermediate French I*
FREN 211-3 Intermediate French II* (or 212)
FREN 221-3 French Writing I*
FREN 222-3 French Writing II*
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
FREN 360-4 Intermediate French Literature
FREN 370-4 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.

Note: A minimum of 12 of the remaining 21 credit hours must be from 400 division French courses.

Honors
FREN 301-3 Advanced French Composition
FREN 360-4 Intermediate French Literature
FREN 370-4 Introduction to French Linguistics II
A further 39 credit hours of French, to be chosen from among the remaining courses at the 300 and 400 division, must be completed.

Note: A minimum of 24 of the remaining 39 credit hours must be from 400 division French courses, including the following which should be taken during 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
FREN 301-3 Advanced French Composition I and one of
FREN 360-4 Intermediate French Literature
FREN 370-4 Introduction to French Linguistics II
A further nine credit hours of French, to be chosen from among the remaining courses at the 300 and 400 division, must be completed.

Courses in French
Courses are offered in the following fields.

French Language
FREN 120-3 French for Beginners
FREN 121-3 Introductory French I
FREN 122-3 Introductory French II
FREN 199-3 Writing French I: Spelling and Grammar*
FREN 210-3 Intermediate French I
FREN 211-3 Intermediate French II
FREN 212-3 French for Immersion Program Students
FREN 215-3 Intermediate French Language: Oral Practice
FREN 217-3 French Pronunciation
FREN 221-3 French Writing I
FREN 222-3 French Writing II
FREN 225-3 Topics in French Language
FREN 299-3 Writing French II: Intermediate Composition*
FREN 300-3 Advanced French: Oral Practice
FREN 301-3 Advanced French Composition
FREN 304-3 Advanced French Grammar
FREN 307-3 French Vocabulary
FREN 330-3 The Francophone World
*Restricted to these distance education courses

French Linguistics
FREN 301, 304 and 307 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. Topics courses may be taken more than once for credit, provided that the content is different each time.

Linguistic Theories
FREN 270-3 Introduction to French Linguistics I
FREN 370-4 Introduction to French Linguistics II
FREN 424-3 Topics in French Linguistics

Structure of French
FREN 411-3 Aspects of French Morphology
FREN 412-3 Aspects of French Syntax
FREN 413-3 Aspects of French Phonetics and Phonology
FREN 415-3 Aspects of French Semantics and Lexicology

Evolution of French
FREN 423-3 Topics in the History of French

French Diacritics
FREN 425-3 Topics in the Varieties of French

Applied Linguistics
FREN 416-3 French Applied Linguistics

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 and Periods
FREN 461-3 French Medieval Literature
FREN 462-3 French Renaissance Literature
FREN 463-3 Literature of the Seventeenth Century
FREN 465-3 Literature of the Eighteenth Century
FREN 467-3 Romanticism
FREN 470-3 Realism to Naturalism
FREN 475-3 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 410-3 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 French for Reading Knowledge 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, 604.291.3127
Ms. B. Thorburn, Department of English, 6133 Academic Quadrangle, 604.291.4835

Lower Division Courses
The same lower division course prerequisites as they appear for both English and French majors must be fulfilled.

French (a total of 15 credit hours)
all of
FREN 210-3 Intermediate French I
FREN 211-3 Intermediate French II
FREN 221-3 French Writing I
FREN 222-3 French Writing II
(or exemption from all of FREN 210, 211, 221, 222)
one of
FREN 230-3 Introduction to French-Canadian Literature
FREN 240-3 Introduction to French Literature: Modern French Literature

Recommended
FREN 270-3 Introduction to French Linguistics I

English
Students must complete the lower division requirements of the English major program.

Upper Division Courses
Students must complete 22 upper division hours in French and 20 upper division hours in English to achieve a specialization in literary studies as well as a selection of complementary courses as follows.

French
FREN 301-3 Advanced French Composition
FREN 360-4 Intermediate French Literature

7 credit hours

plus one of
FREN 300-3 Advanced French: Oral Practice
FREN 304-3 Advanced French Grammar
FREN 307-3 French Vocabulary
FREN 330-3 Francophone World

plus 12 credit hours from the 400 level French Literature courses, selected according to the guidelines for course selection (see below).

The following courses are recommended if the student is interested in the linguistic analysis of literary texts.

FREN 370-4 Introduction to French Linguistics II
FREN 410-3 French Stylistics

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).

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

Joint majors (or prospects) in English and French literatures must plan their program in consultation with the English and French Department advisors.
with the program faculty advisors and consult the Guidelines for Course Selection available from each department.

Joint Major in French, History, and Politics

Steering Committee
(to be announced)

Advisors
Ms. R. Gould, Department of French, 8108A Robert C. Brown Hall, 604.291.4505, gould@sfu.ca
Mrs. T. Wright BA (S Fraser), Department of History, 6026 Academic Quadrangle, 604.291.4429
Mrs. C. Sauro, Department of Political Science, 6025 Academic Quadrangle, 604.291.3446

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. It is organized into three main themes: the French-speaking peoples of Canada, France and Europe, and the French speaking peoples of the world. Students are not confined to any one theme; they may take any combination of courses within the program. The only requirement is that there must be some demonstrable French content in the course.

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 credits 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 48 credit hours.

- 16 credit hours of history
- 16 credit hours of political science
- 16 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 16 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 program of the steering committee.

**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 with the thematicity criteria of the joint major program to the satisfaction of the steering committee.

**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 210-3 Intermediate French I (or exemption)
FREN 211-3 Intermediate French I (or exemption)
FREN 221-3 French Writing I (or exemption)
FREN 222-3 French Writing II (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

Suggested
FREN 215-3 French Language: Oral Practice

**Upper Division**

FREN 301-3 Advanced French Composition
one of
FREN 360-4 Intermediate French Literature
FREN 370-4 Introduction to French Linguistics

**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 304 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 see "Department of Humanities" on page 171 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 the 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 French language competence, or knowledge of French literature or linguistics.

**Admission Requirements**

Students must seek admission or readmission to the University and, once admitted, must separately apply to the Department of French advisor for diploma program admission. Qualifications for application to the program include the following:

- The completion of a recognized bachelor's degree with a minimum graduation grade point average of 2.0 from institutions with British Columbia and 2.4 from institutions outside the province. University course work undertaken subsequent to the bachelor's degree will also be considered for admissibility to this diploma program.
- A demonstrated knowledge of spoken and written French e.g. competence equivalent to successful completion of FREN 222.

Application packages are available from the Department of French and the Faculty of Education. Before applying, consult with the student advisor in the Department of French, Ms. R. Gould, 604.291.4505.

**Program Requirements**

Students must successfully complete an approved program comprised of at least 30 upper division credit hours. Graduate courses may be taken with prior approval. Normally 15 credit hours will be completed from each of the French and education lists of courses below. A minimum cumulative GPA of 2.5 is necessary for courses applied toward the diploma.

The diploma must be completed within five years of program admission. Teachers seeking a recategorization 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 recategorization through the Teachers' Qualification Service.

Formal application for graduation is made through the Office of the Registrar. Deadlines for submission of application to graduate are outlined in the Academic Calendar of Events section.

**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.

- A minimum of two of
  - FREN 304-3 Advanced French Grammar
  - FREN 307-3 French Vocabulary
  - FREN 416-3 French Applied Linguistics

The remaining credit hours may be selected from 300 and 400 level French courses with the exception of FREN 342.

Please note that all course selections must be approved by the advisor in the French department.

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.
Faculty of Arts – Department of Geography

Education Requirements
Students normally choose 15 credits from among the following courses, including both of:
EDUC 441-4 Multicultural Education
EDUC 450-4 French Curriculum Studies
The remaining credits may be chosen from:
EDUC 325-3 Assessment of Classroom Teaching
EDUC 326-3 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***

Certificate in French Language Proficiency
This program is for students who may or may not be enrolled in a degree program and who wish to improve oral and written French proficiency. It is also for those wishing to enhance their knowledge of the language for cultural 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 90 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 FREN120, 121, 122, 198, and 342.

All of:
FREN 210-3 Intermediate French I
FREN 211-3 Intermediate French II (or 212)
FREN 215-3 Intermediate French Language: Oral Practice
FREN 221-3 Writing French I
FREN 222-3 Writing French II
FREN 301-3 Advanced French Composition
One of:
FREN 230-3 Introduction to French-Canadian Literature
FREN 240-3 Introduction to French Literature: Modern French Literature
Recommended:
FREN 300-3 Advanced French: Oral Practice
FREN 330-3 The Francophone World
FREN 304-3 Advanced French Grammar

The program normally takes 5-6 semesters to complete. A minimum GPA of 2.5 is calculated on all SFU courses that are applied to the certificate. 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 credit hours
- successful completion of other French courses at Simon Fraser University, excluding FREN 120, 121, 122, 198, 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 3), 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, see “Italian ITAL” on page 279.

Department of Geography
7123 Robert C. Brown Hall, 604.291.3321 Tel, 604.291.5841 Fax, www.sfu.ca/geography
Chair
R.A. Clapp BA (Yale), MA, PhD (Calif)
Professors Emeriti
R.C. Brown BS, MS (Oregon State), PhD (Mich State)
C.B. Crampton BSc, PhD (Brist)
A. MacPherson MA (Edin), FRMetS
T.K. Pelerk PhD (Heidelberg)
M.C. Roberts BSc (Lond), MA (Tor), PhD (Iowa), PGeo**
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
W.G. Bailey BSc (Tor), PhD (McM)
N.K. Blomley BSc, PhD (Brist)
A.M. Gill BA (Hull), MA (Alta), PhD (Manit)***
R. Hayter BA (Newcastle, UK), MA (Alta), PhD (Wash)
E.J. Hickin BA, PhD (Syd), PGeo**
I. Hutchinson BA (Liv), MSc (McG), PhD (S Fraser)
J.T. Pierce BA (Tor), MA (Wat), PhD (Lond), Dean of Arts
A.C.B. Roberts BA (Tor), MA (Wat), PhD (York, Can)
Associate Professors
T.A. Brennand MA (Camb), PhD (Alta)
J.A.C. Brohman BA (Cari), MA, PhD (Calif)
R.A. Clapp BA (Yale), MA, PhD (Calif)
M.V. Hayes BA, MSc, PhD (McM)
J. Hyndman BA (Alta), MA (Lanc), PhD (Br Col)
P.M. Korosch BA, MA, PhD (Mich)
L.F.W. Lesask BSc (Manit), PhD (Calif)*
M.L. Roseland, BA MA (Wesleyan, Conn), PhD (Br Col)
M.G. Schmidt BSc (Guelph), MSc (Lakehead, PhD (Br Col)
Assistant Professors
B.E. Bradshaw BA (Trent), PhD (Guelph)
S. Dragicevic BEng (Belgrade), MSc (Belgrade), PhD (Mont)
B. Pitman BA (S Fraser), MEDes (Calg), PhD (Calif)

*joint appointment with biological sciences
**joint appointment with earth sciences
***joint appointment with resource and environmental management

Supporting Courses Outside Geography
Students may 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 the department advisor concerning the structure of their programs.

BA Major Program
Students should check that they have fulfilled the requirements of the Faculty of Arts. See “Bachelor of Arts Degree” on page 139. Transfer students may enter the program without having fulfilled all lower division requirements. See the academic advisor as soon as possible about entering the program.

Lower Division Requirements
Students must complete all of:
GEOG 101-3 Human Geography
GEOG 111-1 Physical Geography
GEOG 221-3 Economic Geography
GEOG 241-3 Social Geography
and one of:
GEOG 213-3 Geomorphology I
GEOG 214-3 Climatology I
GEOG 215-3 Biogeography
and one of:
GEOG 251-3 Quantitative Geography
GEOG 253-3 Aerial Photographic Interpretation
GEOG 255-3 Geographical Information Science I
18 credit hours

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 a total of 32 credit hours of 300 and 400 level courses in geography, including at least eight credit hours at the 400 level and one of the following:
GEOG 311-4 Hydrology I
GEOG 312-4 Geography of Natural Hazards
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
32 credit hours
BA Honors Program
Students must complete all the requirements for the major program (see above) plus 10 additional credit hours from courses in the 300 and 400 level listings in Geography, and the following courses.
- GEOG 301-4 Geographic Ideas and Methodology
- GEOG 491-4 Honors Essay
A total of 132 semester hours is required of which 60 must be at the upper division. To graduate with honors, students must have grade point averages of not less than 3.00 (cumulative, upper division and cumulative geography GPA).
Entry into the honors program requires the approval of the department and admission GPAs of 3.00.

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.

Lower Division Requirements
- GEOG 100-3 Human Geography
- GEOG 111-3 Physical Geography
- GEOG 221-3 Economic Geography
- GEOG 241-3 Social Geography
- one of GEOG 241-3 Social Geography
- GEOG 221-3 Economic Geography
- one of GEOG 241-3 Social Geography
- GEOG 251-3 Methods in Spatial Analysis
- GEOG 253-3 Aerial Photographic Interpretation
- GEOG 255-3 Geographical Information Science I
12 credit hours

Upper Division Requirements
Students must complete a minimum of 15 credit hours in GEOG courses numbered 300 and 400.
15 credit hours
Total 27 credit hours

Extended Minor Program
Students are expected to consult with a departmental advisor when they formally declare an extended minor in geography. The program consists of the lower division requirements for a major and the upper division requirements for a minor (see above).

Joint Major in Geography and Business Administration
See “Joint Major in Business Administration and Geography” on page 194 for requirements.

Joint Major in Geography and Canadian Studies
See “Joint Major Programs” on page 145.

Joint Major in Geography and Latin American Studies
See “Joint Major Programs” on page 173.

Geography – Environmental Specialty Major Program
Lower Division Requirements
- Students must complete GEOG 100-3 Human Geography
- GEOG 111-3 Physical Geography
- GEOG 215-3 Biogeography
- GEOG 221-3 Economic Geography
- GEOG 241-3 Social Geography
and one of
- GEOG 251-3 Quantitative Geography
- GEOG 253-3 Aerial Photographic Interpretation
- GEOG 255-3 Geographical Information Science I
and the following two trans-disciplinary core courses
- EVSC 200-3 Introduction to Environmental Science
- REM 100-3 Global Change
24 credit hours

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
plus one course in each of the following groups.

Physical Geography
- GEOG 311-4 Hydrology I
- GEOG 312-4 Geography of Natural Hazards
- 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
Spatial Science
- GEOG 351-4 Cartography and Visualization
- GEOG 352-4 Spatial Analysis
- GEOG 353-4 Remote Sensing
- GEOG 355-4 Geographical Information Science II
Human Impacts on the Biophysical Environment
- GEOG 322-4 World Resources
- GEOG 327-4 Geography of Tourism and Outdoor Recreation
- GEOG 382-4 Population Geography
- GEOG 385-4 Food Production and the Environment
- GEOG 449-4 Environmental Processes and Urban Development
Students must complete an additional eight upper division (300 and 400 level) credit hours in geography for a total of 38 credit hours.

Geography – Environmental Specialty Honors Program
Students must complete all environmental specialty major requirements (see above) plus four additional 400 level geography credit hours and
- GEOG 301-4 Geographic Ideas and Methodology
- GEOG 491-4 Honors Essay
for a total of 50 credit hours. A total of 132 credit hours is required for honors, 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).
Entry into the honors program requires the approval of the department and admission GPAs of 3.00.

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
- BUEC 333-4 Statistical Analysis of Economic Data
- ECON 301-5 Intermediate Macroeconomic Theory
- ECON 305-5 Intermediate Macroeconomic Theory
- ECON 362-4 Economics of Natural Resources
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 Economic Development in the Pre-Industrial Period
- ECON 309-5 Introduction to Marixian Economics
- ECON 353-4 Economic History of Canada
- ECON 355-4 Economic Development
- ECON 382-3 Theories of Development
- ECON 426-2 Industrial Change and Local Development
- ECON 449-3 Regional Development and Planning
plus the following five core courses
- ECON 386-4 Geography, Health and Health Care
- ECON 422-4 Theories and Practices of Development
- ECON 426-2 Industrial Change and Local Development
- ECON 449-4 Environmental Processes and Urban Development
- GEOG 491-4 Honors Essay

Breadth Requirements
The following courses are recommended to fulfill the Faculty of Arts breadth requirements.

Archaeology
- ARCH 201-3 Introduction to Archaeology
- ARCH 369-3 Ecological Archaeology
- ARCH 386-3 Archaeological Resource Management

Communication
- CMNS 347-4 Communication in Conflict and Intervention
- CMNS 446-3 The Communication of Science and the Transfer of Technology
- HIST 360-4 The History of Science: 1100-1725
- HUM 325-4 The Humanities and the Natural World
- PHIL 120-3 Introduction to Moral Philosophy
- PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
SA 371-4 The Environment and Society
WS 204-3 Women, Science and Technology

Languages Other Than English
Some graduate schools require some proficiency in a language other than English. Students who contemplate geography graduate studies should include language courses other than English in their programs.

Certificate in Spatial Information Systems

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), all of
GEOG 251-3 Quantitative Geography
GEOG 253-3 Aerial Photographic Interpretation
GEOG 255-3 Geographical Information Science I plus three of
GEOG 351-4 Cartography and Visualization
GEOG 352-4 Spatial Analysis
GEOG 353-4 Remote Sensing
GEOG 355-4 Geographic Information Science II plus two of
GEOG 451-4 Spatial Modelling
GEOG 453-4 Remote Sensing of Environment
GEOG 455-4 Theoretical and Applied GIS

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 wishing a concentration in urban studies. Program completion is possible in one year but additional semesters may be required. It is suited to those contemplating careers in urban planning, governance, consulting and/or those participating in the Faculty of Arts co-op 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 for a total of 27/29 credit hours including the following required courses.
GEOG 261-3 Introduction to Urban Geography
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 284-3 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.

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 a minimum of 28 credit hours with a minimum cumulative GPA of 2.75. Prior to 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 253-3 Methods in Spatial Analysis
GEOG 253-3 Aerial Photographic Interpretation
GEOG 255-3 Geographical Information Science I
College transfer students must complete at least 15 SFU credit hours before being eligible for co-op program admission and must satisfy the above requirements 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.
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 302-9 Geography Practicum I
GEOG 303-0 Geography Practicum II
GEOG 402-0 Geography Practicum III
GEOG 403-0 Geography Practicum IV
Contact the environmental co-op education co-ordinator, telephone 604.291.3115 and see “Co-operative Education” on page 226.

Gerontology Program
2800 Harbour Centre, 604.291.5065 Tel, 604.291.5066 Fax, www.harbour.sfu.ca/gero, gero@sfu.ca

Director
G.M. Gutman BA (Br Col), MA (Alta), PhD (Br Col)
Professors
G.M. Gutman BA (Br Col), MA (Alta), PhD (Br Col)
A.V. Wister BA, MA, PhD (WConn)
Associate Professor
B. Mitchell BA, MA (Wat), PhD (McM)
Assistant Professors
H. Chaudhury BA (B’desh Engin), MSC Architecture (Tex), PhD (Wisc)
N. O’Rourke HBBA (W Laur), MA (Br Col), PhD (Ott)
Adjunct Professors
K. Anderson MSW, BSc (Calg)
G. Birch BASc, PhD (Br Col)
S. Brink BA (Madr), MSc, PhD (Purdue)
M. Carr BN Nursing (MoG), MSc (CCHS)
S. Crawford BHE (Br Col), MSc (Lon), PhD (Sm Fraser)
K. Dean BA, MA, PhD (Minn)
V. Doyle BA (Vic, BC), EdM (Harv), PhD (Sm Fraser)
E. Gallagher BSc Nursing (Windsor), MSc Nursing (Duke), PhD (Sm Fraser)
M. Holland MSc (Br Col), PhD (Vic, BC)
J. Gray BA, MA (Cant), PhD (Lon)
T. Koch BA (Clark), MA (Br Col), PhD (Br Col)
L. McDonald-Misczczak BA (Alta), MA, PhD (Vic, BC)
A. Mihailidis BASc, MASC (Torr), PhD (Strath)
J. Small BA (New Mexico), BA (Central Wash), PhD (Calif)
C. Spencer BA (Calg), LLB, LLM (Sask)
L. Trottier BSc (Br Col)

Steering Committee
C.B. Dean, Mathematics and Statistics
P. Dossa, Sociology and Anthropology
R. Gordon, Criminology
R.B. Horsfall, Geography
M.M. Kimball, psychology/Women’s Studies
J. Martin, Education
W. Parkhouse, Kinesiology
A. Rawicz, Engineering Science
W. Thornton, Psychology

Advisor
Ms. A. Barrett, 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 Fundamentals 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
GERO 414-4 Special Topics in Gerontology IV
GERO 420-4 Sociology of Aging
GERO 435-3 Adult Guardianship law
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

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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, see “Continuing Studies” on page 224.

**Admission Requirements**

- completion of a bachelor’s degree from a recognized university with a minimum graduation grade point average of 2.5.
- 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. Students are advised to obtain an application package from the program office. The application package includes letters of reference forms, program information and a separate application to the Gerontology Diploma Program.

**Program Requirements**

Successful completion of 32 hours of approved course work, 20 of which are earned by completing the six required courses below. The remaining 12 hours are from the specified list of optional courses. A CGPA of 2.5 is required on courses applied toward the diploma. Students entering without experience working directly with older persons in a job or volunteer setting may be required to complete a practicum. Some organizations may require a criminal record check search prior to starting the practicum.

**Required Courses**

**GERO 300-3 Introduction to Gerontology**
**GERO 301-3 Research Methods in Gerontology**
**GERO 400-4 Seminar in Applied Gerontology**
**GERO 420-4 Sociology of Aging**
**KIN 461-3 Physiological Aspects of Aging**
**PSYC 357-3 Adulthood and Aging**
**SA 420-4 Sociology of Aging**

**Optional Courses**

**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 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**
**GERO 414-4 Special Topics in Gerontology IV**
**GERO 435-3 Adult Guardianship Law**
**SA 310-4 Culture, Ethnicity and Aging**

**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**

6026A Academic Quadrangle, 604.291.3521 Tel, 604.291.5837 Fax, www.sfu.ca/history

**Chair**

J.I. Little BA (Bishop’s), MA (New Br), PhD (Ott)

**Professors Emeriti**

R.E. Boyer BA (Westmont), MA (Wash), PhD (Conn)
C.R. Day BA (Stam), MA, PhD (Harv)
E.R. Ingram MA (Oxf), PhD (Lond), FRHistS
D.S. Kirschner BA, MA, PhD (Iowa)
J.M. Kitchen BA, PhD (Lond), FRHistS, FRScCan
R.C. Newton BA (Rutgers), MA, PhD (Flor)

**Hellenic Canadian Congress of BC Chair in Hellenic Studies**

A. Gerolymatos BA (C’dia), MA, PhD (Mcg)

**University Professor**

D.P. Gagan BA, MA (Wont), PhD Duke

**Professors**

W.L. Cleveland BA (Dartmouth), MA, PhD (Prin)
P.E. Dutton BA (Wont), MA, PhD (Tor), MSLD, MSDL (Pontil Inst Tor)*
M.D. Fellman AB (Mich), PhD (Northwestern)
D.P. Gagan BA, MA (Wont), PhD (Duke)
A. Gerolymatos BA (C’dia), MA, PhD (Mcg)
H.J.M. Johnston BA (Tor), MA (Wont), PhD (Lond)
J.I. Little BA (Bishop’s), MA (New Br), PhD (Ott)
M.L. Stewart BA (Calg), MA, PhD (Col), FRScCan**
J.O. Stubbs BA (Tor), MSc (Lond), DPhil (Oxf)

**Associate Professors**

J.S. Craig BA, MA (Cari), PhD (Camb)
C.I. Dyck BA, MA (Sask), DPhil (Sus)
M. Leier BA, MA (S Fraser), PhD (Ntd)
D. MacLean BA (NY State), MA, PhD (Mcg)
H. Pabel BA, MA (Tor), PhD (Yale)
D.A. Ross MA (Abder), PhD (Lond)
A. Seager BA, MA (Mcg), PhD (York, Can)

**Assistant Professors**

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J. Eyferth MA, PhD (Leiden)
K. Ferguson BA (Mcg), MA, PhD (Duke)
J. Matsumura BA (Tor), MA, PhD (York, Can)
P. Ramblon BA (Br Col), MA, PhD (Duke)
R. Panchasi BA (C’dia), PhD (Rutgers)

**Instructors**

T. Kühn MA (Freiburg), MA (Oxf), PhD (NY)
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**Advisors**

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Ms. T. Wright BA (S Fraser), 6025 Academic Quadrangle, 604.291.3446

*joint appointment with humanities
**joint appointment with women’s studies

**Major Program**

**Lower Division Requirements**

Students must obtain at least 36 credit hours in 100 and 200 division history courses, including at least six hours in 100 division, to enter the major program. 100 division courses introduce students to the main department course offerings — Canadian, American, Asian, and Latin American history, European history, and African and Middle Eastern history.

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 (a equivalent) prior to enrollment in any upper division history course.

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 215-3 The Making of the British Isles
HIST 216-3 The Ancient World
HIST 219-3 The Early Middle Ages
HIST 220-3 The Later Middle Ages
HIST 223-3 Early Modern Europe, 1500-1789
HIST 224-3 Europe from the French Revolution to the First World War
HIST 225-3 20th Century Europe

**Group 2 – The Americas**

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 208-3 Latin America: the Colonial Period
HIST 209-3 Latin America: the National Period
HIST 212-3 The United States to 1877
HIST 213-3 The United States since 1877

**Group 3 – Africa, Middle East, Asia**

HIST 146-3 Africa in Recent History
HIST 151-3 The Modern Middle East
HIST 205-3 Premodern Japan
HIST 206-3 Modern Japan
HIST 231-3 The Origins of Modern Africa: Conquest, Resistance and Resurgence
HIST 249-3 Classical 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 China Since 1800

**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.

**Upper Division Requirements**

Major students must obtain credit in at least 32 credit hours (eight courses) 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 308-4 The Byzantine Empire
HIST 309-4 Early Modern Greek History: 1453-1821
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
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, 42 upper division credit hours are also required. Students are encouraged to take courses outside the Department of History but at least 50 of the 60 upper division hours must be in history courses. For honors requirements, see “Honors Program” on page 140.

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 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 credit hours including
LBST 101-3 Introducing Labor Studies
and 15 upper division credit hours including
LBST 301-3 Labor Movements: Contemporary Issues and Images

Optional Courses
The remaining required elective credit hours may be chosen from the following list.
BUS 484-3 Workplace Industrial Relations
BUS 486-3 Human Relations in Business
BUEC 280-3 Introduction to Labor Economics
BUEC 384-3 Industrial Relations
BUEC 396-3 The Structure of Industry
BUEC 485-3 Collective Bargaining
CNS 280-3 Canadian Political Economy
CMNS 454-4 Computer Mediated Work and Workplace Communication
ECON 103-3 Principles of Microeconomics
ECON 309-5 Introduction to Marxian Economics
ECON 353-4 Economic History of Canada
ECON 381-4 Labor Economics
ECON 480-3 Seminar in the Economics of Labor Market Policy
GEOG 426-4 Indirect Change and Local Development
HIST 327-4 Canadian Labor and Working Class History
HIST 412-4 Marxism and the Writing of History
HIST 424-4 Problems in the Cultural History of Canada*

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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**

HIST 424-4 Problems in the Cultural History of Canada

GEOG 475-4 Historical Geography II

HIST 326-4 The History of Native People in Canada

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 recommendation of the program co-ordinator, select a course not included among listed options, but with appropriate program content.

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 experience may be included.

Students without such experience should contact the program co-ordinator about summer job internships. 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.

Full or part time courses are available during the day and evening, on the Burnaby Mountain campus, at Harbour Centre and through 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 349-5 Management of Archaeological Collections

ARCH 372-5 Material Culture Analysis

ARCH 386-3 Archaeological Resource Management

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

HIST 326-4 The History of Native People in Canada

HIST 424-4 Problems in the Cultural History of Canada

HIST 428-4 Problems in the Social and Economic History of Canada

Languages Other than English

Although not required for a history BA, it is useful to be acquainted with a language other than English for many history courses. Students, especially those who intend to pursue graduate courses, should consider including a second language in their programs.

**Joint Major in History and Canadian Studies**

See “Joint Major Programs” on page 145.

**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, professions in which an emphasis on Canadian government and politics is important, for diplomatic service, international organizations, journalism, teaching and archival work. For further details, see page 164.

**Joint Major in History and Humanities**

See “Joint Major Programs” on page 172.

**Joint Major in History and Latin American Studies**

See “Joint Major Programs” on page 179.

**Joint Major in History and Women’s Studies**

For program requirements, see “Joint Major in History and Women’s Studies” on page 188.

**Extended Minor Program**

An extended minor program consists of the lower division requirements for a major and the upper
Co-operative Education Program

Co-op combines work experience with academic studies. Students spend alternate semesters on campus and in paid, study related jobs which provide practical experience in social sciences, interpretive skills and complements a history degree. Students complete either a general co-op program or have the work semesters qualify as the internship portion of the public history program. Work experience arrangements are made through the department's co-op co-ordinator and the University's Office of Co-op Education. See page 226.

Department of Humanities

5115 Academic Quadrangle, 604.291.3689 Tel, 604.291.4094 Fax, www.sfu.ca/humanities

Chair
S. Duguid AB (III), MA, PhD (S Fraser)

Professors Emeriti
A. Gomez-Moriana Lic, PhD (Salamanca), MA, PhD (Mün)
T.J. Kirschner BA (Roosevelt), MA, PhD (Chic)
J. Zaslove BA (Case W Reserve), PhD (Wash)*

Jack and Nancy Farley Endowed University Professor
J. Parr BA (McG), MA, PhD (Yale), FRScan

J.S. Woodsworth Chair
(to be announced)

J.S. Woodsworth Resident Scholar
S. Djwa BEd, PhD (Br Col), FRScan

Professors
I. Angus BA, MA (Wat), PhD (Y York, Can)
P.E. Dutton BA (WOnT), MA, PhD (Tor), MSL, MSD (Pontif Inst Tor)**
K. Mezeli BA (York, Can), MA (Car), PhD (Qu)
J. Parr BA (McG), MA, PhD (Yale), FRScan
J.W. Walls BA, MA, PhD (Indiana)

Associate Professors
L. Burton BA (Towson State), MSc (Johns H), MA, PhD (Columbia Teachers)
S. Duguid AB (III), MA, PhD (S Fraser)
T. Kawasaki LLB (Doshisha), MA (Tor), MA, PhD (Prin)***
M.A. Stouck BA (McM), MA, PhD (Tor)*

Assistant Professor
D.C. Mirhady BA, MA (Br Col), PhD (Rutgers)

Senior Lecturers
D. Grayston BA (Br Col), MDiv (Gen Theol Sem, NY), ThM (Tor), PhD (St MCGarTor)
T. YU BA (HK), MA, PhD (Br Col)

Adjunct Professor
P. Kingsley MLitt (Camb), PhD (Lond)

*joint appointment with English
**joint appointment with history
***joint appointment with political science

Advisor
Ms. C. Prisland, 5114 Academic Quadrangle, 604.291.4094, prisland@sfu.ca

Humanities 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 (see “Asia-Canada Program” on page 143 and also see “Liberal Studies Program” on page 360).

Major Program

Lower Division Requirements

Eighteen lower division credit hours including HUM 101-3 Introduction to the Humanities 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

Thirty-two credit hours in upper division humanities courses are required. Students 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.

In support of the humanities interdisciplinary approach, students may, with prior approval of the humanities advisor, substitute up to two humanities related upper division courses from other academic units toward 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 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 160.

Humanities
Fifteen credit hours including HUM 101-3 introduction to the Humanities 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
Twenty credit hours in upper division English courses, as follows: one from series ENG 300-308, one from series ENG 310-322, and the remainder from

Notes:
Credits for this certificate may not be applied to any other SFU certificate or diploma, but they may be applied to major or minor program requirements or to a bachelor's degree under normal regulations.

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 Labor Studies

Students must complete a minimum of 24 credit hours including both of LBST 101-3 Introducing Labor Studies
LBST 301-3 Labor Movements: Contemporary Issues and Images

The remaining elective courses may be chosen from the list of optional courses as show for the Minor in Labor Studies. See “Optional Courses” on page 169.

Certificate in Hellenic Studies

6219 Academic Quadrangle, 604.291.5886
The certificate, which requires a 24 credit hour minimum, is for those with Hellenic studies general interest and also for those interested in graduate Greek history. The latter are advised to take two language courses. Completion of prerequisites for upper division courses is the student's responsibility. Special topics courses may be taken in place of those listed below with the advisor's approval.

Lower Division Requirements

Students must complete three of HIST 216-3 The Ancient World
HUM 102-3 Classical Mythology
HUM 151-3 Ancient Greek I
HUM 152-3 Ancient Greek II
HUM 201-3 Great Texts in Humanities I
LANG 110-3 Introduction to a World Language I*
LANG 160-3 Introduction to a World Language II*

*9 credit hours

**when offered as Modern Greek

A student who successfully completes all four language courses (HUM 151, 152, LANG 110, 160) need take only three from the upper division list.

Upper Division Requirements

Students must complete four of HIST 308-4 The Byzantine Empire
HIST 309-4 Early Modern Greek History 1453-1821
HIST 421-4 Modern Greece, 1884-1925
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

15 or 16 credit hours

Faculty of Arts – Department of Humanities 171
anywhere in series ENGL 300-394 and 441-446. A CGPA of 2.0 in English must be maintained.

**Humanities**

Twenty credit hours in upper division humanities courses.

**Recommended**

HUM 305-4 Medieval Studies
HUM 307-4 Carolingian Civilization
HUM 311-4 Italian Renaissance Humanism
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 162.

**Humanities**

Students must complete 15 credit hours including HUM 101-3 Introduction to the Humanities 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**

FREN 301-3 Advanced French Composition and one of FREN 360-4 Intermediate French Literature, FREN 370-4 Introduction to French Linguistics II plus 15 credit hours from the 400 level French linguistics or literature offerings. FREN 461 and 462 are 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 Italian Renaissance Humanism

**Joint Major in History and Humanities**

This joint major is for those interested in exploring 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 172.

**Humanities**

Fifteen credit hours including HUM 101-3 Introduction to the Humanities 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**

Twenty four credit hours of 300 and 400 level history courses, of which 12 hours must be in 400 level courses. Students must take at least two courses from any two groups, and at least one from the remaining group. For a description of the three groups, see “Major Program” on page 168.

**Humanities**

Twenty 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
HUM 311-4 Italian Renaissance Humanism
HUM 312-4 Renaissance Studies

**Joint Major in Philosophy and Humanities**

This joint major explores the relationships between the two disciplines. Students must plan their program in consultation with advisors in each department.

**Lower Division Requirements**

**Humanities**

Fifteen credit hours including HUM 101-3 Introduction to the Humanities 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**

Twelve credit hours including all of PHIL 100-3 Knowledge and Reality, PHIL 120-3 Introduction to Moral Philosophy, PHIL 203-3 Metaphysics and one of PHIL 150-3 History of Philosophy I, PHIL 151-3 History of Philosophy II

**Upper Division Requirements**

**Humanities**

Twenty credit hours in upper division humanities courses.

**Recommended**

HUM 320-4 The Humanities and Philosophy
HUM 321-4 The Humanities and Critical Thinking

**Philosophy**

Twenty-one credit hours which include PHIL 301.

**Joint Major in Women’s Studies and Humanities**

For requirements, see “Joint Major in Humanities and Women’s Studies” on page 188.

**Minor Program**

**Lower Division Requirements**

Nine lower division credit hours including HUM 101-3 Introduction to the Humanities 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 and one further humanities course.

**Upper Division Requirements**

Sixteen 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 Division Requirements**

Students must complete the lower division requirements for the major in humanities.

**Upper Division Requirements**

Students complete sixteen upper division credit hours in humanities courses.

**Post Baccalaureate Diploma in Humanities**

This is for those who have completed a bachelor’s degree. For information about the program's general regulations, see “Continuing Studies” on page 224.

**Program Requirements**

Students must successfully complete an approved program comprising 30 upper division or graduate credit hours including at least 16 HUM credit hours. Students should include HUM 400. The remaining 14 are selected in consultation with an advisor in the subject or discipline which most closely fits the student’s goals. Contact the humanities advisor.

**Co-operative Education**

Co-operative education courses are for students who meet the requirements for the Faculty of Arts Co-operative Education Program and who wish practical experience related to their humanities studies. The program entails planned study semesters and employment. Refer to the course descriptions for HUM 471, 472, 473 and 474 (see “Undergraduate Courses” on page 229). See “Co-operative Education” on page 226. Work semester arrangements are made through the Faculty of Arts co-op co-ordinator who should be consulted at least one semester in advance.

**Latin American Studies Program**

5054 Academic Quadrangle, 604.291.3146 Tel, 604.291.5799 Fax, www.sfu.ca/las

**Director**

J.A.C. Brohman BA (Car), MA, PhD (Calif)

**Professor Emeritus**

J. Garcia Prof LIt (Peru), MA (Alta), DoctCert (Madr)

**Associate Professor**

G. Otero BA (IT Monterrey), MA (Tex), PhD (Wis)

**Assistant Professor**

A. Hira BA (Georgetown), MA (G Washington), PhD (Claremont)

**Senior Lecturer**

M. Escudero-Faust BA, MA (S Fraser) PhD (Br Col)

**Associate Members**

R.E. Boyer, History*

J. Brohman, Geography
A. Clapp, Geography
M. Escudero-Faust, Sociology
Minor Program
Latin American studies, an interdisciplinary program, offer students the maximum opportunity to integrate 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 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’ programs must be approved by the advisor of the program.

Joint Major Programs
An interdisciplinary joint major combines selected disciplines leading to a BA or a BBA. 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 program disciplines 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 credit 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 credits are from the approved list of Latin American content courses (page 173).

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 in upper division Latin American studies, and 20-32 upper division credit hours in the joint discipline selected, as specified below.

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 184.

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 194.

Communication
Students must complete 24 communication upper division credit hours, including CMNS 347, 362, and 446 and also the faculty requirements of applied sciences or arts, depending on the desired degree: bachelor of arts (Faculty of Applied Sciences) or bachelor of arts (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, BUEC 453 and 463).

Geography
Students must complete 32 geography credit hours 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 24 credit hours of 300 and 400 level history courses, of which 12 hours must be in 400 level courses. Students must take at least two courses from any two groups, and at least one from the remaining group. For a description of the three groups, see “Major Program” on page 168.

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 and must fulfill the theory and methods requirements as specified for the sociology major program.

Field School
This field school is unique in Canada, providing a full semester in Latin America and gaining thorough experience in Latin American culture, politics, and economy. Faculty and up to 30 students travel every second year to a selected location.

Courses with Exclusive Latin American Content
See “Undergraduate Courses” on page 229 or the department concerned for course prerequisites and descriptions. Because departments offer courses taught by faculty with different professional interests, credit will be given only when they are taught by instructors shown above as associated faculty. Others may be offered in addition to the ones below. Consult the LAS advisor for a complete list each semester.
ARCH 273-3 Archaeology of the New World
ARCH 330-3 Prehistory of Latin America
ARCH 401-3 Archaeology of the New World
ARCH 466-4 Latin American Regional Development
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 Development
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
Partial Latin American content courses or where Latin America may be emphasized, may fulfill requirements when the content is appropriately focused on the Latin American region. In questionable situations, consult course outlines in the general office and the Latin American Studies program advisor for specific authorization. Students wishing to take a special topics course for Latin American Studies credit should have the course approved by the co-ordinator.
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 486-4 Studies in History I (Special Topics)
HIST 486-5 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
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 credit 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 Simon Fraser.

See “Co-operative Education” on page 226 for details. 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.

Department of Linguistics
9201 Robert C. Brown Hall, 604.291.4558 Tel., 604.291.5659 Fax, www.ling.sfu.ca, tesl@sfu.ca for Teaching English as a Second Language enquiries
Chair
P. McFetridge, BA, MA, PhD (S Fraser)
Professor Emeritus
J.A. Foley (Nebraska), PhD (MIT)
Professors
D.B. Gerds (Missouri), MA (Br Col), PhD (Calif)
E.W. Roberts (Bales), MA, PhD (Camb)
R. Saunders (Penn State), AM, PhD (Brown)
Associate Professors
N. Hedberg BA, PhD (Minn)
P. McFetridge BA, MA, PhD (S Fraser)
Z. McRobbie UDip, Dipl, PhD (Eötvös Loránd, Budapest), PhD (Manit)
M. Munro BEd, MSc, PhD (Atta)
T.A. Perry (Wabash), MA, PhD (Indiana), Associate Dean of Arts
J.M. Sosa ProfLit&Ling (Venezuela Central), MA (Lond), PhD (Mass)
Assistant Professors
C-H. Han (Ewha Woman’s University, Korea), MA, PhD (Penn)
T. Heitl I and II Staatsexamen (Weingarten), MA, PhD (S Fraser)
A. Kochetov BA (Perm, Russia), MA (Pittsburg State), PhD (Tor)
J.D. Mellow BA (Calg), MA (McG), PhD (Br Col)
P. Pappas BA (St John’s, Maryland), PhD (Ohio State)
Adjunct Professor
J. Toole BA (Old), MA (Monash), PhD (S Fraser)
Senior Lecturers
O. Omole BA (Osaka), MPhil (Exe)
L. Zuccolo BA (Arg), MA (S Fraser)
Lecturers
C. Burgess BA, MA, PhD S Fraser, LLB (Br Col)
B. Ng BA (Intl Christian, Japan), MA (Lond)
Associated Faculty
M. Boelscher Ignace, First Nations Studies, Sociology and Anthropology
F. Popowich, Computing Science
W. Turnbull, Psychology
J.W. Walls, Humanities
Advisors
Ms. R. Parmar BA (S Fraser), 9200 Robert C. Brown Hall, 604.291.5739
Mrs. H. Coleman, Certificate in First Nations Language Proficiency Advisor, 6189 Academic Quadrangle, 604.291.5595
Mrs. L. Hill, 6204 Academic Quadrangle, (for Language Training Institute and Certificate in Spanish Language Proficiency advising only), 604.291.4790
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 specialities (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 shown 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 (page 174).

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 Anthropology
Linguistics and anthropology are kindred disciplines, each concerned with culture, cognition and social relations. Students will acquire practical multidisciplinary expertise in 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 of language, anthropological linguistics, or cognitive science.

Lower Division Requirements
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 Contemporary 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*

*when an anthropology (A) listing plus four additional credit hours in a 200 level SA course.

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.

Upper Division Requirements
Anthropology
Students must complete both of
SA 301-4 Contemporary Ethnography (A)
SA 356-4 Ethnography and Qualitative Methods (SA)
this page of a document contains information about a program in linguistics. The program is designed to provide students with a comprehensive understanding of linguistics and its applications. The curriculum includes courses in phonetics, morphology, syntax, semantics, and applied linguistics. Students are encouraged to take advantage of opportunities for practical experience in linguistics, either through internships or co-operative education placements. The program also offers options for students interested in teaching English as a second language (ESL) or in Native American languages. Prospective students are advised to review the admission requirements and application process carefully. Additional information can be found on the faculty's website or by contacting the department directly.
**Course Requirements**

Students complete a 31 credit hour minimum chosen from linguistics, education, and individual and social development. The requirements are as follows.

**Linguistics**

The program requires an understanding of general linguistic theory and analysis principles, English language, linguistic structure and acquaintance with structures 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 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 fulfil 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)

**Note:** Students who have already received credit for courses in this list through previous programs may not take them for further credit.

**Education**

Students should be conversant with the principles of language pedagogy, be able to apply this in various classroom situations, have an understanding of testing and assessment principles, and be able to apply these in classroom settings. Also required are practical experience to develop classroom skills specific to teaching English to non-native speakers.

Students are required to complete all of:

- EDUC 470-4 Experience in Teaching Students Who Have Limited English Proficiency
- EDUC 470-4 Experience in Teaching Students Who Have Limited English Proficiency

**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 Instruction
- EDUC 367-4 Teaching Children from Minority Language Backgrounds in Elementary Classrooms
- EDUC 422-4 Learning Disabilities
- EDUC 424-4 Learning Disabilities: Laboratory
- EDUC 972-3 Evidence of Cognition and Language in ESL Instruction

**Note:** Those with credit for courses in this list through previous programs may not take them again for further credit. Those with prior credit for EDUC 467 or the equivalent must select an alternative 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
- LING 410-3 Canadian Ethnic Minorities

**Language Training Institute**

- 3-4 credit hours

**Language Training Centre**

3020 Academic Quadrangle, 604.291.4698 Tel, www.sfu.ca/language-learning-centre

The centre provides instructional support for language teaching through lab facilities and materials library, and through language instructor and student consultation. A multimedia lab language service offers 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 for SPAN 102, 103, 201 and 202 only. Students wishing to challenge any or all of these must register in the courses to be challenged and in a Spanish language course for which the course(s) is/are a prerequisite. A C grade in the higher course must be obtained to receive challenge credit.

**Language Course Placement**

Students with Spanish language knowledge may take a short test in order to be placed in an appropriate language course. The test is also used to advise of obtaining advanced placement or challenge credit. Students will not usually take courses below the level in which they have been placed. Native Spanish speakers 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 program is for elementary and secondary school teachers and undergraduates wishing to improve Spanish oral and written proficiency. (Note that Spanish is not considered a ‘teachable subject’ for professional development program (secondary) application.) It is also for those who want to enhance language knowledge for cultural, professional or employment purposes, or who desire official certification of Spanish proficiency. However, this is not for native speakers of Spanish. Full or part-time courses are offered during the day and evening. Additionally, a sequential offering of courses is scheduled, subject to sufficient enrolment, at the Harbour Centre campus each semester.

**Requirements**

Students must successfully complete all of:

- LAS 100-3 Images of Latin America
- 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
Mathematics Program

K10512 Shrum Science Centre, 604.291.3331/3332 Tel, 604.291.4947 Fax, www.math.sfu.ca

Advisors
Mrs. M. Fankboner BA (Occidental), MSc (S Fraser), K10511 Shrum Science Centre, 604.291.4849/3332 Ms. J. Fabricus, K10512 Shrum Science Centre, 604.291.3332 (for registration difficulties)

Additional advisors are available for consultation. Please check the posted list outside the department's general office, or consult the Department of Mathematics website at www.math.sfu.ca.

Students wishing to major in any of the programs sponsored by the Department of Mathematics should seek advice early in their academic careers about program and department faculty advisors. Course descriptions and prerequisites are in the Mathematics and Mathematics and Computing (MACM) sections of the Undergraduate Courses section (page 229).

The Department of Mathematics 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 arts degree with a major or honors in mathematics, or in critical thinking, logical analysis and clarity of perspectives and methods. All 100 division courses are slightly more advanced course to fill the 400 division requirement.

Honors Program Specific Requirements
In addition to the major program requirements listed above, mathematics BA honors students 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 practice, 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 48 credit hours requirement for honors, although they may be counted as upper division elective credits.

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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.

Mathematics students taking a major or honors are advised to take an upper division statistics course and an upper division MACM or CMPT course.

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

To be completed either as part of the student's first 12 credit hours or as soon as possible after the student declares a major.

Note: With a C grade or better in relevant course, these 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
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

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. Of the 30 credit hour minimum total requirement for the mathematics major, at least 15 must come from MATH and MACM 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.

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 advisors.

Department of Philosophy
4604 Diamond Building, 604.291.3343 Tel, 604.291.4443 Fax, www.sfu.ca/philosophy
Chair
P.P. Hanson BA (Calg), MA, PhD (Prin)
Professors Emeriti
R.D. Bradley BA, MA (Auck), PhD (ANU)
S. Davis BA (Roch), MA, PhD (Ill)
L. Resnick BA, PhD (Cornell)
N.M. Swartz BA (Harv), MA, PhD (Indiana)

Professors
R.E. Jennings BA, MA (Qu), PhD (Lond)
D. Zimmerman BA, MA, PhD (Mich)
Associate Professors
K. Atkins BA (Manit), PhD (Mich)
S. Black BA (Columbia), PhD (Camb)
P.P. Hanson BA (Calg), MA, PhD (Prin)
J.H. Tietz BA (Pacific Lutheran), PhD (Claremont),
Associate Dean of Arts
Assistant Professors
M. Hahn BA (S Fraser), MA (Br Col), PhD (Calif)
K. Laird BA (Lond), DPhil (Oxford)
O. Schulte BSc (Tor), MS, PhD (Carnegie Mellon)*
L. Shapiro BA (Wesleyan), PhD (Pitts)
E. Tiffany BA (Albion), PhD (Calif)
Senior Lecturer
P.T. Horban BA (Sask), MA, PhD (WOnit)
Advisor
Mr. D. Bevington, 4625 Diamond Building, 604.291.4852
*joint appointment with computing science

General Information
All 100 division courses (and PHIL 001) improve skills in critical thinking, logical analysis and clarity of expression, have no prerequisites, may be taken in any order by any student in any faculty, and teach some of the most important philosophical problems, perspectives and methods. All 100 division courses bear on particular problems and subjects encountered in other areas of study.

The 200 division courses are slightly more advanced with more specific subject matter. It is recommended (not mandatory) that students have completed 15
credit hours of university work or equivalent before enrolling in a 200 division philosophy course. (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. 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

and 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 for 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 philosophy major requirements as listed above, and complete PHIL 301. A 3.0 GPA or higher for all philosophy courses is expected for entrance and continuation 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 semester, a candidate must, in consultation with the advisor, devise a study program. Consideration of the application and proposed study program is based on assessment of the potential for advanced work.

Students pursuing honors must complete

• the philosophy major program requirements
• at least 50 philosophy upper division courses
• and 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 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

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. Program approval by the advisor is required.

Joint Major in Philosophy and Humanities

See page 178 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 general office. Some coursecontent varies.

Program in Cognitive Science

See page 147 for program information.

Upper Division Courses Listed by Field

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

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 456-4 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 344-3 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
L.J. Erickson BA, PhD (Alta)

Professors Emeriti
A. Ciria Abogado (Buenos Aires)
E. McWhinney OC, LLM, SDS, Y (Yale)
F.Q. Quo BA (Natinal Taiwan), MA (Oregon), PhD (Illinois)
M. Robin BA (Manit), MA, PhD (Tor)
A.H. Samjoe MA (Agra), PhD (Lond)

Professors
L.J. Cohen BA, MA, PhD (Col)
T.H. Cohen BA (Mich), MA, PhD (Mich)
M.A. Cowell BA (Br Col), MA, PhD (Yale)
L.J. Erickson BA, PhD (Alta)
M. Griffin Cohen BA (Iowa Wesleyan), MA, PhD (York, Can)
M. Howlett BSocSci (Ott), MA (Br Col), PhD (Qu)
D. Laycock BA, MA, PhD (Tor)
S. McBride BSc (Lond), MA, PhD (McM)
P. Meyer BA (Wellesley), MA, PhD (Col)
D.A. Ross BA, MA, PhD (Tor)
P.J. Smith BA, MA, PhD (Lond)
H.M. Stevenson BA (Wt), MA, PhD (Northestern), President of the University
P.V. Warwick BA (McM), MA, PhD (Chic)

Associate Professors
J. Busumwiri-Sam BA (Ghana), MA, PhD (Tor)
L. Dobuzinski LScEcon (Paris), PhD (York, Can)
A. Heard BA (Dal), MSc (Lond), PhD (Tor)
T. Kawasaki LLB (Doshisha), MA, PhD (Prin)**
A. Moens BA (Leth), MA, PhD (Qu)
D. Cohn BA (Car), MScSc (Stockholm), PhD (Car)
A. Hira BA (Georgetown), MA (G Washington), PhD (Claremont)**
S.J. MacLean BSc, MA, PhD (Dal)

Department of Political Science
POL 498 and 499. Permission is required for entry into these courses. Please see “Breadth Requirements” on page 140. Students may not take upper division courses until the appropriate lower division prerequisites are completed. Specified prerequisites or department permission is required for entry into these courses. Students who fulfill the requirements may also take POL 498 and 499.

Fields of Study
The introductory course is POL 100. All others except 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 424-3 Domestic Politics and Ethics
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 291-3 Introduction to Comparative Government and Politics
POL 232-3 US Politics
POL 330-4 Government and Politics: Selected West European Nations
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
POL 338-4 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 Governments 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*
POL 441-4 Comparative Foreign Relations: Selected Political Systems
POL 481-4 Ethnic Politics and National Identity: Comparative Perspectives
*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 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.

Honors Program
Students with a 3.0 CGPA and an upper division GPA of 3.33 are encouraged to apply for the honors program. A complete application, available from the departmental advisor, 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 honor 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
POL 203-3 Introduction to Statistics for the Social Sciences
and one of POL 210-3 Introduction to Political Philosophy
POL 315-4 Quantitative Methods in Political Science (or equivalent)

Minor Program
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 POL credit hours, covering at least three of the five fields of study.

Extended Minor Program
This 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.

Department of Political Science
Faculty of Arts
Joint Major in French, History and Politics
Please page 164 for information.

Joint Major in Political Science and Canadian Studies
The lower division requirements are identical to the political science major program except that students are encouraged but not required to take POL 201 or STAT 203. Political science upper division requirements follow. Students complete 32 credit hours in three of five fields of study. Up to 12 credit hours that are available for credit in both political science and Canadian studies may count toward upper division requirements of both departments. See the political science or Canadian studies advisor or see “Joint Major Programs” on page 145.

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 221-3 Introduction to Canadian Government
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 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 313-4 Political Ideologies
POL 321-4 The Canadian Federal System
POL 342-4 Relations Between Developed and Developing Nations
POL 343-4 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 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 Macroeconomic 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 Economies
ECON 110-3 Foundations of Economic Ideas
ECON 208-3 History of Economic Thought
ECON 250-3 Economic Development in the Pre-Industrial Period
ECON 309-5 Introduction to Marxian Economics
ECON 353-4 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 407-4 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 Latin American studies advisors. For details, see “Joint Major Programs” on page 173.

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 feminism 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
POL 201-3 Research Methods in Political Science*
PSYC 201-4 Research Methods in Psychology
SA 255-4 Introduction to Social Research
plus six lower division credit hours taken from at least one of the remaining fields of study (field A, C or D)

Women’s Studies
Students must complete at least 15 credit hours with a minimum CGPA of 3.0. Transfer students must complete at least 15 credit hours at Simon Fraser University. For details, see page 226. Work semester arrangements are made with the Faculty of Arts co-op co-ordinator at least one semester in advance.

Department of Psychology
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Professors Emeriti
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P. Bakan BA, MA, PhD (NY)
C.B. Crawford BA, MSc (Alta), PhD (McG)
A.L. Diamond BA (Cinc), MA, PhD (Col)
J.E. Marcia BA (Wittenberg), MA, PhD (Ohio State)
V. Modigliani Dott Fisica (Rome), MA, PhD (Wayne State)
A.C. Paranjpe BA, MA, PhD (Poona)
N.J. Strayer BA (Col), MA, PhD (S Fraser)
C.D. Webster BA (Br Col), MA, PhD (Dal)
Professors
B.K. Alexander BA (Miami, Ohio), MS, PhD (Wis)
M.L. Bowman BA (Alta), MSc, PhD (McG)
S.D. Hart BA, PhD (Br Col)
M. Kimball BA (Macalester), PhD (Mich)*
D.L. Krebs BA (Br Col), MA, PhD (Harv)
C.G. McFarland BA (Alta), MA, PhD (Wat)
R. Mistlberger BA (McG), PhD (Chic)
M.M. Moretti BA (Brock), MA, PhD (S Fraser)
J.D. Read BA (Br Col), MS, PhD (Kansas)
Advisors
Ms. L. Physick, 5253 Robert C. Brown Hall, 604.291.3359
Ms. B. Davino, 5249 Robert C. Brown Hall, 604.291.4840

Letters of Permission
Please see “General Information” on page 35. The Department of Psychology does not normally approve letters of permission for students already registered at SFU to take PSYC 201, 210 and 301 at a different institution. Such permission may be granted for other 100 to 300 division courses. Direct all enquiries to the psychology undergraduate advisor.

Major Program
To be admitted to the major 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
PSYC 102-3 Introduction to Psychology II
PSYC 201-4 Introduction to Research Methods in Psychology
PSYC 207-3 Introduction to History of Psychology
PSYC 210-4 Introduction to Data Analysis in Psychology

Note: The above requirements applies to courses transferred from other institutions as well as to courses taken at Simon Fraser University.

To be admitted to the minor program, students must:

- meet the graduation requirements of the University (see “Graduation Requirements” on page 5)
- obtain a minimum 3.3 CGPA in PSYC 100, 102, 201, 207 and 210
- complete 30 upper division psychology credit hours
- complete one course from each group
- meet the graduation requirements of the University

Group A – PSYC 221 or 280
Group B – PSYC 241, 250, 260, 270

While taking all of the above courses, students should maintain a minimum 3.0 CGPA for all psychology courses taken in each semester.

To 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
Students must complete 60 upper division credit hours, of which 50 must be in upper division psychology courses, including both of PSYC 490-4 Honors Project* PSYC 499-8 Honors Project*

*Students must meet the requirements and are taken only after completion of 90 credit hours, with at least 20 credit hours in upper division psychology courses.

No more than eight upper division credits may be in directed studies courses. Up to 12 upper division credits may be approved options from other departments.

Students must also meet the University’s and Faculty of Arts’ honors graduation requirements 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
PSYC 102-3 Introduction to Psychology II
PSYC 201-4 Introduction to Research Methods in Psychology
PSYC 207-3 Introduction to History of Psychology
PSYC 210-4 Introduction to Data Analysis in Psychology

Note: The above requirements 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 upper division psychology credit hours with a GPA of 2.0. No more than three credit hours may be in directed studies courses. At least eight upper division credit hours must be taken at Simon Fraser University.

Students who are approved majors or honors in criminology, intend to minor in psychology, and 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 PSYC 201.

Faculty of Arts – Department of Psychology 181

Admission
- completion of 75 credit hours with a minimum CGPA of 3.33
- a minimum CGPA of 3.33 over all SFU courses
- completion of 15 SFU psychology credit hours with a minimum 3.0 CGPA
- a minimum 3.33 CGPA in PSYC 100, 102, 201, 207 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 C grade
- attendance at an honors information session
- approval and signature of a psychology department faculty member to supervise the honors project

Honors Program
The application form and information hand-out are available at the psychology general office. Application deadline: May 1.

Extended Minor Program
An extended minor consists of all major program lower division requirements and all minor program upper division requirements. Programs must be approved by the extended minor program advisor.

Joint Major in Psychology and Criminology
For information, see “Joint Major in Criminology and Psychology” on page 156.

Joint Major in Psychology and Business Administration
See page 194.
Joint Major in Psychology and Women’s Studies
See page 182.

Co-operative Education Program
Co-operative education, for qualified students who want work experience, entails 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.
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. See “Co-operative Education” on page 226. Work arrangements 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
To register in psychology courses, students must meet the prerequisites or special instructions. The listed prerequisites indicate the minimal background expected by instructors.

Psychology and Statistics
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:
• to continue a reading or research project begun in a 400 level seminar
• to cover material not included in regular courses
The minimum entry requirements are a B (3.0) average, at least 60 credit hours and department permission. Directed studies course students complete an application form (available in the department) with the intended instructor.

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
J. Pulkingham MA, PhD (Edin)
Professors Emeriti
H. Adam Dipl Sociol DPhil (Frun), Habilitation
H. Dickie-Clark BA (Rhodes), PhD (Natal) – S
H. Sharma MA (Delhi), MS (Cleveland), PhD (Cornell) – S
I.R. Whitaker MA (Camb), DPhil (Oslo) – A
R.W. Whyte BA (Leic) – S
Professors
N. Dyck BA, MA (Sask), PhD (Manc) – A
M. Howard BA, MA, PhD (WAust) – A
M. Kenny BA, MA (Virginia), DipSocAnthrop, DPhil (Oxf) – A
D.R. MacLean MD (Dal), LMCC, MA HealthSci (Tor)**** – S
Associate Professors
M. Boetscher Ignace MA (Georg August Universitat), PhD (S Fraser)** – A
D. Culhane BA, 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 (Sher), MA, PhD (Tor) – S
A.T. McLaren BA (Br Col), MA (Iowa), PhD (Lond) – S
B. Mitchell BA, MA (Wat), PhD (McM)**** – S
G.P. Nicholas BA (Franklin Pierce), MA (Missouri), PhD (Mass)** – A
G. Otero BA (IT Monterrey), MA (Tex), PhD (Wis) – S
P. Pigg BA, MA, PhD (Cornell) – A
J. Pulkingham MA, PhD (Edin) – S
G.B. Teeple BA, MA (Tor), DPhil (Sus) – S
J.M. Whithworth BA (Leic), DPhil (Oxf) – S
Assistant Professors
Y. Atasoy BSc (AcadSocSc, Ankara), MSc (MidEastTech, Ankara), PhD (Tor) – S
K. Froeschauer BA, MA (Br Col), PhD (Carl) – S
A. Travers BA (S Fraser), MA (Br Col), PhD (Oregon) – S
Adjunct Professors
R. Bateman BA, MA (Oklahoma), PhD (Johns Hopkins)
G. Rush BA (Br Col), PhD (Oregon)
S. Mignarelli, BA, MA, PhD (McM) – A
Lab Instructor
C. Szafricki MA (Lodz), PhD (Warsaw) – A
Senior Lecturer
M. Escudero-Faust BA, MA (S Fraser) PhD (Br Col) – LAS
Lecturer
J. Bogardus BA, MA (Br Col), PhD (S Fraser) – A
Advisor
Ms. K. Payne, 5056 Academic Quadrangle, 604.291.3726
*joint appointment with criminology
**joint appointment with First Nations studies
***joint appointment with archaeology
****joint appointment with gerontology
*****joint appointment with kinesiology, sociology and anthropology, statistics and actuarial science
The Department of Sociology and Anthropology offers courses that provide theoretical and analytical tools to better understand the social and cultural forces affecting our lives and those in other societies. Such understanding is an important part of general education and should lead to more effective participation in society. Simon Fraser sociologists and anthropologists conduct research and teach courses about Western industrial societies, Third World societies, and theoretical and comparative questions that go beyond national boundaries.
The department offers honors and majors in sociology and/or anthropology and minors in sociology and anthropology. Honors and major students may take options such as an applied social research stream and a co-operative education program. Joint majors are available with archaeology, art and culture studies, Canadian studies, communication, criminology, Latin American studies, linguistics, and women’s studies. Joint honors are available with Canadian studies, Latin American studies and sociology and anthropology. The department also offers a certificate in ethnic and intercultural relations.
As well as its intrinsic intellectual rewards, undergraduate training in sociology and anthropology provides invaluable background for students who intend to pursue careers in such fields as urban planning, journalism, law, public administration, welfare related professions, teaching, personnel 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, 218 and 260 are open to students with one introductory course.

Course Selection
Consult departmental hand-outs available in the SA general office, as there are differing emphases in course outlines from semester to semester.

Normally, directed readings courses SA 496 and 497 are available only to SA major and honors students. Credit will be given for only one of these.

Some courses in other departments are relevant to certain areas of sociology and anthropology. Honors and majors in sociology and/or anthropology are urged to prepare themselves broadly by taking additional courses in other departments, after consultation with an advisor.

Many graduate schools require a reading knowledge of a language other than English. Those considering graduate studies should include an appropriate second language in their program.

Note: To assist students to plan an interdisciplinary program, courses listed in the Undergraduate Courses (page 300) 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 104-1 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 203-3 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 for specific requirements). In our information based society, many employers and most graduate schools require considerable knowledge of conceptualizing research problems, information gathering, analysis and presentation. Students are strongly urged to prepare by balancing 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 304-4 Contemporary Ethnography
SA 329-4 Symbol, Myth and Meaning
SA 332-4 The Anthropology of Childhood
SA 364-4 Urban Communities and Cultures
SA 374-4 The Environment and Society
SA 402-4 The Practice of Anthropology
SA 451-4 Issues in Anthropological Theory
SA 472-4 Anthropology and the Past

**Canadian Native Peoples and Other Minority Indigenous Peoples**

SA 386-4 Native Peoples and Public Policy
SA 387-4 Canadian Native Peoples
SA 388-4 Comparative Studies of Minority Indigenous Peoples
SA 486-4 Aboriginal Peoples and British Columbia: Advanced Seminar

**Ethnic Relations**

SA 305-4 Ethnic Conflicts
SA 400-4 Canadian Ethnic Minorities
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

Theory and methods requirements should be taken early in the upper division. Students are strongly urged to balance theory courses with methods courses over and above the required minimum.

**Anthropology Major Program**

Students must complete 32 credit hours in upper division SA courses, including the following.

SA 304-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods
SA 402-4 The Practice of Anthropology

plus two of
SA 318-4 The Anthropology of Medicine
SA 329-4 The Anthropology of Domestic Life
SA 401-4 The Politics of Culture in Contemporary Societies
SA 451-4 Issues in Anthropological Theory
SA 460-4 Issues in Anthropology and Sociology (when an A topic only)
SA 463-4 Special Topics in Development Studies (when an A topic only)
SA 472-4 Anthropology and the Past (highly recommended)
SA 486-4 Aboriginal Peoples and British Columbia: Advanced Seminar

An additional 12 upper division credit hours are required, to be chosen from any SA or A course. Courses designated A are highly recommended.

**Sociology Major Program**

Students must complete 32 credit hours in upper division SA courses, including

SA 350-4 Classical Sociological Thought
and one of
SA 355-4 Quantitative Methods
SA 356-4 Ethnography and Qualitative Methods
SA 374-4 South Africa: Socio-Political Development
SA 392-4 Latin America
SA 416-4 Sociology of Art Forms
SA 450-4 Advanced Sociological Theory

plus one of
SA 486-4 Aboriginal Peoples and British Columbia: Advanced Seminar

An additional 12 upper division credit hours are required, to be chosen from any SA or S course. Courses designated S are highly recommended.

**Applied Social Research Stream**

Students wishing broader preparation in research methods may choose this special stream. See the department advisor for details.

**Joint Major in Sociology or Anthropology and Communication**

Sociology, anthropology and communications overlap in many concerns: nature, production, commodification, and politics of culture; the relationship between communicative processes and social identity, class, gender, etc. This joint major is for those who share these common interests. Students must fulfill lower and upper division requirements for both sociology and anthropology, as listed below.

**Lower Division Anthropology Requirements**

Students must complete all of
SA 104-4 Introduction to Anthropology
SA 250-4 Introduction to Sociology
SA 255-4 Introduction to Social Research

and one of
SA 204-4 Anthropology of Contemporary Life
SA 245-4 Cultures and Images
SA 255-4 Introduction to Social Research

**CMNS 260-3 Introduction to Empirical Communication Research Methods**

**STAT 203-3 Introduction to Statistics for the Social Sciences**

**Joint Major in Sociology or Anthropology and Canadian Studies**

Please see “Joint Major Programs” on page 145.

**Joint Major in Sociology or Anthropology and Communication**

Please see “Joint Major Programs” on page 145.

**Joint Major in Anthropology and Sociology**

**Lower Division Requirements**

Refer to the Major Programs – Lower Division Requirements for the two discipline requirement specifications.

SA 100-4 Perspectives in Canadian Society
SA 104-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 201-4 Anthropology of Contemporary Life
SA 250-4 Introduction to Sociological Theory
SA 255-4 Introduction to Social Research
SA 303-4 Canadian Ethnic Minorities

**CMNS 110-3 Introduction to Communication Studies**

Note: Students with equivalent post secondary statistics courses are exempt from STAT 203. It is highly recommended that students take SA 255 before taking STAT 203.

When choosing lower division courses, consider the prerequisites for upper division courses.

**Upper Division Requirements**

Students must complete 40 credit hours in upper division SA courses, including the following.

SA 301-4 Contemporary Ethnography
SA 350-4 Classical Sociological Thought
SA 356-4 Ethnography and Qualitative Methods
SA 402-4 The Practice of Anthropology
SA 472-4 Anthropology and the Past (highly recommended)
SA 486-4 Aboriginal Peoples and British Columbia: Advanced Seminar

An additional 12 upper division credit hours are required, to be chosen from any SA or course. *highly recommended*
CMNS 130-3 Explorations in Mass Communication
CMNS 260-3 Introduction to Empirical Communication Research Methods
CMNS 261-3 Documentary Research in Communication

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 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. Directed study and field placement courses may not be used to meet this requirement.

Joint Major in Sociology or Anthropology and Criminology
Sociology, anthropology, and criminology have some common methods and theoretical concerns; for example, the relation 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 enrollment 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. For a joint program in sociology or anthropology and criminology, contact both department advisors.

Anthropology Requirements
Lower Division Requirements
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 200 level sociology/anthropology (SA) or anthropology (A) course.

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 Qualitative Methods
plus 12 additional upper division credit hours in sociology/anthropology (SA) or anthropology (A). SA 402 is highly recommended.

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 additional 200 level sociology/anthropology (SA) or sociology (S) course.

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 sociology/anthropology (SA) or sociology (S) 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 with a 2.55 CGPA.

All criminology lower division requirements must be complete before application, and before formal admittance to upper division criminology courses.
CRIM 369 or 462 may not be used for credit towards this joint major.

Students who opt to withdraw from the joint major program and pursue a criminology major only will be required to complete additional course work consistent with the requirements for a major in criminology.

Lower Division Requirements
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 203-3 Historical Reactions to Crime and Deviance
CRIM 230-3 Criminal Law
either both of
CRIM 100-5 Introduction to Criminology
CRIM 102-5 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 of
BUEC 232-3 Elementary Economic and Business Statistics I
PSYC 210-4 Introduction to Data Analysis in Psychology
STAT 101-3 Introduction to Statistics
STAT 203-3 Introduction to Statistics for Social Sciences
*Students who take CRIM 220 must obtain, from the sociology/anthropology advisor, a waiver of the 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 20 credit hours in criminology with a C- or better including
CRIM 300-3 Current Theories and Perspectives in Criminology
CRIM 330-3 Criminal Procedure and Evidence
CRIM 332-3 Sociology of Law
CRIM 369 and 462 are not permitted.

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 350-4 Classical Sociological Thought and one of
SA 355-4 Quantitative Methods
SA 356-4 Ethnography and Qualitative Methods

Joint Major in Anthropology and Linguistics
For requirements, see “Joint Major Programs” on page 183.

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 189.

Honors and Joint Honors Programs

Sociology Honors Program
In addition to the specified lower division requirements (see “Major Programs” on page 182), 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 grade point average 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 see “Major Programs” on page 182. Theory requirements should be taken as early as possible in the upper divisions.
Methods Requirements
Please see “Major Programs” on page 182. 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 Programs” on page 182), 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 see “Major Programs” on page 182. Theory requirements should be taken as early as possible in the upper division program.

Methods Requirements
Please see “Major Programs” on page 182. 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 Programs” on page 182), 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 see “Major Programs” on page 182. Theory requirements should be taken as early as possible in the upper division program.

Methods Requirements
Please see “Major Programs” on page 182. Theory 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 or Anthropology and Canadian Studies
See “Joint Honors Program” on page 145.

Minor Programs
Anthropology Minor Program
Lower Division Requirements
Completion of 12 lower division credit hours:
SA 101-4 Introduction to Anthropology
SA 201-4 Anthropology of Contemporary Life
SA 255-4 Introduction to Social Research*
*other courses may be substituted upon the advice and with permission of the department advisor.

Note: unassigned transfer credit, (SA 000-3) cannot be used instead of SA 101 or 201.

Upper Division Requirements
Completion of 16 upper division credit hours:
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods
plus eight additional upper division credit hours, at least four of which must be an anthropology (A) 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.

Southeast Asia Field School
Field School Leader
M. Howard BA, MA, PhD (WAm)
Through study and travel in Vietnam and Thailand, this field school serves 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 first month of the field school is in northern Vietnam, including time in Hanoi, and field trips to mountain areas of the northwest. The remaining two months are spent in Thailand. Students reside on various university campuses and take field trips. In addition to long periods in southern Thailand (based in Hat Yai and Pattani) and in northern Thailand (based in Chiang Mai), the field school will visit various locales in central and northeastern Thailand. The field school is generally held every other year, with the next one running in the summer semester 2002. Admission 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 SFU International.

Post Baccalaureate Diploma Program

Post Baccalaureate Diploma in Social Policy Issues
This program is for those with a bachelor’s degree. It may be completed through a combination of courses available through distance education, on campus and at SFU 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 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, see “Continuing Studies” on page 224.

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 302-4 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.

POL 321-4 The Canadian Federal System
POL 352-4 Canadian Local and Urban Government and Politics
POL 451-4 Public Policy Analysis
SA 300-4 Canadian Social Structure
SA 304-4 Social Control
SA 312-4 Social Movements
SA 325-4 Political Sociology
SA 362-4 Society and the Changing Global Division of Labor
SA 371-4 Environment and Society
SA 400-4 Canadian Ethnic Minorities
SA 402-4 The Practice of Anthropology
SA 463-4 Special Topics in Development Studies

To fulfil 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 Ethnic and Intercultural Relations
This interdisciplinary program is for those planning to work in multicultural or cross-cultural settings. In today’s increasingly interdependent world, the need for critical understanding of ethnicity and social justice has been acknowledged by educators, community workers and other professionals. In response, the program offers the opportunity to explore causes of unequal treatment, to compare social justice issues internationally, and to develop strategies for social change in light of this knowledge.

The program is for both general students and those interested in working with human service professionals (social workers, educators, police, counsellors, personnel managers, health practitioners or civil servants) who are required to interact effectively with people from a variety of cultural and linguistic backgrounds. The goal is to foster better understanding of the nature of the multi-ethnic society in which we live and work.

Both day and evening courses are offered at the Burnaby campus and at the Harbour Centre campus. Some are available through Distance Education.

Program Objectives
Participation in the program enables students to develop:

• critical perspectives on current debates about racism, equality and social justice
The completion of prerequisites and other department requirements, students must complete PSYC 100, 102, and SA 150 prior to formal program admission. GERO 300 is highly recommended. Students can be admitted under regular or special entry requirements.

Program Requirements
Students must successfully complete 30 credit hours comprised of 12 required courses, and the remaining chosen from two sets of specified electives. These courses, which include both lower and upper division courses, provide critical and interdisciplinary material. Minimum GPA of 2.50 calculated on the designated courses for the certificate. Duplicate courses will be counted only once.

Core Courses
POL 481-4 Ethnic Politics and National Identity
Comparative Perspectives
SA 203-4 Comparative Ethnic Relations
SA 345-4 Issues in Canadian Ethnic Relations*
SA 386-4 Native Peoples and Public Policy*

Elective Courses
Students must complete a minimum of 10 credit hours from the following:
ASC 101-3 Introduction to Asia-Canada Studies
CRIM 335-3 Human Rights and Civil Liberties
CRIM 311-3 Minorities and the Criminal justice System*
HIST 326-4 The History of Native People in Canada
SA 255-4 Introduction to Social Research
SA 286-4 Aboriginal Peoples and British Columbia: Introduction
SA 303-4 Ethnic Conflicts
SA 319-4 Culture Ethnicity and Aging
SA 340-4 Social Issues and Social Policy Analysis
SA 400-4 Canadian Ethnic Minorities
SA 435-4 Gender Colonialism Post-colonialism
WS 200-3 Women in Cross-Cultural Perspective

Optional Courses
To fulfil the remaining eight credit hours, students must choose from the following list when content is applicable to multicultural issues. Please consult with the department.
CMNS 447-4 Negotiations and Dialogue as Communication
CRIM 419-3 Indigenous Peoples, Crime, and Criminal Justice
EDUC 441-4 Multicultural Education
GEOG 102-3 World Problems in Geographical Perspective
GEOG 420-4 Comparative Cultural Geography
HIST 424-4 Problems in the Cultural History of Canada
LAS 320-3 Canada and Latin America
SA 387-4 Canadian Native Peoples
SA 402-4 The Practice of Anthropology
WS 309-4 Gender and Development
*available through the Centre for Distance Education

Note: it is the student's responsibility to ensure completion of prerequisites and other department requirements before choosing elective courses.

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 program admission. GERO 300 is highly recommended. Students can be admitted under regular or special entry requirements.

Program Requirements
- successful completion of 30 credit hours, of which 14 are earned by completing four required core courses. The remaining 16 hours are selected from a set of three courses from which the students select one, and 12 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 (18 credit hours)
GERO 406-4 Families and Aging
PSYC 250-3 Introduction to Developmental 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 (12 credit hours)
Students must complete 12 credit hours from:
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 Adolescent Development
PSYC 357-3 Adulthood and Aging
SA 319-4 Culture, Ethnicity and Aging
SA 335-4 Gender Relations and Social Issues
SA 340-4 Social Issues and Social Policy Analysis
SA 496-4 Directed Readings in Anthropology (or SA 497)
WS 200-3 Women in Cross-Cultural Perspective
WS 203-3 Female Roles in Contemporary Society

To develop research skills, students may select the following as electives.
PSYC 210-4 Introduction to Data Analysis in Psychology
SA 255-4 Introduction to Social Research

Transfer Credit
Up to 14 credit hours assigned to specific courses may be transferred to the certificate, subject to University transfer credit regulations and the co-ordinator's approval. Normally, required upper division core courses will be completed at SFU.

Co-operative Education
This program provides practical social sciences experience and 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 SFU credit hours for admission eligibility, 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.

Work semester arrangements are made through the Faculty of Arts and department co-op co-ordinators. For program continuance, a minimum 2.75 cumulative GPA is required. See "Co-operative Education" on page 226 or contact the department.

Statistics Program
TLX10545 Shrum Science Centre, 604.291.3803 Tel, 604.291.4388 Fax, www.stat.sfu.ca, stat@sfu.ca
E-mail
Chair of Statistics and Actuarial Science
C.J. Schwarz BSc, MMath (Wat), MSc, PhD (Manit)
Professor Emeritus
M.A. Stephens BSc (Brist), AM (Harv), PhD (Tor)
Associated Faculty within Department of Statistics and Actuarial Science
C.B. Dean
J. Graham
R.A. Lockhart
D. MacLean
B. McNeney
R.D. Routledge
C. Schwartz
R.R. Sitter
T.B. Swartz
K.L. Weldon
Senior Lecturer
R. Insley BSc, MSc (Br Col)

A program within the Faculty of Arts leading to a bachelor of arts with a major or honors in statistics is offered. Students interested in a bachelor of science degree in statistics should see "Department of Statistics and Actuarial Science" on page 221 in the Faculty of Science section.

The following programs train students, not only in the analysis of large data sets, but also in the design and analysis of scientific experiments and sample surveys. These techniques are applied in a broad range of fields. To fully appreciate their application, students will gain advanced training in an area of potential application. To this end, major or honors students complete a minor in a field other than mathematics and statistics. In keeping with the almost universal applicability of statistical methodology, there are no other restrictions on the selection of a minor. Students are encouraged to discuss the selection of a minor with an advisor early in their program.

Prerequisite Grade Requirement
A C- grade or better in prerequisites for STAT courses offered by the Department of Statistics and Actuarial Science is required.

Faculty of Arts Requirements
Students planning a bachelor of arts with a statistics major or honors 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 Statistics and Actuarial Science. Please see "Bachelor of Arts Degree" on page 139 for general regulations, breadth requirements, upper division credit, etc.

Students 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
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
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 285-3 Intermediate Probability and Statistics

Computing Science
Students must complete one of
CMPT 100-3 Software Packages and Programming
CMPT 101-4 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*"*please contact department

Probability and Statistics
Students must complete all of
STAT 330-3 Introduction to Statistical Inference
STAT 350-3 Linear Models in Applied Statistics
STAT 339-3 Groups and Symmetry

f) 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 Statistics and Actuarial Science (page 221) in the Faculty of Science section.

Department of Women’s Studies
5102A Academic Quadrangle, 604.291.3333 Tel, 604.291.5518 Fax, www.sfu.ca/womens-studies

Chair
M. Griffin Cohen BA (Iowa Wesleyan), MA (NY State), PhD (York, Can)**

Professor Emeritus
A. Lebowitz BA (New Rochelle), MA (Wis)
Ruth Wynn Woodward Endowed Chair
S. Wilkinson BSc (Leic), PhD (Lough)

Professors
M. Griffin Cohen BA (Iowa Wesleyan), MA (NY State), PhD (York, Can)**
M. Kimball BA (Macalester), PhD (Mich)**
M.L. Stewart BA (Calg), MA, PhD (Col)**
S. Wendell BA (NY State), PhD (Br Col)**

Associate Professors
J. Levin BA, MA (Wash), PhD (NY State)*
H. Zaman, BA (Dhaka), MA, PhD (Manit)

Assistant Professors
H. Leung BA (Oxf), MA, PhD (Wisc)
M. MacDonald BEd (Qu), BSc (Mall), PhD (WOnt)

Associate Members
B. Burton, Criminology
H. Dawkins, Contemporary Arts
P. Dossa, Sociology and Anthropology
K. Faith, Criminology
H. Gay, History
A.T. McLaren, Sociology and Anthropology
K. Mezey, English
B. Pitman, Geography

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A.T. McLaren, Sociology and Anthropology
K. Mezey, English
B. Pitman, Geography

Advisor
Ms. B. Korstrom BA (S Fraser), 5105 Academic Quadrangle, 604.291.3593, korstrom@sfu.ca

*joint appointment with contemporary arts
**joint appointment with history
***joint appointment with political science
****joint appointment with psychology

Major Program
Breadth Requirements
Students take at least one course in each of the three following groups of courses.

Science and Technology
WS 204-3 Women, Science and Technology
WS 206-3 Issues in Women’s Health and Health Care
WS 208-3 Researching Women’s Issues: How Do We Do What We Do?
WS 313-4 Women and the Environment

Social Sciences
WS 290-3 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 207-3 Introduction to Feminist Theory
WS 208-3 Researching Women’s Issues: How Do We Do What We Do?
WS 307-4 Women in British Columbia
WS 308-4 Women and Work
WS 309-4 Gender and Development
WS 314-4 Race, Class and Gender
WS 400-4 Methodological Issues in Women’s Studies
WS 411-4 Feminist Psychoanalytic Theories

Humanities and Fine Arts
WS 205-3 Women and Popular Culture
WS 304-4 Women and Religion
WS 305-4 Women and Utopias
WS 306-4 Women’s Autobiographies, Memoirs and Journals
WS 412-5 Women and Film

Lower Division Requirements
Students must complete 12 lower division credit hours in women’s studies including both of
WS 101-3 Introduction to Women’s Issues in Canada
WS 102-3 Introduction to Western Feminisms

Upper Division Requirements
Students must complete 32 upper division women’s studies credit hours 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 Criminology and Women's Studies

Advisors
Ms. M. McLlroy, School of Criminology, 2644 Diamond Building, 604.291.3645
Ms. B. Korstrom, Department of Women’s Studies, 5105 Academic Quadrangle, 604.291.3593

Interested students should contact advisors in both criminology and women’s studies. To be admitted, students must satisfy admission requirements for both departments (refer to those Calendar sections).

The School of Criminology must approve admission before the student will be approved by the Department of Women’s Studies. To continue in this program, students must maintain a 2.25 CGPA and cannot register in upper division CRIM courses with a CGPA of less than that. However, a student whose CGPA is between 2.00 and 2.25 may be eligible for admission to the women’s studies major program.
Women's Studies Requirements

Lower Division Requirements
Students must complete 15 credit hours in women's studies including
WS 101-3 Introduction to Women's Studies in Canada
WS 102-3 Introduction to Western Feminisms plus three 200 level women's studies courses.

Upper Division Requirements
Students must complete a minimum of 20 upper division WS credit hours including one of
WS 400-4 Methodological Issues in Women's Studies
WS 405-4 Theoretical Issues in Women's Studies
The special topics course WS 303-4 is recommended when offered as Women and the Law.

Exceptionally and only with the permission of the department, one course of designated women's studies credit offered by another department may be substituted for one course.

Criminology Requirements
All criminology lower division requirements must be completed with a cumulative GPA of not less than 2.25 before applying to the school for program acceptance, and before admittance is granted to undertake the upper division criminology courses. A C- grade or better is required in all required courses.

Lower Division Requirements
Students must complete a minimum of 60 credit hours including all of
CRIM 101-3 Introduction to Criminology
CRIM 103-3 Psychological Explanations of Criminal and Deviant Behaviour
CRIM 104-3 Sociological Explanations of Criminal and Deviant Behaviour
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 213-3 Introduction to Women and Criminology
CRIM 220-3 Research Methods in Criminology
CRIM 230-3 Criminal Law
SA 150-4 Introduction to Sociology
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
POL 100-3 Introduction to Politics and Government
POL 151-3 The Administration of Justice
plus both of
PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
plus one of
STAT 101-3 Introduction to Statistics
STAT 203-3 Introduction to Statistics for Social Sciences

Upper Division Requirements
Students must complete a minimum of 25 upper division credit hours in criminology with a minimum CGPA of 2.25 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 333-3 Women, Law and the State
CRIM 432-3 Gender in the Courts and the Legal Profession

Note: Students in this joint major program are not permitted to complete CRIM 369 nor 462.

Electives
The remaining required credit 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 English and Women's Studies

Advisors
Ms. B. Thorburn, Department of English,
6133 Academic Quadrangle, 604.291.4835
Ms. B. Korstrom, Department of Women's Studies,
5105 Academic Quadrangle, 604.291.3593

This inter-departmental program is for those interested in exploring various relationships between the study of English literature and women’s studies. Interested students must plan their program in consultation with both department advisors, and should consult Guidelines for Course Selection available from each department.

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 courses are recommended if the student is interested in critical theory.
ENGL 364-4 History and Principles of Literary Criticism
ENGL 386-4 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. Students who have taken WS 311 or 312 have met this requirement.
and two of
WS 304-4 Women and Religion
WS 305-4 Women and Utopias
WS 306-4 Women’s Autobiographies, Memoirs and Journals
WS 313-4 Women and the Environment

The remaining credit hours are chosen from 300 and 400 division WS courses. Exceptionally and only with department permission, a maximum of one course of designated women’s studies credit offered by another department may substitute for one WS course. The remaining required upper division hours are at the student’s discretion.

Joint Major in History and Women’s Studies

Advisors
Mrs. T. Wright BA (S Fraser), Department of History,
6026 Academic Quadrangle, 604.291.4429
Ms. B. Korstrom, Department of Women's Studies,
5105 Academic Quadrangle, 604.291.3593

This is an inter-department program for those who are interested in exploring the relationship between history and women's studies. Interested students must plan their program in consultation with the advisors in each department.

Lower Division Requirements

Women's Studies
Students must complete 15 credit hours in lower division women's studies courses including all of
WS 101-3 Introduction to Women’s Issues in Canada
WS 102-3 Introduction to Western Feminisms
WS 201-3 Women in Canada, 1600-1920
WS 202-3 Women in Canada, 1920 to the Present

Exceptionally and only with department permission, one course of designated women's studies credit in another department may substitute for one course.

History
Students must complete 18 credit hours including at least six hours in 100 level history courses.

Upper Division Requirements

Women’s Studies
Students must complete 20 credit hours in upper division women’s studies courses including
WS 307-4 Women in British Columbia
and one of
WS 400-4 Methodological Issues in Women's Studies
WS 405-4 Theoretical Issues in Women's Studies

History
Students must complete 24 credit hours of 300 and 400 level history courses, of which 12 hours must be in 400 level courses. Students must take at least two from any two groups, and at least one from the remaining group. For a description of the groups, see "Lower Division Requirements" on page 198.

Joint Major in Humanities and Women's Studies

Advisors
Ms. C. Prisland, Department of Humanities, 5114
Academic Quadrangle, 604.291.4429
Ms. B. Korstrom, Department of Women's Studies,
5105 Academic Quadrangle, 604.291.3593

This is an inter-department program is for those interested in exploring relationships between humanities and women’s studies. Students must plan their program in consultation with advisors in each department.

Lower Division Requirements

Women’s Studies
Students must complete 15 credit hours in lower division women’s studies courses including all of
WS 101-3 Introduction to Women’s Issues in Canada
WS 102-3 Introduction to Western Feminisms

Humanities
Students must complete 15 credit hours including
HUM 101-3 Introduction to the Humanities
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 at the lower
division.

Upper Division Requirements

Women’s Studies
Students must complete 20 credit hours in upper
division women’s studies courses including
WS 400-4 Methodological Issues in Women’s Studies
WS 405-4 Theoretical Issues in Women’s Studies
Exceptionally and only with permission of the
department, one course of designated women’s
studies credit offered by another department may be
substituted for one course.

Humanities
Students must complete 20 credit hours comprisingtwo courses that may include HUM 400. The following
courses are recommended to fulfill this requirement.
HUM 320-4 The Humanities and Philosophy
HUM 321-4 The Humanities and Critical Thinking
HUM 325-4 The Humanities and the Natural World

Joint Major in Political Science and
Women’s Studies

For requirements, see “Joint Major in Political Science
and Women’s Studies” on page 180.

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 inter-departmental program
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 major 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 Introduction to Research Methods in
Psychology
PSYC 207-3 Introduction to the History of Psychology
PSYC 210-4 Introduction to 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.

Complete two of
PSYC 221-3 Introduction to Cognitive Psychology
PSYC 241-3 Introduction to Abnormal Psychology
PSYC 250-3 Introduction to Developmental
Psychology
PSYC 260-3 Introduction to Social Psychology
PSYC 270-3 Introduction to Theories of Personality
PSYC 280-3 Introduction to Biological Psychology

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 203-3 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 207-3 Introduction to Feminist Theory
WS 208-3 Researching Women’s Issues

Upper Division Requirements

Psychology
Students must complete 20 upper division psychology
credit hours. No more than five of these credit hours
can be in directed studies. At least 11 upper division
credit hours must be taken at SFU.

Women’s Studies
Twenty credit hours in upper division women’s studies 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 the permission of the
department, one course of designated women’s
studies credit offered by another department may be
substituted for one course.

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 is for those 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

Anthropology
SA 231 is highly recommended.

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

Students must complete
SA 286-4 Aboriginal Peoples and British Columbia:
Introduction
SA 293-4 Special Topics in Anthropology

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 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

Upper Division Requirements

Sociology
SA 350-4 Classical Sociological Thought
SA 355-4 Quantitative Methods
Students must also complete an additional 12 credit
hours of upper division SA credit.

Anthropology
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.

Minor in Gender Studies

This minor, which may be taken with any major program, offers opportunities to integrate
understanding of gender relations in society and
culture.

Students must complete 24 credit hours comprised of
nine lower division credit hours and 15 upper division
credit hours, with one lower division core course
(GDST 200) required of all minors. For the remaining
required credit hours needed to complete the minor,
students can apply credit hours from regularly offered
courses listed below, or from a list of designated
courses that is posted in the women’s studies
department.

It is the student’s responsibility to ensure completion
of prerequisite and other department requirements
before choosing elective courses.

Students planning a minor in gender studies should
consult with the women’s studies advisor about
course selection at their earliest opportunity.

Students must complete
GDST 200-3 Thinking About Gender
plus two of
CRIM 213-3 Introduction to Women and Criminal
Justice
CRIM 231-3 Introduction to the Judicial Process
SA 100-4 Perspectives on Canadian Society
SA 286-4 Aboriginal Peoples and British Columbia:
Introduction

Upper Division Requirements

Students must complete 15 upper division credit
hours selected from the following list and a list of
designated courses that is posted in the women’s studies
department.

If in doubt about your eligibility to register in a
particular upper division course, contact the
undergraduate advisor in the appropriate department
well in advance of any attempt to register.

CMNS 455-4 Women and New Information
Technologies
CRIM 333-3 Women, Law and the State
CRIM 432-3 Gender in the Courts and the Legal System
FPA 313-5 Arts, Audience, Patronage, Institutions
GEOG 367-4 Geography and Gender
HIST 411-4 Class and Gender in European History
HIST 425-4 Gender and History
HIST 454-4 Gender and Sexuality in US History
LAS 323-3 Women in Latin American Literature and Society
SA 318-4 The Anthropology of Medicine
SA 331-4 Politics of the Family
SA 335-4 Gender Relations and Social Issues
SA 435-4 Gender, Colonialism and Post-Colonialism
SA 486-4 Aboriginal Peoples and British Columbia
WS 208-3 Researching Women’s Issues
WS 209-4 Gender and Development
WS 314-4 Race, Class and Gender Relations

Minor in Women’s Studies
A women’s studies minor may be taken with any major or honors bachelor’s degree, or with a bachelor of general studies. The program offers 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 plus any one 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

Unassigned 200 division women’s studies transfer credit may be substituted for the above 200 division course. All students in the minor program must complete 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. See “Extended Minor Program” on page 140 for further details.

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 admission requirements.

Lower Division Requirements
Eighteen credit hours including WS 101 or 102 are required.

Students must also complete five of
WS 200-3 Women in Cross Cultural Perspectives
WS 201-3 Women in Canada 1600–1920
WS 202-3 Women in Canada 1920 to 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

Co-operative Education
This program is for qualified students who wish to acquire practical experience in women’s studies. For admission, students must have completed 30 credit hours with a CGPA of 3.0 and have completed WS 101, 102, and two 200 division women’s studies courses. Transfer students must complete at least 15 credit hours at Simon Fraser University.

For details, see page 226. 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.
Faculty of Business Administration

3302 Lohn Building, 604.291.3708 Tel, 604.291.4920 Fax, www.bus.sfu.ca

Dean
C.E. Love BEng, MBA (McM), PhD (Lond)

Associate Deans
M.R. Fizzell BEd, BComm, MSc (Sask), CMA
B.H. Reich BA, MSc, PhD (Br Col)

Professors Emeriti
P.L. Cheng BS (Nan Chiao Tung), MA (Missouri), PhD (Wis)
L.D. Etherington BEd (Alta), MBA, PhD (Wash)
J.P. Herzog BS, PhD (Calif)
R.A. Holmes BA, MA (Sask), PhD (Indiana)
L.T. Pinfield BSc (Leeds), MS (Carnegie Tech), PhD (Stan)
B. Schoner BEng (McG), MBA (Wnt), PhD (Stan)
S.J. Shapiro AB (Harvard), MBA, PhD (Penn)
M.N. Stark, OC, CA, LLB (Br Col)
R.G. Wykham BA, MBA (Wnt), PhD (Mich State)

Ming and Stella Wong Endowed Chair, Professor in International Business
R.L. Tung BA (York, Can), MBA, PhD (Br Col), FRSC(C)

Professors
E.U. Choo BSc (Nan), MSc, PhD (Br Col)
D.H. Finley BS (Harding), MA, PhD (American, DC), CPA
R.R. Grauer BComm, MBA (Br Col), PhD (Calif)
C.E. Love BEng, MBA (McM), PhD (Lond)
G.A. Mauser BA, PhD (Calif)
L.N. Meredith BA, MA, PhD (S Fraser)
G. Poitras BA (Dal), MA, MPhil, PhD (Col)
J.G. Richards BA (Sask), BA (Camb), MBA, PhD (Wash, Mo)
D.M. Shapiro BA (Calg), MA, PhD (Cornell)
D.C. Thomas BSc (Appalachian State), MBA (N Carolina), PhD (S Carolina)
R.L. Tung BA (York, Can), MBA, PhD (Br Col), FRSC(C)
A.R. Vining LLB (London), MBA, MPP, PhD (Calif)
J.H. Waterhouse BSc (Sask), MA, PhD (Wash)
W.C. Wedley BComm (Br Col), MBA, PhD (Calo)
M.N. Wexler BA (McC), MBA (Wnt), PhD (York, Can)
J.L. Ziaichkowski BHE (Br Col), MSc (Guelph), PhD (Calif)

Associate Professor
N.A.R. Abramson BA (Sask), MBA, MA, MSc (Wnt)
A. Bick BSc, MSc (Tel-Aviv), MBA (Jerusalem), PhD (Calif)
G.W. Blazenko BA (S Frasier), MA, Wnt, PhD (Br Col)
E.W. Bukzar, Jr. BA (J Carroll), MBA, PhD (Arizona)
G.R. Bushe BA (C'dia), PhD (Case W Reserve)
C.P. Egri BCom, MSc, PhD (Br Col)
C.E.N. Emby BComm (Manit), MBA (Br Col), PhD (Alta)
J.N.P. Francis BSc (Wl), MBA (York, Can), PhD (Wash)
A.M.G. Gelardi 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)
R.D. Iverson BA, MA (Monash), PhD (Iowa)
P.C. Klein BSc, LLB, MBA (Wnt), PhD (Tor), CFA
R. Krider BSc, MSc, PhD (Br Col)
T.B. Lawrence BComm, PhD (Alta)
I.P. McCarthy BEng (Kingston, UK), MSc, PhD (Sheff)
H. Merchant BComm (Bom), MBA (Clairon), PhD (Purdue)
M. Parent BComm, MBA, PhD (Qu)
D.C. Parker BCom, MBA (Calg), PhD (WOnt)
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)
A.R. Warburton BA (Br Col), MSc (Montr), PhD (Br Col)

Assistant Professors
M.J. Brydon BEng, MEng (RMC)
C.M. Collins-Dodd BComm, PhD (Alta)
M. Favere-Marchesi BSc, MAcc (Brigham Young), PhD (S Calif), CPA
A.C. Gemino BA, MBA, MBA (S Fraser), PhD (Br Col)
D.R. Hannah BComm (Br Col), PhD (Tex)
J. Jermias BA (State Sch Accountancy, Jakarta), MAccpt, PhD (Wat)
B.A. Lautsch BA (Regina), MIR (Qu), PhD (MIT)
N. MacKay BMath, MSc (Wat), PhD (Cant)
E.M.A. Maine BA, BSc (Qu), SM (MIT), PhD (Camb)
A.D. Pavlov BSc (Sonoma), MBA (Thunderbird), PhD (Calif)
D.R. Smith BBusiness, MBusiness (Qld UT), PhD (Br Col)
C.D. Zatzick BA, PhD (Calif)

Adjunct Professors
N.J. Campbell BComm (Br Col), MBA (S Fraser), CA
P.M. Clarkson BSc (Trent), BA, BComm, MBA (Windsor), PhD (Br Col)
M.S. Fogel BBA, LLB (Texas), MEd (Br Col)
M.W. Frein BA (Can), MA, PhD (Br Col)
A. Svendsen BA, MA (Br Col)
B.A. Trifonidis BBA, MPA (Texas), CPA
W.F.J. van Lierop MA, PhD (Vrije, Amsterdam)
G. Wagenheim BS (Maryland), MBA (Sagog)
Z.G. Zhang BSc, MA (Nankai, China), MBA (York), PhD (Wat)

Senior Lecturers
A. Duncan, BA (Qu), MBA (York, Can), CA
M.R. Fizzell BEd, BComm, MSc (Sask), CMA

Lecturers
E.A. Macdonald BSc (S Fraser), MB (Monash)
D.L. Patient LLB (Lond), MBA (Br Col)
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Bachelor of Business Administration (Hons)
M.Sc. in Accounting, MBA, MSc (Cornell)

BBA – Honors Program

Honors in Business Administration
Joint Honors in Business Administration and Economics

Undergraduate Programs

Director
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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, completing three categories of courses. The first category consists of lower division requirements. These are mainly non-business 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 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 those 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 SFU and some 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 SFU 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 500 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 faculty admission.

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.

Category 3 or 4 applicants should apply to the faculty after completing the 30th credit hour and before completing the 60th. 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. Subsequent applicants may appeal through the faculty appeals committee.

Application Deadlines
April 1st for summer semester
August 1st for fall semester
December 1st for spring semester

*application earlier in the semester is recommended

Application forms are available in the undergraduate program offices in the second month of the semester.

Non-Majors Access to Business Courses
Priority in upper division business courses is given to those 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 faculty admission.

Students other than those accepted into a program in business administration may take upper division business administration courses contingent upon

• space available on day 5 of the first week of classes
• meeting the prerequisites for the requested course

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- (6 minus).

Students with fewer than 60 credit hours may enrol in a maximum of 16 credit hours per semester. Those with 60 credit hours or more may enrol in a maximum of 18 credit hours.

Letters of Permission
Please see "Student Documents" on page 35. The Faculty of Business Administration does not normally approve letters of permission for students already registered at Simon Fraser University.

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 232-4 Data and Decisions I (or STAT 270) 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.

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: contemporary arts, 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.

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.

Core Courses
Students majoring in business administration are required to complete all of

BUS 303-3 Business, Society and Ethics
BUS 312-4 introduction to Finance
BUS 336-4 Data and Decisions II
BUS 343-3 Introduction to Marketing
BUS 350-3 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 413-3 Corporate Finance
BUS 418-3 International Financial Management

International Business
BUS 346-3 International Business
BUS 380-3 Comparative Management
BUS 435-35 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 and Organization Studies

two of
BUEC 384-3 Industrial Relations
BUS 374-3 Organization Theory
BUS 381-3 Introduction to Human Resource Management

and two of
BUEC 485-3 Collective Bargaining
BUS 432-3 International Human Resources Management
BUS 472-3 Seminar in Organizational Behavior
BUS 481-3 Human Resource Planning and Staffing
BUS 482-3 Reward Systems and Employee Development
BUS 484-3 Workplace Industrial Relations
BUS 487-3 Organizational Development and Change
BUS 488-3 Human Relations in Business

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
CMPT 117-3 Internet Programming Using JAVA

and two of
BUS 462-4 Management Support Systems
BUS 464-3 Business Information Systems
BUS 466-3 Managing Data Communications
BUS 492-495-3 Selected Topics courses

Management Science

BUS 336-4 Data and Decisions II
BUS 473-4 Operations Management

and two of
BUEC 43-5 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 442-4 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

*at least one of these must be selected from 344, 446, or 447

Honors Program
After the completion of 15 upper division business administration credit hours, students can apply to enter the honors program. Both the CGPA and GPA for upper division BUS and BUEC 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 major program requirements. 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 BUEC 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 BUEC courses.

Minor Program

Lower Division Requirements
BUEC 222-4 Data and Decisions I (or STAT 270)
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

*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 BUEC 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 BUEC 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
BUS 381-3 Introduction to Human Resource Management

Joint Programs

Common Requirements of All Joint Programs
All joint major and honors programs require that the student 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 joint major or joint honors in the co-operating department or school.

The lower division requirements and core courses of the Faculty of Business Administration must be completed, except as specifically modified below (see “Core Courses” on page 192). For joint programs, BUS 360 is recommended but not required.

BUS 360 will be waived as a prerequisite for 400 division BUS courses for students in approved BUS joint programs.

With the exception of the joint major in molecular biology, biochemistry and business administration (MBB&B), students in joint programs may opt for a degree from either faculty involved. The MBB&B joint major results in a bachelor of science degree from the Faculty of Science. Faculty requirements will be governed by the faculty from which the student chooses to take a degree.

Joint Major in Business Administration and Communication

Students are required to complete at least 32 hours of upper division credit in business administration or BUEC courses including the core courses, and the courses specified below in marketing.

Marketing

Required Courses
BUS 343-3 Introduction to Marketing
BUS 347-3 Consumer Behavior
BUS 442-4 Introduction to Marketing Research and at least one of the following 400 division marketing courses
BUS 445-3 Analysis of Data for Management
BUS 446-4 Marketing Strategy
BUS 448-4 Advertising and Sales Promotion
BUS 449-3 Marketing and Society

Communication

Communication Lower Division Requirements
CMNS 110-3 Introduction to Communication Studies
CMNS 130-3 Explorations in Mass Communication and five additional lower division courses for a total of 21 hours in communication including all of
CMNS 221-3 Media and Audiences
CMNS 260-3 Introduction to Empirical Communication Research Methods
CMNS 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
CMNS 323-4 Cultural Dimensions in Advertising
CMNS 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
BUEC 232-3 Data and Decisions I (or STAT 270)
BUS 251-3 Financial Accounting I
BUS 254-3 Managerial Accounting I
BUS 272-3 Behavior in Organizations
CMPT 101-4 Introduction to Computer Programming (or CMPT 104)
CMPT 150-3 Introduction to Computer Design
CMPT 201-4 Data and Program Abstraction
CMPT 275-4 Software Engineering
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
MACM 101-3 Discrete Mathematics I
MACM 201-3 Discrete Mathematics II
MATH 151-3 Calculus I (or 157)
MATH 152-3 Calculus II (or 158)
MATH 232-3 Elementary Linear Algebra
PHIL 001-3 Critical Thinking

and one of the following writing courses:

ENGL 101-3 Introduction to Fiction
ENGL 102-3 Introduction to Poetry
ENGL 102-3 Introduction to Drama
ENGL 104-3 Introduction to the Essay as Literature
ENGL 105-3 Introduction to Issues in Literature and Culture
ENGL 199-3 University Writing

Upper Division Requirements
all of
BUS 312-4 Introduction to Finance
BUS 336-4 Data and Decisions II
BUS 343-3 Introduction to Marketing
BUS 364-3 Information Systems in Organizations and Society
BUS 468-3 Management Issues in Information Systems
BUS 479-3 Seminar in Administrative Policy
CMPT 300-3 Operating Systems
CMPT 307-3 Data Structures and Algorithms
CMPT 320-3 Social Implications of a Computerized Society
CMPT 354-3 Database Systems and Structures
CMPT 370-3 Information System Design
and one of
BUS 374-3 Organization Theory
BUS 381-3 Introduction to Human Resource Management

and one of
BUS 468-3 Managing Data Communications
CMPT 371-3 Data Communications and Networking plus
nine credits of additional upper division CMPT courses, excluding CMPT 301. At least one of the courses must be at the 400 level or above.

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 of
ECON 102-3 Contemporary World Economies
ECON 110-3 Foundations of Economic Ideas
ECON 208-3 History of Economic Thought
ECON 250-3 Economic Development in the Pre-Industrial Period
ECON 309-3 Introduction to Maxian Economics
ECON 353-4 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 Maxian 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
*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 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 courses.

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 (see “Latin American Studies Program” on page 172).

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 Major in Molecular Biology and Biochemistry and Business Administration

For information, see “Joint Major in Molecular Biology and Biochemistry and Business Administration” on page 216.

Joint Major in Business Administration and Psychology

Business Administration Requirements

- The student must successfully complete at least one 400 management and organization studies course.
- Students must successfully complete the business administration core courses, except with advance permission of the Faculty of Business Administration, the combination of PSYC 210 and 301 may be substituted for the combination of BUEC 232* and BUS 336.

See note below.

Psychology Requirements

Lower Division Requirements
all of
PSYC 100-3 Introduction to Psychology I*
PSYC 102-3 Introduction to Psychology II*
PSYC 201-4 Introduction to Research Methods in Psychology*
PSYC 207-3 Introduction to the History of Psychology*
PSYC 210-4 Introduction to Data Analysis in Psychology* PSYC 260-3 Introduction to Social Psychology
*to be admitted to the psychology program, students must obtain a final course grade of C (2.0) or better in each of these courses.

Note: The above requirement applies to courses transferred from other institutions as well as to courses taken at Simon Fraser University.

Complete one of
PSYC 221-3 Microeconomics
PSYC 241-3 Introduction to Abnormal Behavior
PSYC 250-3 Introduction to Developmental Psychology
PSYC 270-3 Introduction to Theories of Personality
PSYC 280-3 Introduction to Biological Psychology

Upper Division Requirements
Complete 21 credit hours in upper division psychology courses. No more than five of these credit hours may be in directed studies. At least 11 upper division psychology credit hours must be taken at Simon Fraser University.

Note: students must complete either BUEC 232* and BUS 336 or PSYC 210 and 301. Students who complete BUS 336 must still fulfill a minimum of 21 upper division credit hours in psychology. Students who complete PSYC 301 must still fulfill a minimum of 24 upper division credit hours in business administration.
Joint Honors in Business Administration and Economics

Economics Group Requirements
Students must include at least one
ECON 102-3 Twentieth 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 309-3 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

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.
• 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 333-4 Statistical Analysis of Economic Data
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

Second Bachelor's Degree
Please see “Second Bachelor's Degrees” on page 36.
The minimum requirements for completion of a second undergraduate degree in business administration (BBA) are:
• formal admission to the program
• lower division course requirements
• group requirements
• 45 hours of upper division course work, of which 36 credits must be business administration (BUS) or business administration/economics (BUEC) course work
• 36 hours of upper division BUS or BUEC must include core courses, area of concentration and 400 division requirement

Please see ‘Major Program’ on page 192 for further information.

Exchange Programs
Contacts
C. Hamblin, undergraduate program co-ordinator,
2389 Lohn Building, 604.291.4624
D. Hucal, student exchange co-ordinator, SFU International, 1200 Maggie Benston Student Services Centre, 604.291.5887
The faculty participates in undergraduate student exchange agreements with the following institutions.

Australia
• Monash University

Chile
• Pontificia Universidad Catolica de Chile (PUC)

China
• Chinese University of Hong Kong
• University of Hong Kong

Denmark
• Copenhagen Business School

Korea
• Yonsei University
• Seoul National University

Mexico
• Instituto Tecnologico Autonomo de Mexico (ITAM)
• Instituto Tecnologico y de Estudios Superiores de Monterrey (ITESM)

Norway
• BI Norwegian School of Management

Singapore
• National University of Singapore

Sweden
• Lund University

Taiwan
• National Taiwan University

Thailand
• Chulalongkorn University

United Kingdom
• Strathclyde Business School

United States
• San Diego State University

Although the Faculty of Business Administration promotes the institutions listed on this page through travel subsidies, students are not restricted to these universities. In addition to those listed here, SFU has exchange agreements with many more institutions. For more information about application deadlines, etc., please contact SFU International or see www.sfu.ca/international.

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 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 required before intake 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.
Co-op programs are open to Canadian citizens, permanent residents, and visa students.

Application Process
Co-operative education has an application process which includes completing the Bridging Online (BOL) course. Refer to www.sfu.ca/coop/bol. BOL must be completed prior to your business co-op intake.

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.

Business Career Services
0300 Maggie Benston Student Services Centre,
604.291.3106 Tel, 604.291.5926 Fax,
business_careers@sfu.ca,
www.sfu.ca/hccc/pages/careers.html

Business Career Services is a specialized program of the Health, Counselling and Career Centre. Programs and services assist undergraduate and graduate students in the Faculty of Business Administration with preparation for business careers. One-on-one career counselling and advising, workshops, targeted career fairs, special events and on-campus recruitment activities provide students with opportunities to meet and network with employers. Extensive career-related resources are available in the Student Resource Lounge and online at www.sfu.ca/hccc. SFU business students and alumni have access to full time, part time, on-going and temporary work opportunities via workopolisCampus.com.
Faculty of Education

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Professors Emeriti
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J.F. Ellis BA, MA (Br Col), EdD (Calif)
M. Gibbons BA (Br Col), MA (Wash), EdD (Harv)
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R. Zazakis BA, MSc (Haifa Technion)

Associate Professors
C.L. Arnussen BA, MEd (Alaska), PhD (Montr)
J.D. Beynon BA (Brooklyn), MA (Brown), PhD (Union Grad Sch)
D.H. Dagenais BEd, MA (McG), PhD (Montr)
L. Kanevsky BA (S Fraser), MAsPEd (San Diego), MPhil, PhD (Phd)
L. LaRocque BEd (McG), MA (Vic, BC), PhD (S Fraser)
L.J. LeMare BA (S Fraser), MA, PhD (Wat)
A.M. MacKinnon BEd, BEd, MSc (Calg), EdD (Br Col)
T.J. O’Shea BEng (MCG), BEd (Sask), MEd (Manit), EdD (Br Col)
E. Samier BA (Sask), MA (New Br), MEd, PhD (Vic, BC)
G.P. Sampson AB (Chic), MA, PhD (Mich)
Y. Senyshyn BEd, MSEd, EdD (Tor)
S.J. Smith BEd (Kelvin Grove CAE), BHMS, MEd (Qld), PhD (Alta)
J. Thompson BA (Vic, BC), PhD (Ott)
M. Zola BA (Brist), MEd (Leeds)

Assistant Professors
H. Bai BA (Calg), PhD (Br Col)
C.W. Bingham BA (Whitman), MA, PhD (Wash)
S.R. Campbell BA (Calg), PhD (S Fraser)
W. Cassidy BA, MEd (S Fraser), PhD (Chic)
M. Fettes MA (Camb), MSc (Br Col), PhD (Tor)
M.J. Hoskyn BHE, MA (Br Col), PhD (Calif)
G. Madoc-Jones BA (Wales), MA, PhD (S Fraser)
P. Neufeld BEd (Br Col), MEd, PhD (N Carolina)
D.K. O’Neill BSc (Brock), PhD (III)
D. Paterson BEd (Alta), MA (Br Col), PhD (Br Col)
C. Snowber BA (SMassw), MA (Gordon-Conwell), PhD (S Fraser)
J.H. Sugarman BA (Wat), MA, PhD (S Fraser)
J. Van Aalist BEd (Wcnt), MSc (Alta), PhD (Tor)
D. Zandvliet BSc (Guelph), MA (Vic, BC), PhD (Curtin)

Laboratory Instructors
D.A. Bell BA (S Fraser)
L.G. Wiebe BSc (Br Col)

Undergraduate Degrees Offered
Bachelor of Education (Honors) Bachelor of Education

Diplomas and Certificates Offered
Certificate in Literacy Instruction
Post Baccalaureate Diploma (General)
Post Baccalaureate Diploma in Early Childhood Education

Undergraduate Programs
8528 Education Building, 604.291.3614 Tel, 604.291.3829 Fax, www.educ.sfu.ca/ugradprogs

Director
L. J. LeMare BA (S Fraser), MA, PhD (Wat)

Advisor
Ms. J. Bicknell BA (Cari), 8625 Education Building, 604.291.3488 Tel, 604.291.5323 Fax

Bachelor of Education Program
The BEd must be approved by the Faculty of Education. Major or minor requirements also must be approved by the department(s) in which these requirements are administered. To complete a BEd, a student must make application, and be accepted to the professional development program. The BEd is designed to prepare students academically and professionally for a teaching career at either the elementary or secondary school level. Students considering the BEd degree should seek academic counselling for:

- lower divisions (first 60 credit hours)
  - Contact Student Academic Resources, 3300 Maggie Benston Student Services Centre, 604.291.4356.
- upper divisions (BEd degree, education minors, certificate in literacy instruction, post baccalaureate diplomas)
  - Contact the Undergraduate Advising Office, 8625 Education Building, 604.291.3798.

Transfer Credit
Students may be admitted to the BEd program with advance standing. Credit may be granted for appropriate work at other institutions to a 60 credit hour maximum excluding professional education, or 90 credit hours including an acceptable year of professional education (EDUC 401, 402 and 405).

General Program
Requirements
Students must complete a minimum of 150 credit hours which includes one of the following:
- a major from the Faculties of Applied Sciences, Arts or Science
- two minors/extended minors, completed from the Faculties of Applied Sciences, Arts or Science or the Mathematical Sciences specialization completed from the Faculty of Education and all of the following
- a minor from the Faculty of Education (may be fully or partially completed during EDUC 404)
  - EDUC 401, 402, 405
- a minimum of 54 credit hours in upper division courses (numbered 300 and 400), excluding EDUC 401, 402, 405 and 406
- two of EDUC 220, 230, 240 or 250
- EDUC 401, 402 and 405
- a minimum of 24 credit hours of upper division education courses (excludes EDUC 401, 402, 405, 406) which must include two Faculty of Education Designs for Learning courses (may include courses taken for EDUC 404 or for the education minor)
- certificate in liberal arts
- Students must achieve both a minimum cumulative grade point average (CGPA) of 2.0 and a minimum grade point average (GPA) of 2.0 calculated on the basis of all upper division courses taken at SFU.

Honors Program
Requirements
Students must complete a minimum of 162 credit hours which include:
- an honors from the Faculties of Applied Sciences, Arts or Science
- a minor from the Faculty of Education (may be fully or partially completed during EDUC 404)
- a minimum of 54 credit hours in upper division courses (numbered 300 and 400), excluding EDUC 401, 402, 405 and 406
- two of EDUC 220, 230, 240 or 250
- EDUC 401, 402 and 405
- a minimum of 24 credit hours of upper division education courses (excludes EDUC 401, 402, 405 and 406) which must include two education designs for learning courses (may include courses taken for EDUC 404 and the education minor)
- certificate in liberal arts
- Students must achieve both a minimum cumulative grade point average (CGPA) of 3.0 and a minimum grade point average (GPA) of 3.0 calculated on the basis of all upper division courses taken at SFU.

Bachelor of Education as a Second Degree
To be admitted, students must possess a bachelor's degree and have completed EDUC 401 and 402.

Requirements
The residency requirement is 60 credit hours which must include:
- EDUC 401-8 Introduction to Classroom Teaching
- EDUC 402-7 Studies of Educational Theory and Practice
- EDUC 405-15 Teaching Semester

Any additional work needed to address academic requirements for a professional certificate must be done over and above the required 60 credits.

Professional Development Program
This one year teacher training program is an integral component of the BEd requirements. Admission is by application. Declaration of BEd as a degree goal does not guarantee acceptance into PDP. See "Professional Development Program (PDP)" on page 199.

Mathematical Sciences Specialization
For a bachelor of education degree with a mathematical sciences specialization, students must complete 150 hours which include the following, as well as all the bachelor of education requirements.
**Lower Division Requirements**

Students must complete at least 20 credit hours from:

- 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 Euclidean 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 223-3 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 Introduction to Statistical Inference

**Minor Programs**

**Minor in Counselling and Human Development**

This minor teaches a combination of theoretical, empirical, and practical matters central to the understanding and practice of counselling and human development. The course work provides students with a strong theoretical and critical foundation on which to base and evaluate counselling and teaching practices aimed at enhancing human development.

**Lower Division Requirements**

EDUC 220-3 Introduction to Educational Psychology
EDUC 222-3 Research Methods in Educational Psychology
PSYC 250-3 Introduction to Developmental Psychology

**Upper Division Requirements**

(minimum of 15 credit hours)

Students must complete both of

- EDUC 327-3 Self, Psychology and Education
- EDUC 328-3 Theories of Career Development and Education
- EDUC 423-4 Helping Relationships
- EDUC 464-4 Early Childhood Education

If courses chosen from the list above do not add up to a minimum of 15 credit hours, then one additional course chosen from the following is required:

- EDUC 422-4 Learning Disabilities
- EDUC 428-4 Nature and Nurture of Gifted Students
- EDUC 437-4 Ethical Issues in Education
- EDUC 441-4 Multicultural Education
- EDUC 445-4 Legal Context of Teaching

**Minor in Curriculum and Instruction**

This minor provides a general, flexible course of studies for those desiring 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 EDUC credit hours and/or EDPR courses to total 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**

EDUC 464-4 Early Childhood Education

plus two of

- EDUC 330-3 Movement Language elements for Dance in Education
- EDUC 457-4 Drama and Education
- EDUC 459-4 Instructional Activities in Physical Education
- EDUC 468-4 Children’s Literature
- EDUC 477-4 Designs for Learning: Art
- EDUC 478-4 Designs for Learning: Music
- plus one of
- EDUC 367-4 Teaching Children from Minority Language Backgrounds in Elementary Classrooms
- EDUC 441-4 Multicultural Education
- EDUC 472-4 Designs for Learning: Elementary Language Arts
- EDUC 473-4 Designs for Learning: Reading
- EDUC 474-4 Designs for Learning: Elementary Social Studies
- EDUC 475-4 Designs for Learning: Elementary Mathematics
- EDUC 476-4 Designs for Learning: Elementary Sciences

**Minor in Educational Psychology**

Educational psychology makes 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. This program also studies how this first line of inquiry contributes to designs for instructional experiences that promote a full spectrum of achievements.

The 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 professional studies program. For others, the minor articulates applied psychology serving one of our society's most important aims, education of people of all ages.

**Upper Division Requirements**

Students must complete all of

- EDUC 320-3 Instructional Psychology
- EDUC 428-4 Nature and Nurture of Gifted Students
- EDUC 437-4 Ethical Issues in Education
- EDUC 471-4 Curriculum Development: Theory and Practice

**Minor in Education and Technology**

This minor provides a structure for undergraduate studies of education and technology.

**Lower Division Requirements**

Students must complete both of

- EDUC 260-3 Learning and Teaching Through Technology
- and one of
- EDUC 220-3 Introduction to Educational Psychology
- EDUC 230-3 Introduction to Philosophy of Education
- EDUC 240-3 Social Issues in Education

**Upper Division Requirements**

Students must complete all of

- EDUC 358-3 Foundations of Educational Technology
- EDUC 463-4 Multimedia for Curriculum Design
- EDUC 482-4 Designs for Learning: Information Technology
- and one of
- EDUC 320-3 Instructional Psychology
- EDUC 428-4 Nature and Nurture of Gifted Students
- EDUC 437-4 Ethical Issues in Education
- EDUC 471-4 Curriculum Development: Theory and Practice

**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 nine hours selected from:

- 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 Psychological Issues in Contemporary Society
- 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
- BISC 306-3 Invertebrate Biology
- BISC 310-3 The Natural History of British Columbia
- BISC 317-3 Insect Biology
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 minor program students complete at least one of the following.
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 Introduction to Developmental 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 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 Backgrounds in Elementary Classrooms
EDUC 369-4 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 and Mind
PSYC 355-3 Adolescent Development

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 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 342-3 Active Health
Students can include only one Designs for Learning course chosen from the following.
EDUC 412-4 Designs for Learning: Secondary Language Arts
EDUC 414-4 Designs for Learning: Secondary Social Studies
EDUC 415-4 Designs for Learning: Secondary Mathematics
EDUC 416-4 Designs for Learning: Secondary Science
EDUC 430-4 Designs for Learning Dance
EDUC 472-4 Designs for Learning: Elementary Language Arts
EDUC 473-4 Designs for Learning: Reading
EDUC 474-4 Designs for Learning: Elementary Social Studies
EDUC 475-4 Designs for Learning: Elementary Mathematics
EDUC 476-4 Designs for Learning: Elementary Science
EDUC 477-4 Designs for Learning: Art
EDUC 478-4 Designs for Learning: Music
EDUC 480-4 Designs for Learning: French as a Second Language
EDUC 481-4 Designs for Learning: French Immersion and Programme-cadre de Français
EDUC 482-4 Designs for Learning: Information Technology
EDUC 485-8 Designs for Learning: Writing

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 340-3 Literacy, Education and Culture
EDUC 342-3 Contemporary Approaches to Literacy Instruction
EDUC 343-5 Literacy Practicum
ENGL 210-3 Advanced University Writing
plus 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

In addition, students must complete at least an additional six credit hours in Faculty of Education or Faculty of Arts courses designated below. Students must select courses that will further their own specific interests in literacy instruction and should be aware that some courses require the completion of prerequisites outside the certificate program.

Faculty of Education
EDUC 325-3 Assessment for Classroom Teaching
EDUC 422-4 Learning Disabilities
EDUC 441-4 Multicultural Education
EDUC 467-4 Curriculum and Instruction in Teaching English as a Second Language
EDUC 471-4 Curriculum Development: Theory and Practice
EDUC 472-4 Designs for Learning: Language Arts
EDUC 473-4 Designs for Learning: Reading

Faculty of Arts
ENGL 370-4 Studies in Language
ENGL 371-4 Writing: Theory and Practice
HUM 320-4 The Humanities and Philosophy
HUM 321-4 The Humanities and Critical Thinking
LING 260-3 Language, Culture and Society
PHIL 001-3 Critical Thinking
PSYC 206-3 Introduction to Psychological Assessment
SA 304-3 Social Control
SA 333-4 Schooling and Society

Notes:
• Credits applied to this certificate may not be applied to any other SFU certificate or diploma, but they may be applied toward major or minor program requirements or toward a bachelor's degree under regulations governing those programs.
• At least 15 of the 29 required credit hours must be completed at Simon Fraser University.
• Students must achieve a minimum 2.0 GPA, calculated on all Simon Fraser University courses applied to the program, with the exception that duplicate courses are counted only once.
• The certificate program cannot be used in place of the Faculty of Education’s professional development program or equivalent as a route to a British Columbia teaching certificate.

Post Baccalaureate Diploma (General)
Contact the Undergraduate Advising Office, 8625 Education Building, 604.291.3488.
This diploma offers students the opportunity to design and pursue a program of individualized study. Students wishing to use the post baccalaureate diploma to raise their teacher qualifications should speak with the Teacher Qualification Service or their school district regarding acceptable courses.

Program Requirements
Successful completion, within five years, of an approved program comprised of 30 credit hours of upper division or graduate work plus any necessary prerequisites is required. A minimum of 15 of the 30 credit hours must be earned in education and/or educational professional courses and a maximum of 12 may be transfer credits. Students must maintain a 2.5 GPA on courses used for the diploma. Courses taken during the EDUC 404 semester may not be used toward a post baccalaureate diploma.

Post Baccalaureate Diploma in Early Childhood Education
This program provides a focus for students wishing to work with children aged three through eight. In addition to the following requirements, students must
also meet the requirements stated above, in the Program Requirements section of the Post Baccalaureate Diploma (page 198).

Program Requirements

Students must complete both of

EDUC 464-4 Early Childhood Education
EDUC 465-4 Children’s Literature

plus 12 credit hours chosen from the following

EDUC 330-3 Movement Language Elements for

EDUC 457-4 Drama and Education
EDUC 459-4 Instructional Activities in Physical Education
EDUC 467-4 Curriculum and Instruction in Teaching English as a Second Language
EDUC 471-4 Curriculum Development: Theory and Practice
EDUC 477-4 Designs for Learning: Art
EDUC 478-4 Designs for Learning: Music

plus 10 other upper division credit hours.

Post Baccalaureate Diploma In English

As a Second Language

See “Post Baccalaureate Diploma in Teaching English as a Second Language” on page 175.

Post Baccalaureate Diploma In French and Education

See “Post Baccalaureate Diploma in French and Education” on page 164.

Field Programs

8559 Education Building, 604.291.5830 Tel, 604.291.5882 Fax, www.educ.sfu.ca/fp

Director
A.M. MaxKinnon, BSc, BEd, MSc (Calg), 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 (designated EDPR) are shown under the Education Professional listing of the Undergraduate Courses section (page 262). Field Programs also offers a graduate diploma in advanced professional studies in education. 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, 604.291.5691 Fax, www.educ.sfu.ca/pdp/admissions

Director
Dr. S. Smith DiP, BEd (Kelvin Grove CAE), BHMS, MED (Old), PhD (Alta)

Admissions Advisor
Ms. D. Kelso BA (S Fraser), 8624 Education Building, 604.291.3620/3149

External Programs Admissions Advisor
Ms. J. Bicknell BA (Car), 8625 Education Building, 604.291.3786/3488

Professional Development Program (PDP)

Applicants must be attending SFU or be admissible. See “Admission and Readmission” on page 38.

- 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 SFU previously, or who have not attended in any of the three semesters prior to intended registration, must submit to the PDP office a university admission application. See “Admission and Readmission” on page 38.
- All applications must be submitted to the PDP admissions office by January 15 for the fall semester and May 17 for the spring semester.
- All applicants 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 SFU (should include 16 credit hours of upper division course work) including the following prerequisite courses.

- six credit hours in English
- one course (three credit hours) in each of Canadian history, Canadian geography, and laboratory science
- MATH 190
- elementary applicants should have education, fine and performing arts and kinesiology courses

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 prior to commencing PDP.

Teachable Majors or Minors

biology
Canadian studies (minor only)*
chemistry
computing science (minor only)*
dance (FPA) (minor only)*
earth sciences
English
French
French and English literatures (joint major)*
First Nations (minor only)*
French
French, history and politics (joint major)*
geography*
history*
humanities (minor only)*
kinesiology
mathematics
music (FPA)*
physics
social studies*
theatre (FPA) (minor only)*
visual art (FPA)*

*see requirements sheet in the Faculty of Education

Students planning to teach at the secondary level must complete degree requirements prior to commencing PDP, except BEd candidates who cannot complete their degree until they have successfully completed PDP. These BEd candidates must complete the requirements of one teachable major or two teachable minors prior to commencing PDP. Students from other institutions may apply prior to degree completion, but must have completed the degree one full semester prior to commencing PDP. Secondary applicants must complete six English credit hours one full semester prior to starting PDP. Secondary applicants are encouraged to have education courses.

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) is required.
- A resume must also be submitted by all applicants (see PDP application package for information).
- Before program admission, applicants must demonstrate competence in written and oral English (and written and oral French for French immersion and French as a second language programs).
- Students may be asked to submit evidence of good health before being considered for admission.
- Students may be required to have an interview before being considered for program admission.
- If the number of PDP applicants exceeds facilities and staffing capabilities, the admissions committee will select the best qualified candidates.
- Admission selection is generally given to students whose applications show experience with and commitment to community service that may include teaching or other helping roles.
- Given the number of well qualified applicants 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. Those who have been unsuccessful in gaining program entry on at least four occasions are discouraged from 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

In 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.

Special Focus Modules

Special focus modules are offered during fall and spring semesters. Entry 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 Coursework 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 regarded as full-time professional studies and may not be taken in conjunction with other academic or professional courses.

Students must complete normal SFU 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 professional programs director 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 re-apply to the admissions committee.

Students may apply for EDUC 405 re-entry by completing a re-entry application and submitting it and supporting documents to the professional programs director. Deadlines for re-application: April 15 for fall semester; October 15 for 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 professional development program semesters 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. "Registration" on page 50
• Normally, students can register in course challenge for EDUC 405 only while registered 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 fall semester; September 15 for the spring semester.

External Professional Development Programs
There are two external professional development programs that operate under the auspices of a consortia of local community colleges, northern school districts and Simon Fraser University. The consortia invite applicants 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) (subject to funding) Telephone 604-785-6981 local 51 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 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 SFU or be admissible to the University. See “Admission and Readmission” on page 38. Candidates who have not attended SFU previously, or who have not attended in any of the three semesters prior to intended registration in EDUC 406, must submit the application for undergraduate admission form to the Office of the Registrar. Students intending to complete SFU courses in preparation for application to EDUC 406 should contact the faculty (8624 Education Building, telephone 604.291.3798 or 604.291.3488).

Application forms for the HEART program should be received by: April 15 for fall semester; September 15 for 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 BC 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 Department of English credit hours
• 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 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 upon degree completion should note the University regulations in this Calendar concerning final deadlines for submission of graduation applications. 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. 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.
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. It is recommended for those intending to proceed to advanced degrees provided 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 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
• a program cumulative grade point average (CGPA) minimum of 3.00 must be obtained on the overall coursework requirements for the honors program, as well as a minimum program grade point average of 3.00 in the upper division courses required in the honors program. (See “Grade Point Averages Needed for Graduation” on page 55 of the General Regulations section regarding graduation GPA requirements on all coursework taken at Simon Fraser University.) Honors students who obtain both a program and a graduation minimum GPA of 3.5 are eligible for the designation ‘first class.’

Students must also complete additional requirements as specified by the honors program and in the General Information section (see “General Information” on page 35).

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, the Office of the Dean of Science or their major department.
• 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, major/minor, minor/minor) the student may not use the same upper division course for formal credits towards both programs. One course might fulfill 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

Undergraduate Degrees Offered
Bachelor of Science (Honors)
Bachelor of Science

Diplomas and Certificates Offered
Certificate in Actuarial Mathematics
Certificate in Forestry Geoscience
Post Baccalaureate Diploma in Biological Sciences

Major Program
This program provides a broad 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, see the academic department concerned. Students not pursuing a specialization may undertake a bachelor of science (general science) degree. See “General Science Program” on page 211 for information.

Requirements for Major
Students must complete 120 credit hours including
• minimum of 28 upper division credit hours at the 300 and 400 level 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 program cumulative grade point average (CGPA) minimum of 2.00 must be obtained on the overall coursework requirements for the major program, as well as a minimum program grade point average of 2.00 in the upper division courses required in the major program. (See “Grade Point Averages Needed for Graduation” on page 55 of the General Regulations section regarding graduation GPA requirements on all coursework taken at Simon Fraser University.)

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

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 (page 211), 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 all programs including biological sciences, chemistry, earth sciences, environmental science, geography, mathematics, molecular biology and biochemistry, physics, and statistics and actuarial science. Details are given in the departmental sections and in “Co-operative Education” on page 226. Students are encouraged to take the co-op option.

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 an SFU bachelor of science degree 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 SFU and must be acceptable for transfer credit in a major or honors program. Candidates must apply for transfer credit and a bachelor’s degree through SFU’s Office of the Registrar. Since official transcripts of the work completed in the first year of the professional program are required for transfer credit, application for graduation should be delayed until the summer semester following the completion of requirements.
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 (DM). ENGL 199 and one of 101 or 102 or 103 or 104 or 105
MMB 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 and Student Affairs, University of British Columbia, Vancouver, BC, V6T 1Z3. Telephone 604.822.3014, Fax 604.822.8679, foddams@interchange.ubc.ca

Faculty of Forestry at the University of BC
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 allow two admission pathways: one directly from high school; the other follows a year of science at the University of BC or its equivalent at another post-secondary institution. If first year that science is taken at SFU, the following courses are required.

ENGL one of 101 or 102 or 103 or 105 or 199
BISC 101 and 102
CHEM 121 or PHYS 100 or 101
MATH 151 and 152
ECON 103 and 105
STAT 270

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
Student Recruitment, Faculty of Forestry, University of British Columbia, Forest Science Centre, FSC 2612, 2424 Main Mall, Vancouver, BC, V6T-1Z4. Telephone 604.822.1995, frstinfo@interchg.ubc.ca, www.forestry.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 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 Simon Fraser 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 a four year program of pharmacy.

BISC 101 and 102
CHEM 121 / 122 / 126
ENGL any two of ENGL 199, 101, 102, 103, 104
MATH 151 / 152 (or 154 / 155)
PHYS 101 / 102 / 130 or (120 / 121 / 131)

Refer to a current University of British Columbia Calendar for specific information. All applicants must submit additional supplemental admission requirements. Students should consult the Faculty of Pharmaceutical Sciences at the University of BC.

Contact address

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 201 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 term 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 college has recently, with Saskatchewan Human Rights Commission approval, introduced an Educational Equity Program for Aboriginal students. A minimum 60% cumulative average will be used for applicants from an Aboriginal ancestry. A student must 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 proof 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 196.

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 Apiculture: An Introduction to Bees and Beekeeping

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 as one, two or three credit hours. A student may acquire a maximum of three.

This course may be offered by any Faculty of Science department or may be team taught by faculty members from across the faculty.

Department of Biological Sciences

B2855 Shrum Science Centre, 604.291.4475 Tel, 604.291.3946 Fax, www.sfu.ca/biology

Chair
N.H. Haunderland MSc, PhD (Mün)

Professors Emeriti
F. Cooke BA, MA, PhD (Camb)
L.D. Druehl BSc (Wash State), MSc (Wash), PhD (Br Col)
T. Finlayson BA (Tor), LLB (S Fraser)
F.J.F. Fisher BSc, MSc (Cant), PhD (NZ)
J.P.M. Mackauer DrPhilNat (Fran), FESC
B.A. McKewon BSc (Br Col), PhD (S Fraser)
L.M. Sivastava BSc, MSc (Aldt), PhD (Calif)
A.L. Turnbull BSF, MF (Br Col), DPhil (Oxf)
N.A.M. Verbeek BSc (Br Col), MSc (Montr), PhD (Calif)
W.E. Vidaver AB (San Francisco), PhD (Stan)
J.M. Webster BSc, DSc, PhD (Lon), ARCS, DIC

Professors
C.C. Albright BSc (Mgo), MSc, PhD (Oregon)
C.J. Kennedy BSc, PhD (S Fraser)
A.L. Turnbull BSF, MF (Br Col), DPhil (Oxf)
B.A. McKeown BSc (Br Col), PhD (S Fraser)
B.D. Roitberg BSc (S Fraser), MSc (Br Col), PhD (Calif)
J.E. Rahe BSA, PhD (Purdue)
Z.K. Punja BSc (Br Col), MS, PhD (Calif)
B.J. Crespi BSc (Chic), PhD (Mich)
B.P. Brandhorst AB (Harv), PhD (Calif)**
L.M. Dill BSc, MSc, PhD (Br Col)
A.P. Farrell BSc (Bath), PhD (Br Col)
L.J. Albright BSc (McG), MSc, PhD (Oregon)
A.L. Turnbull BSF, MF (Br Col), DPhil (Oxf)

L.M. Srivastava BSc, MSc (Aldt), PhD (Calif)
B.A. McKeown BSc (Br Col), PhD (S Fraser)
J.E. Rahe BSA, PhD (Purdue)
B.D. Roitberg BSc (Br Col), MSc (Br Col), PhD (Mass)
T.D. Williams BSc (Exe), PhD (Brist)
M.L. Winston BA, MA (Boston), PhD (Kansas)
R.C. Ydenberg BSc (S Fraser), DPhil (Oxf)

Associate Professors
L.J. Albright BSc (Mgo), MSc, PhD (Oregon)
F.B. Bendall-Young BSc, PhD (Tor)
K.R. Delaney BSc (Prin)
B.R. Furedi BSc (Br Col), MA, PhD (Prin)
L.M. Dill BSc, MSc, PhD (Br Col)
E.B. Hartwick BSc, MSc (Br Col), PhD (Br Col)
C.J. Kennedy BSc, PhD (S Fraser)
Major Program

Basic credit hour requirements underlying all areas of emphasis follow.

BISC/MBB (lower division) 20 credit hours
non BISC/MBB (lower division) 27 credit hours

BISC/MBB (upper division) 37 credit hours
*electives 36 credit hours

total (minimum) 120 credit hours

* 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 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 122-4 General Chemistry and Laboratory II
CHEM 281-4 Organic Chemistry and Laboratory I
CHEM 282-2 Organic Chemistry II

MBB 221-3 Cell Biology and Biochemistry
BBB 223-3 Molecular Biology and Biochemistry
STAT 201-3 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 123-3 Optics, Electricity and Magnetism

Total 47 lower division credit hours

Students are encouraged to take a full year of organic chemistry. Medical, dental, or veterinary school applicants should include all CHEM courses above.

Upper Division Requirements and Electives

All biological sciences majors will complete a minimum of 12 upper division BISC/MBB courses. The following three courses form an upper division core required by all BISC major/honor 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, four streams of biology are offered: cell and molecular biology, integrative biology, ecology and evolution, and an open stream. The open stream will promote broad biological training, or may be used to specialize in an area not offered by the three main streams (students should consult the undergraduate program advisor, individual faculty, or the department web page for advice on other areas of specialization). The course requirements for each stream are as follows.
selected stream, or alternative courses (e.g., MBB, KIN) as approved by the program advisor.

Students must complete two additional lab courses (including either BISC 498 or 499) among their six stream specific or elective courses (i.e. a total of four lab courses plus BISC 329).

Ecology and Evolution
Students must complete one physiology course from
BISC 305-3 Animal Physiology
BISC 366-3 Plant Physiology
plus 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
and one of the following lab courses
BISC 406-3 Marine Biology and Oceanography
BISC 414-3 Limnology
BISC 417-3 Entomology
BISC 419-3 Wildlife Biology
BISC 434-3 Paleozoology and Palynology
plus four stream specific courses from the following
BISC 304-3 Animal Ecology*
BISC 310-3 Natural History of British Columbia
BISC 316-3 Vertebrate Biology
BISC 317-3 Insect Biology
BISC 404-3 Plant Ecology*
BISC 407-3 Population Dynamics
BISC 410-3 Behavioral Ecology
BISC 414-3 Limnology
BISC 419-3 Wildlife Biology
BISC 422-3 Population Genetics
BISC 430-3 Plant Pathology
BISC 434-3 Paleozoology and Palynology
BISC 435-3 Introduction to Pest Management
BISC 498-3 Undergraduate Research I
BISC 499-3 Undergraduate Research II
*recommended
plus two elective courses (6 credit hours) chosen from any upper division undergraduate BISC or MASC or special topics courses appropriate for the selected stream, or alternative courses (e.g. MBB, KIN) as approved by the program advisor.

Students must complete two additional lab courses (including either BISC 498 or 499) among their six stream specific or elective courses (i.e. a total of four lab courses plus BISC 329).

Open Stream
Students must complete one physiology course from
BISC 305-3 Animal Physiology
BISC 366-3 Plant Physiology
plus one organism lab course from
BISC 303-3 Microbiology
BISC 306-3 Invertebrate Biology
BISC 316-3 Vertebrate Biology
BISC 326-3 Biology of Algae and Fungi
BISC 337-3 Plant Biology
plus one of the following lab courses
BISC 302-3 Genetic Analysis
BISC 307-3 Animal Physiology Laboratory
BISC 367-3 Plant Physiology Laboratory
MBB 308-3 Molecular Biology and Biochemistry Laboratory I
plus six courses (18 credit hours) chosen from any upper division undergraduate BISC or MASC or special topics courses (e.g. MBB, KIN) as approved by the program advisor.

Students must complete two additional lab courses (including BISC 498 or 499) among the six electives (i.e. a total of four lab courses plus BISC 329).

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 122-4 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

Semester 4
MBB 222-3 Molecular Biology and Biochemistry
STAT 201-3 Statistics for the Life Sciences (or 102)
Electives

Honors Program
Entry into the honors program requires a CGPA of 3.0 or higher (B standing), and permission of the department. 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.

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. Honors students must also satisfy the following additional requirements:

- 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 totalling 132 credit hours, including at least 12 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 complete all of
BISC 101-4 Introduction to Biology
BISC 102-4 Introduction to Biology

Upper Division Requirements
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 (prerequisite BISC 305)
CHEM 371-3 Chemistry of the Aqueous Environment (prerequisites CHEM 281 [or 150] and 960 [or 261])
KIN 431-3 Environmental Carcinogenesis and their prerequisites as noted in the Undergraduate Courses section (page 229).

Upper division credit may not fulfill credit hours for more than one program. Some substitutions may be required. Appropriate course substitutions follow.

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).

Application to the honors program requires the approval of the program advisor.
Post Baccalaureate Diploma in 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: See “Biological Sciences Graduate Courses” on page 389 for 600 and 800 level course descriptions in the Graduate Studies section.

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 for 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 well 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 38). MASC courses are offered at the Bamfield Marine Station (see page 285 for a list of courses).

From time to time graduate level courses will be offered. For information, see “Department of Biological Sciences” on page 388.

Students from other Departments

Certain courses may be taken by those not enrolled in biological sciences programs: BISC 004, 100, 101, 102. Admission to other courses is by permission of the department.

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

Professors Emeriti
S. Aronoff AB, PhD (Calif)
T.N. Bell BSc, PhD (Durh)
Y.L. Chow BSc (Natri Taiwan), PhD (Duquesne), FCIC
F.W.B. Einstein BSc (New Zealand), MSc, PhD (Cant), FCIC
L. Furt BSc, MSc (Dal), PhD (McG), FCIC
R.G. Korting AB (Hope), PhD (Calif)
G.L. Malli BSc (Delhi), MSc (McM), MS, PhD (Chic)
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W.R. Richards AB, PhD (Calif)*
D. Sutton BSc, PhD (Nott)
E.M. Voigt BSc, MSc (McM), PhD (Br Col)
J. Walkley BSc, PhD (Liv), FCIC
S. Wolfe BA, MA (Tor), PhD (Ont), FCIC, FRSC

Professors
A.J. Bennet BSc, PhD (Brist), associate chair
R.B. Cornell BS (Houghton), PhD (Penn)*
L.M. D’Auria BSc (Rensselaer), MSc, PhD (Yale)
I.D. Gay BSc, MSc (Dal), PhD (Lond)
R.H. Hill BSc, PhD (WOnt), FCIC
S. Holdcroft BSc (Sall), PhD (S Fraser), FCIC
C.H.W. Jones BSc, PhD (Manc)

P.W. Percival BA, MA, DPhil (Oxf), FCIC
B.M. Pinto BSc, PhD (Qu), FCIC
R.K. Pomeroy BSc (Lond), PhD (Alta)
D. Sen BA (Cambridge), MPhil, PhD (Yale)*
K.N. Slessor BSc, PhD (Br Col)

Associate Professors
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N.R. Branda BSc (Tor), PhD (MIT)
G.W. Leach BSc, MSc, PhD (Tor)
Z.G. Ye BSc (Helse Techno), MSc (Xian Jaotong), PhD (Bordeaux)

Assistant Professors
J.A.C. Clyburne BSc (Acad), PhD (Dal)
M.H. Ekerling BSc (Aachen Tech), PhD (Munich Tech)
D.B. Lezniok BSc (York), Can, 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 (Q)
P.D. Wilson BSc (Newcastle, UK), MSc, PhD (Manc)
H.Z.J. Yu BSc, MSc (Shandong), PhD (Peking)

Associate Member
D.H. Boal, Physics

Adjunct Professors
G.C. Ball BSc (Alta), PhD (Calif)
T.J. Borgford BSc, PhD (Manit)*
M.J. Gresser BA, PhD (Brandes)
T.J. Ruth BSc, PhD (Clark)
L.E. Sojo, BSc, PhD (C’dia)
A.S. Tracey BSc, PhD (S Fraser)
N.N. Weinberg MSc (Moscow State), PhD
(Ascad Science Moscow)

Senior Lecturers
R.J. Batchelor BSc (Br Col), PhD (McM)
J.C. Brodovitch BSc (Pasteur, Stras), PhD (McG)
A.J.L. Hanlan BSc, PhD (Tor)
R.D. Sharma MSc, PhD (Panjab)

Lecturers
U.C. Creis MSc, Dr-Ing (Darmstadt)
S.M. Lavieri BSc (Metropol, Venezuela), MSc
(Venezolano de Investigaciones Cientificas, Venezuela), PhD (Central de Venezuela)

*joint appointment with biochemistry

Advisor
K.S. MacFarlane BSc, MSc, PhD (Br Col), C8049
Shrum Science Centre, 604.291.3350,
kenmac@sfu.ca

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 112 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 students 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.

The following statements clarify and standardize the minimum requirements that a student must fulfill to complete a chemistry course as well as those to pass a combination lecture/laboratory course.

Course Non-completion

The following conditions will constitute non-completion of the required material in a chemistry course:

• not writing the final examination or its equivalent in the course

Faculty of Science – Department of Chemistry 205

• not completing the required minimum number of experiments in a laboratory course or the laboratory component of a course
• not completing additional or alternative material specified by the instructor

The letter grade N will be awarded in these cases. Students must pass both the lecture and laboratory components individually to obtain a passing grade in lecture/laboratory combination courses.

Major Program

Mathematics and physics courses should be taken as early as possible. Lower Division Requirements

(49 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 230-3 Inorganic Chemistry
CHEM 236-2 Inorganic Chemistry Laboratory
CHEM 280-4 Atoms, Molecules, Spectroscopy
CHEM 281-4 Organic Chemistry I
CHEM 282-4 Organic Chemistry II
CHEM 286-2 Organic Chemistry Laboratory II
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elements of 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

Upper Division Requirements

(28 credit hours)

CHEM 316-4 Introductory Instrumental Analysis
CHEM 332-3 The Chemistry of Transition Metals
CHEM 336-2 Advanced Inorganic Chemistry Laboratory
CHEM 380-3 Thermodynamics and Chemical Kinetics
CHEM 386-2 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

(43 credit hours)

In addition to the above, students must complete

• 12 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.

Students specializing in physical or theoretical chemistry should take more mathematics and physics courses than specified above and a course in computer programming.

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

Electives

Semester 2
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
Students intending to specialize in physical 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 226-2 General Chemistry Laboratory
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 306-3 Inorganic Chemistry
CHEM 326-3 Introduction to Nuclear Chemistry
CHEM 317-2 Analytical Environmental Chemistry
CHEM 318-3 Chemistry of the Aqueous Environment
CHEM 329-3 Chemistry of the Organic Environment
CHEM 371-3 Chemistry of the Aqueous 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 Nuclear Synthesis and Distribution of the Elements
NUSC 346-3 Nuclear Chemistry 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 214 and “Major Program” on page 214.

Co-operative Education
M.S. Verity, co-op co-ordinator, Faculty of Science, 604.291.4694
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.

Application is at least three months prior to the start of the semester in which they take 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-op education. Higher averages are required for entry to and continuance in an honors program in co-operative education. See “Co-operative Education” on page 226.

Department of Earth Sciences
P9304 Shrum Science Centre, 604.291.5387 Tel, 604.291.4198 Fax, www.sfu.ca/earth-sciences

Chair
D. Stead, BSc (Exe), MSc (Leeds), PhD (Nott), CEng

Professor Emeritus
M.C. Roberts BSc (Lond), MA (Tor), PhD (Iowa), PGeo

Forest Renewal BC Endowed Chair
D. Stead BSc (Exe), MSc (Leeds), PhD (Nott), CEng

Professors
J.J. Clague BA (Occidental), MSc (Calif, PhD (Br Col), PGeo
E.J. Hickin BA, PhD (Syd), PGeo*

Associate Professors
A.J. Calvert BA (Oxf), PhD (Camb)
J.A. MacEachren BSc, MSc ( Regina), PhD (Alta)
P.S. Mustard BSc (Calg), MSc, PhD (Car), PGeo
D.J. Thor Kelly BSc, MSc (Br Col), PhD (Car)

Assistant Professors
D. Marshall BSc, MSc (Car), DSc (Lausanne)
B.C. Ward BSc, PhD (Alta)

Adjunct Professors
R. Enkin BSc, MSc (Tor), Diplome Docteprat (Paris)
J.W. Haggart BS (Ariz), MS, PhD (Calif)
J. Jackson BA (San Francisco), MSc (Stan), PhD (Calg)
O. Lian BSc, MSc (S Fraser), PhD (Ont)
J.W.H. Monger BSc (Reading), MSc (Kansas), PhD (Br Col)
J. Moore BSc, PhD (MIT)

Lecturers
K. Cameron BSc (St Mary’s, Can), MSc (Nfld)
R. Dunlop BSc (Alta), MSc (Br Col)

Advisor
Ms. T. Vaisanen, P9305 Shrum Science Centre, 604.291.4779 Tel, 604.291.4198 Fax

*joint appointment with geography

Major Program
Lower Division Requirements
(56 credit hours)
CHEM 121-4 General Chemistry and Laboratory
CHEM 122-2 General Chemistry II
CHEM 226-2 General Chemistry Laboratory
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 306-3 Inorganic Chemistry
CHEM 326-3 Introduction to Nuclear Chemistry
NUSC 341-3 Introduction to Radiochemistry
NUSC 342-3 Introduction to Nuclear Science
NUSC 344-3 Nuclear Synthesis and Distribution of the Elements
NUSC 346-3 Nuclear Chemistry Laboratory
NUSC 444-3 Special Topics in Nuclear Science
NUSC 485-3 Particle Physics
PHYS 385-3 Quantum Physics

Electives
(30 credit hours)
- 12 elective hours 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.

Students intending to specialize in physical or theoretical chemistry should take more mathematics courses than specified above and a course in computer programming.

Minor Program
For details of major-minor regulations, see “Major – Minor Program” on page 35. 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.
EASC 206-1 Field Geology I  
EASC 207-3 Introduction to Geophysics  
EASC 208-3 Introduction to Geochemistry  
GEOG 213-3 Geochemistry  
MATH 151-3 Calculus I  
MATH 152-3 Calculus II  
PHYS 120-3 Modern Physics and Mechanics  
PHYS 121-3 Optics, Electricity and Magnetism  
PHYS 131-2 Physics Laboratory I  
STAT 101-3 Introduction to Statistics  

Upper Division Requirements  
Students must complete a minimum of 38 credit hours as defined below.  
The following 17 required 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  

plus three credit hours chosen from:  
EASC 406-3 Field Geology III  
EASC 416-3 Field Methods in Hydrogeology  

plus 18 additional credit hours chosen from:  
EASC 307-3 Applied Geophysics  
EASC 313-3 Introduction to Soil and Rock Engineering  
EASC 317-3 Global Geophysics  
GEOG 313-4 Geomorphology II  
EASC 401-3 Mineral Deposits  
EASC 402-3 Sedimentology  
EASC 403-2 Quaternary Geology  
EASC 404-3 Structural Geology II  
EASC 406-3 Field Geology III  
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 413-3 Forestry Geotechnics  
EASC 416-3 Field Methods in Hydrogeology  
EASC 417-3 Exploration Seismology  
EASC 461-1 Directed Reading*  
EASC 490-2 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 six additional upper division credit hours in the Faculty of Science or physical geography. These courses may be used toward the minor’s requirements in another department. Students who intend to apply for registration with APEGBC may be required to complete some additional courses that are not required for the major program. Seek advice from the Department of Earth Sciences.  

Honors Program  
This program offers a wider cross-section of discipline-related courses while providing an opportunity for independent research. Entry requires a 3.00 or higher CGPA, and permission of the Department of Earth Sciences. This BSc honors program has the same requirements as for the major except that students must also satisfy the following additional requirements.  
• maintenance of a minimum GPA of 3.00  
• a minimum of 60 credit hours of 300 and 400 level EASC or physical geography courses, or related courses approved by the department. Students are strongly advised to select courses in consultation with advisors and considering career goals.  
• completion of appropriate electives to achieve a final total of at least 132 credit hours, including at least 12 credit hours from outside the Faculty of Science  
• the completion of EASC 499  

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 Paleontology  
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 EASC courses excluding EASC 491, 492, 493 and 499.  

Certificate in Forestry Geoscience  
This program provides an opportunity to obtain a specialization in geoscience courses having direct relevance to forestry industry careers. It is directed, in the first place, to undergraduate taking a major in earth sciences or physical geography. Credits applied to this certificate may not be applied to another Simon Fraser University certificate or diploma.  

Program Requirements  
The certificate requires the completion of 30-32 credit hours of required course work and electives as follows.  

Required Courses (24 credit hours)  
EASC 204-3 Structural Geology I  
EASC 313-3 Introduction to Soil and Rock Engineering  
EASC 411-3 Applied Environmental Geology  
EASC 413-3 Forest Geotechnics  
EASC 418-1 Terrain Stability: Assessment and Mitigation  
EASC 419-1 Forest Harvesting Technology  
GEOG 213-4 Geomorphology II  
GEOG 317-4 Soil Science I  

and either  
GEOG 253-3 Aerial Photographic Interpretation or both of  
EASC 206-1 Field Geology  
EASC 306-2 Field Geology II  

Elective Courses  
Students must complete one of  
EASC 304-3 Hydrogeology  
GEOG 311-4 Hydrology I  

and one of  
EASC 403-3 Quaternary Geology  
GEOG 313-3 Geomorphology II  
GEOG 412-4 Glacial Processes and Environments  
GEOG 417-4 Soil Science II  

Co-operative Education Program  
Co-operative education, combining relevant work experience with academic studies in alternate semesters on campus and in study related employment, includes pre-employment orientation and four full-time paid work semesters. Co-operative education is available to qualified earth sciences major and honors 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 science and environment co-operative education office as early as possible in their university careers to facilitate optimal scheduling. Contact the Co-operative Education Office, 8108 South Science Building, 604.291.4716.  

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 (APEBC). Requirements can be met through the Department of Earth Sciences and selected courses from other university departments. Consult the advisor for further details.  

Environmental Science Program  
www.sfu.ca/envsci  
Program Director  
Dr. R. Routledge, Department of Statistics and Actuarial Science, 10537 Shrum Science Centre, 604.291.4478 Tel, 604.291.4947, richard_routledge@sfu.ca  

Subject Advisors  
Dr. G. Agnes, Department of Chemistry, 7102 South Science Building, 604.291.4387 Tel, 604.291.3765  
Fax, gagnes@sfu.ca  
Dr. B. Ward, Department of Earth Sciences, 9701 Applied Science Building, 604.291.4229 Tel, 604.291.4198 Fax, brent_ward@sfu.ca  
Dr. E. Elle, Department of Biological Sciences, B8230 Shrum Science Centre, 604.291.4592 Tel, 604.291.3496 Fax, elle@sfu.ca  
Dr. K. Kavanagh, Department of Physics, P8443 Shrum Science Centre, 604.291.4244 Tel, 604.291.3592 Fax, kavanagh@sfu.ca  
Dr. L.F.W. Lesack, Department of Geography, 7225 Robert C. Brown Hall, 604.291.3326 Tel, 604.291.5841 Fax, lance_lesack@sfu.ca  

This program provides a broad education with specialization in one of six areas of emphasis: biology, chemistry, envirnometrics, 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. For advice about admission and program requirements, see the director or faculty assistant.  

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
and function. It is strongly recommended that students take MBB 222 as an elective.

**Electives**
Additional electives are required to meet the total 120 credit hour graduation requirement, including at least 44 at the upper division.

**Chemistry**
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 236-2 Inorganic Chemistry Laboratory
- CHEM 282-2 Organic Chemistry II
- CHEM 286-2 Organic Chemistry Laboratory II
- STAT 302-3 Analysis of Experimental and Observational Data

**Year Four**
- BISC 312-3 Environmental Toxicology I
- CHEM 371-2 Analytical Environmental Chemistry
- CHEM 332-3 Chemistry of the Transition Metals
- CHEM 372-3 Chemistry of the Atmospheric Environment
- EVSC 401-1 Current Topics in Environmental Science
- PHYS 346-3 Energy and the Environment
- STAT 403-3 Analysis of Experimental and Observational Data

**Suggested Groupings of Courses**
The following course groupings for different focuses are suggested.

**Biology Focus**
- BISC 304-3 Animal Ecology
- BISC 312-3 Environmental Toxicology I
- GEOG 316-4 Ecosystem Biogeochemistry
- REM 311-3 Applied Ecology and Sustainable Environments

**Chemistry Focus**
- CHEM 360-3 Chemical Kinetics and Thermodynamics
- CHEM 372-3 Chemistry of the Atmospheric Environment
- EVSC 401-1 Current Topics in Environmental Science
- PHYS 346-3 Energy and the Environment

**Management of Hazardous Substances**
- REM 311-3 Applied Ecology and Sustainable Environments
- REM 412-3 Environmental Modelling
- REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances

**Aquatic Chemistry Focus**
- CHEM 460-3 Advanced Physical Chemistry
- EVSC 491-3 Advanced Field Studies in Environmental Science
- GEOG 316-4 Ecosystem Biogeochemistry
- GEOG 371-4 Soil Science I

**Aqueous Chemistry Focus**
- NUSC 341-3 Introduction to Radiochemistry
- NUSC 342-3 Introduction to Nuclear Science
- NUSC 346-2 Radiochemistry Laboratory
- REM 311-3 Applied Ecology and Sustainable Environments
- REM 356-3 Management Institutions
- REM 412-3 Environmental Modelling
- REM 445-3 Environmental Risk Assessment

**Environmental Geosciences**
- CHEM 304-3 Animal Ecology
- CHEM 312-3 Environmental Toxicology I
- EVSC 401-1 Current Topics in Environmental Science
- PHYS 346-3 Energy and the Environment
- STAT 403-3 Analysis of Experimental and Observational Data

**Physical Geography**
- BISC 101-4 General Biology
- BISC 102-4 General Biology
- CHEM 121-4 General Chemistry I
- CHEM 122-2 General Chemistry II
- CHEM 126-2 General Chemistry Laboratory II
- MATH 100-3 Global Change
- GEOG 111-3 Physical Geography
Faculty of Science – Environmental Science Program

GEOG 213-3 Geomorphology
GEOG 214-3 Climatology
EVSC 200-3 Introduction to Environmental Science and one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for Biological Sciences
MATH 157-3 Calculus I for Social Sciences
and one of
MATH 152-3 Calculus II
MATH 155-3 Calculus II for Biological Sciences
MATH 158-3 Calculus II for Social 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
and one of
BISC 204-3 Introduction to Ecology
GEOG 215-3 Biogeography
and one of
STAT 201-3 Statistics for the Life Sciences
STAT 270-3 Introduction to Probability and Statistics
and one of
GEOG 250-3 Cartography I
GEOG 253-3 Aerial Photographic Interpretation
GEOG 255-3 Geographical Information Science I
Eight credit hours of electives
Total 60 credit hours

Years Three and Four
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
EVSC 401-1 Current Topics in Environmental Science
GEOG 311-4 Hydrology I
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 317-4 Soil Science I
PHYS 346-3 Energy and the Environment
STAT 302-3 Analysis of Experimental and Observational Data
and one of
GEOG 352-4 Techniques in Spatial Analysis II
STAT 403-3 Intermediate Sampling and Experimental Design
and two of
GEOG 313-4 Geomorphology II
GEOG 314-4 Climatology II
GEOG 315-4 Biogeography II
GEOG 411-4 Hydrology II
GEOG 412-4 Glacial Processes and Environments
GEOG 413-4 Climatology III
GEOG 414-4 Climatology IV
GEOG 415-4 Biogeography
GEOG 417-4 Soil Science II
and three of
BISC 310-3 Plants and Animals of British Columbia
BISC 367-3 Plant Physiology Laboratory
BISC 404-3 Plant Ecology
BISC 413-4 Limnology
BISC 416-3 Fish Biology
BISC 434-3 Paleolimnology
CHEM 371-3 Chemistry of the Aquatic Environment
CHEM 372-3 Chemistry of the Atmospheric Environment
CHEM 373-3 Chemistry of the Aqueous Environment
CHEM 372-3 Chemistry of the Aqueous Environment
CHEM 373-3 Chemistry of the Aquatic Environment
EASC 302-3 Applied Geophysics
EASC 303-3 Applied Geophysics
EASC 304-3 Introduction to Environmental Science
EASC 307-3 Applied Geophysics
EASC 313-3 Introduction to Soil and Rock Engineering
EASC 403-3 Quaternary Geology
EASC 416-3 Field Techniques in Hydrogeology
EVSC 491-3 Advanced Field Studies in Environmental Science
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 and Visualization
GEOG 353-4 Remote Sensing
GEOG 355-4 Geographical Information Science II
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.

Aquatic Environments
BISC 414-3 Limnology
BISC 416-3 Fish Biology
CHEM 371-3 Chemistry of the Aquatic Environment
EASC 409-3 Rivers: Environments and Engineering
GEOG 411-4 Hydrology II
GEOG 413-4 Geomorphology III
Plants and Environment
BISC 310-3 Plants and Animals of British Columbia
BISC 366-3 Plant Physiology
BISC 367-3 Plant Physiology Laboratory
BISC 404-3 Plant Ecology
BISC 434-3 Paleoeceanology and Palynology
GEOG 314-4 Climatology II
GEOG 315-4 Regional Ecosystems
GEOG 415-4 Advanced Biogeography
GEOG 417-4 Soil Science II
REM 471-4 Forest Ecosystem Management
Biogeochemistry
BISC 414-4 Limnology
CHEM 371-3 Chemistry of the Aquatic Environment
CHEM 372-3 Chemistry of the Atmospheric Environment
EASC 304-3 Hydrogeology
EASC 410-3 Groundwater Geochemistry and Contaminant Transport
GEOG 417-4 Soil Science II

Pollutant Transport
Year One (*designates the preferred option)
BISC 101-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-4 General Chemistry Laboratory I
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 I 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 II for the Social Sciences II
and one of
PHYS 101-3 General Physics I
PHYS 120-3 Evolutionary Physics and Mechanics
and one of
PHYS 102-3 General Physics II
PHYS 121-3 Optics, Electricity and Magnetism
*recommended
Year Two
CHEM 281-4 Organic Chemistry I
EASC 201-3 Stratigraphy and Sedimentation
EASC 206-1 Field Geology I
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 104-1 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
EASC 304-3 Hydrogeology
EASC 410-3 Groundwater Geochemistry and Contaminant Transport
EVSC 401-1 Current Topics in Environmental Science
GEOG 311-4 Hydrology I
MATH 252-3 Vector Calculus
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 314-3 Boundary Value Problems
STAT 285-3 Intermediate Probability and Statistics
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
and at least 24 upper division credit hours of electives selected from the following. Note that some courses may require lower division prerequisites.
BISC 312-3 Environmental Toxicology I
BISC 414-3 Limnology
CHEM 316-3 Introductory Instrumental Analysis
CHEM 317-3 Analytical Environmental Chemistry
CHEM 360-3 Chemical Kinetics and Thermodynamics
CHEM 371-3 Chemistry of the Aqueous Environment
CHEM 372-3 Chemistry of the Atmospheric Environment
EASC 303-3 Environmental Geoscience
EASC 307-3 Applied Geophysics
EASC 313-3 Introduction to Soil and Rock Engineering
EASC 403-3 Quaternary Geology
EASC 416-3 Field Techniques in Hydrogeology
EVSC 491-3 Advanced Field Studies in Environmental Science
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 354-4 Introduction to Geographic Information Systems
GEOG 414-4 Climatology III
GEOG 415-4 Advanced Biogeography
MACM 316-3 Numerical Analysis I
MACM 318-3 Numerical Analysis II
MATH 415-3 Ordinary Differential Equations
MATH 416-3 Partial Differential Equations
MATH 462-3 Fluid Dynamics
MATH 467-3 Dynamical Systems
MATH 473-3 Computer Programming*

and at least 12 credit hours selected from outside the Faculty of Science.
Suggested Groupings of Courses

The following groupings of courses for different focuses are suggested.

Aqueous 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 316-4 Ecosystem Biogeochemistry
GEOG 415-4 Advanced Biogeochemistry
REM 311-3 Applied Ecology and Sustainable Environments
REM 412-3 Environmental Modelling

Aqueous Chemistry Focus
BISC 414-3 Limnology
CHEM 316-4 Introductory Instrumental Analysis
CHEM 317-2 Analytical Environmental Geography
CHEM 360-3 Chemical Kinetics and Thermodynamics
CHEM 371-3 Chemistry of the Aqueous Environment
EASC 410-3 Field Techniques in Hydrogeology
NUSC 341-3 Introduction to Radiochemistry
REM 412-3 Environmental Modelling
REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances

Earth Properties Focus
EASC 303-3 Environmental Geoscience
EASC 307-3 Applied Geophysics
EASC 313-3 Introduction to Soil and Rock Engineering
EASC 403-3 Quaternary Geology
EASC 416-3 Field Techniques in Hydrogeology
GEOG 313-4 Geomorphology II
GEOG 317-4 Soil Science I
GEOG 354-4 Introduction to Geographic Information Systems
STAT 403-3 Intermediate Sampling and Experimental Design

Atmospheric Focus
BISC 312-3 Environmental Toxicology I
CHEM 360-3 Chemical Kinetics and Thermodynamics
CHEM 372-3 Chemistry of the Atmospheric Environment
GEOG 314-4 Climatology II
GEOG 414-4 Climatology III
NUSC 341-3 Introduction to Radiochemistry
PHYS 346-3 Energy and the Environment
REM 412-3 Environmental Modelling

Transport Modelling Focus
EASC 416-3 Field Techniques in Hydrogeology
GEOG 354-4 Introduction to Geographic Information Systems
MATH 322-3 Complex Variable
MATH 416-3 Numerical Analysis II
MATH 418-3 Partial Differential Equations
MATH 467-3 Dynamical Systems
MATH 468-3 Fluid Dynamics
MACM 318-3 Numerical Analysis I
REM 412-3 Environmental Modelling
STAT 403-3 Intermediate Sampling and Experimental Design

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
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
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 318-3 Numerical Analysis I
MATH 308-3 Linear Programming
MATH 310-3 Introduction to Ordinary Differential Equations
PHYS 346-3 Energy and the Environment
STAT 355-4 Linear Models in Applied Statistics

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
and at least four courses from the following to be completed in years three or four
BISC 305-3 Animal Physiology
BISC 409-3 Evolution
ECON 261-3 Resources and the Economy of British Columbia
EVSC 491-3 Advanced Field Studies in Environmental Science
GEOG 354-4 Introduction to Geographic Information Systems
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Management Institutions
REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances
REM 471-3 Forest Ecosystem Management

Honors Program
This program requires 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.

Biochemistry
Students must complete all requirements in the major program, plus all requirements for the honors program. The required 48 upper division credit hours in a specific subject requires all of
BISC 490-5 Research Design
BISC 491-5 Research Technique
BISC 492-5 Research Reporting
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
To fulfill the required 48 upper division credit hours in a specific subject, students choose further major program courses as options in years three and four. Other courses may substitute, subject to faculty advisor approval.

Environmetrics
Students must complete all requirements for this area of emphasis in the major program, plus all requirements for the honors program, and also both of
STAT 330-3 Introduction to Mathematical Statistics
STAT 450-3 Statistical Theory
To fulfill the required 48 upper division 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 on approval of a faculty advisor.

Physical Geography
Students must complete all area of emphasis requirements, plus all honors requirements. To fulfill the required 48 upper division credit hours in a specific subject area, students must complete

Economic Focus
ECON 261-3 Resources and the Economy of British Columbia
GEOG 354-4 Introduction to Geographic Information Systems
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Management Institutions
REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances

Forestry Focus
ECON 261-3 Resources and the Economy of British Columbia
GEOG 354-4 Introduction to Geographic Information Systems
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Management Institutions
REM 471-3 Forest Ecosystem Management
General Science Program

P9451 Shrum Science Centre, 604.291.3772 Tel, 604.291.3424 Fax, www.sfu.ca/~science/degrees/general.html

Advisor
Ms. R. Hotell, Faculty Assistant

This degree program provides broad education in several fields with some specialization in at least two. It requires two minors chosen from below, one of which must be in the Faculty of Science. Restrictions for the combination of minors is 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
  - archaeology, psychology

Because of the proximity of subject matter, the following combinations of minors are not acceptable:

- biological sciences, molecular biology and biochemistry
- biochemistry, environmental toxicology
- chemistry, nuclear science
- kinesiology, molecular biology and biochemistry
- environmental chemistry, environmental toxicology

Lower Division Requirements

Students must complete all of 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 and all of PHYS 101-3 General Physics I, PHYS 102-3 General Physics II, PHYS 130-2 General Physics Laboratory or all of 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, or both of MATH 151-3 Calculus I, MATH 152-3 Calculus II

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, 361 in their programs.
Applied Mathematics Honors Program

Lower Division Requirements
These requirements are the same as the lower division requirements for the applied mathematics major program. Please see "Lower Division Requirements" on page 212 in that program.

Upper Division Requirements
all of
MACM 316-3 Numerical Analysis I
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 314-3 Numerical Analysis II (or MATH 416)
MATH 416-3 Numerical Analysis II (or MATH 416)
MACM 401-3 Introduction to Computer Algebra
MACM 416-3 Numerical Analysis II (or MATH 416)
MATH 308-3 Linear Programming
MATH 309-3 Continuous Optimization
MATH 343-3 Applied Discrete Mathematics
MATH 408-3 Discrete Optimization
MATH 419-3 Linear Analysis
MATH 424-3 Applications of Complex Variables
MATH 425-3 Introduction to Metric Spaces
MATH 438-3 Linear Algebra
MATH 461-3 Mechanics of Deformable Media (or 361)
MATH 462-3 Fluid Dynamics
MATH 467-3 Dynamical Systems
MATH 495-3 Topics in Applied Mathematics
PHYS 395-3 Computational Physics
PHYS 413-3 Advanced Mathematics
PHYS 484-3 Nonlinear Physics
Two additional upper division courses in MATH or MACM or any pre-approved quantitative upper division courses offered by the Faculties of Applied Sciences, Arts, Business Administration or Science. For this purpose a course, if not MATH or MACM, must be pre-approved by a department advisor. Students are encouraged to explore the option of taking courses outside the department and should discuss possibilities with a department advisor. Choices from the fourth group ("at least six") must not include the courses used to satisfy the second and third groups ("at least one of"). At least five of the courses used to satisfy the upper division requirements must be at the 400 level.

Other Requirements
Of the total 132 credit hours required for honors, at least 12 must be taken outside the Faculty of Science including at least six in the Faculty of Arts. At least 60 of the credit hours must be at the upper division. A cumulative grade point average (CGPA) of at least 3.00 and an upper division grade point average of at least 3.00 are required. These averages are computed on all courses taken at the University. If both averages are at least 3.50, the designation "first class" applies.

Management and Systems Science Program
Please see "Management and Systems Science Program" on page 222.
Mathematics 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

Note: With a C grade or better in the relevant course, these 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. A grade of C- or higher in MATH 242 is required for admission to the mathematics major or honors programs.

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

one of MATH 320-3 Advanced Calculus of One Variable
MATH 332-3 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

BSc mathematics major students must obtain at least 30 credit hours in upper division mathematics (MATH), or mathematics/computing science (MACM), or PHYS 113, or from the following list of statistics (STAT) and actuarial mathematics (ACMA) courses: ACMA 310, STAT 330, 350, 380, 402, 430, 450 and 480.

Of the 30 credit hour minimum total requirement for the mathematics major, at least 24 must come from MATH or MACM courses. At least three of the courses used to satisfy this 30 credit hour requirement must be at the 400 division level, of which at least two must be 400 division MATH or MACM 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, honors students must take MATH 252 and obtain at least 18 additional credit hours in upper division mathematics (MATH), or mathematics/computing science (MACM) courses, PHYS 413, or from the list of approved STAT and ACMA courses listed under Upper Division Requirements for the Mathematics Major Program. Of this minimum 48 upper division credit hours, at least 36 must come from MATH or MACM courses.

At least five of the courses used to satisfy the 48 credit hour requirement must be at the 400 division level, of which at least three must be 400 division MATH or MACM courses. Students may not use a directed studies, job practicum, or honors essay course to fulfill the 400 division requirement.

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 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.

At least 15 credit hours of upper division mathematics (MATH), or mathematics/computing science (MACM),

Mathematics and Computing Science Honors Program
This honors program is offered jointly by the Department of Mathematics and the School of Computing Science. Entry requires permission of both the department and the school. Graduates may proceed to graduate work in either mathematics or computing science. (Depending on the student’s particular area of interest, a small amount of additional undergraduate work in either mathematics or computing science may be required.) Normally, students apply for acceptance upon completion of the lower division requirements. Early acceptance is available for SFU students and transfer students with high CGPAs and program related GPAs. Direct acceptance is also possible for secondary school students with strong admission GPAs.

Students must complete 132 credit hours, as specified below.

Lower Division Requirements
CMPT 101-4 Introduction to Computer Programming
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
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

* A 100 division English course or PHIL 120 may be substituted

Note 1: A student who, in satisfaction of upper division requirements (see below), wishes to use group e) as one of the two upper division required groups taken from the list a), b), c), d), e) 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
Students must complete all of MATH 316-3 Numerical Analysis I
CMPT 397-3 Data Structures and Algorithms
CMPT 354-3 Database Systems I
CMPT 455-3 Design and Analysis of Computing Algorithms

plus one of MATH 308-3 Linear Programming
MATH 343-3 Applied Discrete Mathematics

• the required courses in two of the groups a), b), c), d), e) below and in two of the groups f), g), h), i), j) 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.

• the Social Aspects of Computing requirement of the computing science major and honors program.

• 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 Mathematical Statistics
STAT 350-3 Linear Models in Applied Statistics
STAT 380-3 Introduction to Stochastic Processes

Other courses
STAT 402-3 Generalized Linear and Nonlinear Modelling
STAT 450-3 Statistical Theory
STAT 460-3 Bayesian Statistics

b) Discrete Mathematics

Required courses
MATH 308-3 Linear Programming
MATH 343-3 Applied Discrete Mathematics

and one of MATH 408-3 Discrete Optimization
MATH 443-3 Combinatorial Theory
MATH 445-3 Graph Theory

c) Algebra

Required courses
MATH 332-3 Introduction to Applied Algebraic Systems

and one of MACM 401-3 Introduction to Computer Algebra
MATH 438-3 Linear Algebra
MATH 439-3 Algebraic Systems
MATH 440-3 Galois Theory
MATH 447-3 Coding Theory

d) Numerical Analysis

Required courses
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 416-3 Numerical Analysis II

e) Applied Mathematics

Required course
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
Mathematical Physics Honors Program

This program, offered jointly with the Department of Physics, consists of theoretical and laboratory physics and applied and pure mathematics courses. See "Mathematical Physics Honors Program" on page 214.

Co-operative Education

Students are encouraged to enter co-operative education which integrates work experience with academic study. For further details, see "Co-operative Education" on page 226. Students should contact the mathematical sciences co-op co-ordinator at 604.291.4123, K10507, for admission requirements and information.

Department of Molecular Biology and Biochemistry

8166 South Science Building, 604.291.5630 Tel, 604.291.5583 Fax, www.sfu.ca/mbb

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Professors Emeriti
R.J. Cushley BSc, MSc, PhD (Alta)
W.R. Richards AB, PhD (Calif)

Professors
D.L. Baillie BSc, MSc, PhD (Br Col), PhD (Conn)
B.P. Brandhorst AB (Harv), PhD (Calif)**
R.B. Cornell BS (Houghton), PhD (Penn)**
W.S. Davidson BSc (Edin), PhD (Gu)
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Associated Faculty
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A.T. Beckenbach, Biological Sciences
A.J. Bennet, Chemistry
F. Breden, Biological Sciences
N.H. Hauerland, Biological Sciences
C. Krieger, Kinesiology
P.C.H. Li, Chemistry
M.M. Moore, Biological Sciences
B.M. Pinto, Chemistry
E. Plettner, Chemistry
L.M. Quarry, Biological Sciences
G.F. Tibbits, Kinesiology

Lecturers
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Advisor
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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 may follow the requirements in effect when they were accepted into the program, or the requirements as set out below.

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 Biotechnology
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 288-2 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

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

Recommended Course

MATH 251-3 Calculus III

Upper Division Core Requirements

(24 credit hours)

Students must complete all of

MBB 308-3 Molecular Biology and Biochemistry

and one of

MBB 309-3 Molecular Biology and Biochemistry

MBB 321-3 Intermediary Metabolism

MBB 322-3 Molecular Physiology
and one of
BISC 331-3 Molecular Biology
MBB 331-3 Molecular Biology
and one of
CHEM 360-3 Chemical Kinetics and Thermodynamics
MBB 323-3 Introduction to Physical Biochemistry and one of
BISC 457-3 Plant Molecular Biology and Biotechnology
MBB 432-3 Advanced Molecular Biology Techniques and one of
MATH 310-3 Introduction to Ordinary Differential Equations
STAT 201-3 Statistics for the Life Sciences

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 Biomembranes
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
plus one of
BISC 333-3 Developmental Biology
MBB 402-3 Molecular Genetics
MBB 435-3 Genomic Analysis
plus one of
BISC 305-3 Animal Physiology
BISC 400-3 Evolution
BISC 439-3 Industrial Microbiology
BISC 453-3 Advanced Developmental Biology
MBB 491-5 Undergraduate Research
or with permission of the undergraduate advisor, one of the following
BISC 471-3 Special Topics in Biology
BISC 472-3 Special Topics in Biology
BISC 473-3 Special Topics in Biology
BISC 4xx-x another 400 level molecular biology and biochemistry course

Biochemistry Stream
(15-18 credit hours)
Students must complete all of
MBB 403-3 Physical Biochemistry
MBB 412-4 Enzymology
MBB 413-3 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 Biomembranes
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 401-406); 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 201
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
MATH 151-3 and 152-3
PHYS 120-3 and 121-3
Total 30 credit hours
Levels 3 and 4
BISC 202-3
CHEM 126-2, 282-2, 286-2 and 215-4
CMPT 101-4, 102-3 or 110-3
MBB 221-3 and 222-3
6 hours of electives
Total 28-29 credit hours
Levels 5 and 6
MBB 331-3
CHEM 360-3 or MBB 323-3
MATH 310-3 or STAT 201-3
MBB 308-3, 309-3, 321-3 and 322-3
MBB 432-3
9 hours of electives
Total 33 credit hours
Levels 7 and 8
15-18 credit hours
11-16 credit hours of electives
Total 29-31 credit hours

Joint Major in Computing Science and Molecular Biology and Biochemistry
The School of Computing Science and the Department of Molecular Biology and Biochemistry co-operate in offering this joint major program. The administrative home is within the Faculty of Science for purposes of student registration, appeals and graduation processing.
The program is administered by a co-ordinating committee consisting of two faculty members each from computing science, and molecular biology and biochemistry. The committee chair serves as program director in two-year appointments on an alternating basis between representatives from the two units.
Program requirements include sections labelled MBB Requirements and CMPT Requirements. The requirements under these sections are intended to track corresponding requirements within the MBB and CMPT major programs, respectively.

Lower Division Requirements
(72 credit hours, or 74 credit hours if CMPT 101 is taken)
Students must complete
PHIL 100-3 Knowledge and Reality
MATH 151-3 Calculus I
MATH 152-3 Calculus II
STAT 270-3 Introduction to Probability and Statistics
plus one additional arts course chosen from
ARCH 105-3 The Evolution of Technology
CMNS 110-3 Introduction to Communication Studies
CMNS 130-3 Explorations in Mass Communication
CNS 160-3 The Social Background of Canada
CRIM 101-3 Introduction to Criminology
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
HIST 106-3 Western Civilization from the Reformation Era to the 20th Century
POL 100-3 Introduction to Politics and Governance
PSYC 100-3 Introduction to Psychology I
REM 100-3 Global Change
SA 101-4 Introduction to Anthropology (A)
SA 150-4 Introduction to Sociology
WS 101-3 Introduction to Women’s Issues in Canada
plus one of
PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics
plus one of
PHYS 102-3 General Physics II
PHYS 121-3 Optics, Electricity and Magnetism

Molecular Biology and Biochemistry Lower Division Requirements
Students must complete all of
BISC 101-4 General Biology
BISC 102-4 General Biology
BISC 202-3 Genetics
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry and Laboratory II
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
MBB 221-3 Cell Biology and Biochemistry
MBB 222-3 Molecular Biology and Biochemistry

Computing Science Lower Division Requirements
Students must complete one of
CMPT 104-2 Computer Programming
CMPT 101-4 Introduction to Computer Programming
and all of
CMPT 150-3 Introduction to Computer Design
CMPT 201-4 Data and Program Abstraction
CMPT 275-4 Software Engineering
MACM 101-3 Discrete Mathematics II
MACM 201-3 Discrete Mathematics II
MATH 232-3 Elementary Linear Algebra

Upper Division Requirements
(48 credit hours)
STAT 302-3 Analysis of Experimental and Observational Data

Molecular Biology and Biochemistry Upper Division Requirements
Students must complete all of
MBB 308-3 Molecular Biology and Biochemistry Laboratory I
MBB 321-3 Intermediary Metabolism
MBB 331-3 Molecular Biology
MBB 441-3 Bioinformatics
plus at least two additional 400 division MBB courses. The following courses are suggested.
MBB 423-3 Protein Structure and Function
MBB 435-3 Genomic Analysis
MBB 442-3 Proteomics

Computing Science Upper Division Requirements
CMPT 307-3 Data Structures and Algorithms
CMPT 341-3 Introduction to Computational Biology
CMPT 354-3 Database Systems and Structures
MATH 318-3 Numerical Analysis
CMPT 320-3 Social Implications of a Computerized Society
plus two courses from
CMPT 300-3 Operating Systems
CMPT 305-3 Computer Simulation and Modeling
CMPT 310-3 Artificial Intelligence Survey
CMPT 340-3 Computers in Biomedicine
CMPT 361-3 Introduction to Computer Graphics
CMPT 363-3 User Interface Design
Upper Division Molecular Biology and Biochemistry Requirements
Students must complete all of
BISC 303-3 Microbiology
MBB 300-1 Special Topics in Biotechnology and Business
MBB 308-3 Molecular Biology and Biochemistry Laboratory I
MBB 309-3 Molecular Biology and Biochemistry Laboratory II
MBB 321-3 Intermediary Metabolism
MBB 322-3 Molecular Physiology
MBB 331-3 Molecular Biology
and one of
BISC 457-3 Plant Molecular Biology and Biotechnology
MBB 432-3 Advanced Molecular Biology Techniques
and one of
MBB 423-3 Protein Structure and Function
MBB 426-3 Immunology
MBB 435-3 Genomic Analysis

Upper Division Business Administration Requirements
BUEC 333-3 Elementary Economic and Business Statistics II
BUS 303-3 Business, Society and Ethics
BUS 312-4 Introduction to Finance
BUS 343-3 Introduction to Marketing
BUS 360-3 Business Communication
BUS 393-3 Commercial Law
BUS 477-4 New Venture Planning
and one of
BUS 347-3 Consumer Behavior
another marketing course
and one of
BUS 374-3 Organization Theory
BUS 391-3 Introduction to Human Resource Management

Honors Program
(132 credit hours)
Admission to this program requires a minimum 3.0 CGPA and permission of the molecular biology and biochemistry department. In addition to the major program requirements, MBB honors complete one of the following individual study semester options.

MATH 493-15 Individual Study Semester (Option B)

**This may be accomplished by breaking the individual study semester project into two consecutive semesters. If MBB 491 has already been taken to satisfy the major program requirements, then students must complete one other course selected from the appropriate list in either the molecular biology stream or the biochemistry stream, in addition to MBB 492, to satisfy honors requirements. Students must take 12 credit hours outside the Faculty of Science (including six hours in the Faculty of Arts, but excluding EDUC 401 to 406) and at least 60 upper division credit hours. See “Requirements for Major” on page 201.

Minor Program
(56-60 credit hours minimum)
Lower Division Requirements
(42 credit hours minimum)
one of GEOG 221-3 Economic Geography
GEOG 241-3 Social Geography
one of GEOG 250-3 Cartography I
GEOG 253-3 Aerial Photographic Interpretation
GEOG 255-3 Geographical Information Science I
GEOG 291-3 Environmental Geology 18 credit hours

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 I
PHYS 102-3 General Physics II
PHYS 130-2 General Physics Laboratory and one of STAT 270-3 Introduction to Probability and Statistics
STAT 201-3 Statistics for the Life Sciences
plus both of MATH 151-3 Calculus I
MATH 152-3 Calculus II
or both of MATH 164-3 Calculus I for the Biological Sciences
MATH 155-3 Calculus II for the Biological Sciences 34 credit hours

Upper Division Requirements
(total 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 384-4 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 and Visualization
GEOG 352-4 Spatial Analysis
GEOG 353-4 Remote Sensing
GEOG 355-4 Geographical Information Science II
GEOG 416-4 Cognitive Cartography 20 credit hours

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
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 from 300-400 division BISC, CHEM, EASC, MASC, MBB, NUSC, PHYS and STAT courses. 9 credit hours
A student must take 44 upper division credit hours (excluding EDUC 401, 402, 405 and 406), and additional credit in any courses (excluding EDUC 401, 402, 405 and 406) to bring the total to 120 credit hours. See “Requirements for Major” on page 201.

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, 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 35 and “Requirements for Honors and Honors First Class” on page 201.

Honors program entry requires department approval.

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
GEOG 255-3 Geographical Information Science I

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 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

Co-operative Education Program
Co-op education augments academic studies with relevant work experience. The program includes four full-time paid work semesters which alternate with academic semesters. Work semester arrangements are made through co-op education.

Major and honors students in the physical geography BSc program apply for admission 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.

Apply for co-op education admission 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 information, contact the environmental co-op education co-ordinator. Telephone 604.291.3115. Students in the geography major, BA program, should see “Department of Geography” on page 165 in the Faculty of Arts section.

Professional Registration as a BC Geoscientist
The right to practise 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 (APEGBC). Requirements for registration can be met through the physical geography BSc major program and selected courses in other university departments. Consult the undergraduate advisor in the Department of Geography for details.
Adjoint Professors
St. J. Dixon-Warren BSc (S Fraser), PhD (Tor)
M. Zuckermann BA, DPhil (Oxf)

Associate Members
J.M. D’Auria, Chemistry
K. Delaney, Biological Sciences
D. E. Nelson, Archaeology
E. M. Voigt, Chemistry***

Senior Lecturers
N. Alberding BSc (WOnt), PhD (Ill)
M. Chen BSc (Zhongshan, China), MA, PhD (CUNY)

Advisor
Dr. M. Vetterli BSc (McG), PhD (McM), P8433 Shrum Science Centre, 604.291.5489

*joint appointment with biochemistry
**joint appointment with engineering science
***professor emeritus

Computer Skills
Computing skills such 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 see “Course Challenge” on page 51.

Applied Physics Major Program
This program, leading to a BSc degree, offers a solid background in physics combined with the applied aspects of physics necessary for students planning careers in high technology industries. Students should enrol in the co-op program to acquire valuable industrial experience.

Lower Division Requirements
Students must complete all of the following.
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CMPT 150-3 Introduction to Computer Design
CMPT 250-3 Introduction to Computer Architecture
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 121-3 Optics, Electricity and Magnetism
PHYS 122-2 Physics Laboratory I
PHYS 211-3 Intermediate Mechanics
PHYS 221-3 Intermediate Electricity and Magnetism
PHYS 232-2 Physics Laboratory II
PHYS 234-3 Computers in Physics Laboratory
PHYS 285-3 Introduction to Relativity and Quantum Mechanics

CHEM 126-2 General Chemistry Laboratory II

plus one of
CMPT 101-4 Introduction to Computing Programming
CMPT 102-3 Introduction to Scientific Computer Programming

Upper Division Requirements
Core
MACM 316-3 Numerical Analysis I
MATH 310-3 Introduction to Ordinary Differential Equations
PHYS 324-3 Electromagnetics
PHYS 326-3 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
CHEM 316-4 Introductory Instrumental Analysis
PHYS 340-3 Materials Chemistry
PHYS 366-2 Physical Chemistry Laboratory I
CHEM 462-3 Molecular Spectroscopy
MATH 310-3 Introduction to Ordinary Differential Equations

CHEM 324-3 Introduction to Radiochemistry
PHYS 326-3 Electronics and Instrumentation
PHYS 331-3 Electronics Laboratory

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

and 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 201.

Chemical Physics Major Program
This program is offered jointly by the Departments of Chemistry and Physics. Entry requires permission of both. Computing skills such as those in CMPT 102 are expected of those entering second year physics.

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
CMPT 150-3 Introduction to Computer Design
CMPT 250-3 Introduction to Computer Architecture
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 121-3 Optics, Electricity and Magnetism
PHYS 122-2 Physics Laboratory I
PHYS 211-3 Intermediate Mechanics
PHYS 221-3 Intermediate Electricity and Magnetism
PHYS 234-3 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 lower division computing science credit hours.

*the requirement that PHYS 233 as a prerequisite for PHYS 234 is waived for students in the chemical physics major and honors programs.

Upper Division Requirements
(40-42 credit hours)
all of
CHEM 316-4 Introductory Instrumental Analysis
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

NUSC 341-3 Introduction to Radiochemistry
PHYS 326-3 Electronics and Instrumentation
PHYS 331-3 Electronics Laboratory

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

and 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 201.

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 and Laboratory 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 234-3 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 lower division computing science credit hours.

*the requirement that PHYS 233 as a prerequisite for PHYS 234 is waived for students in the chemical physics major and honors programs.

Upper Division Requirements
MATH 310-3 Introduction to Ordinary Differential Equations
PHYS 332-3 Optics Laboratory
PHYS 344-3 Thermal Physics
PHYS 355-3 Optics
PHYS 385-3 Quantum Physics

In addition, a minimum of 16 other upper division physics credit hours must be taken to satisfy the physics subject area requirements for a major.

Non-science Electives — Students must complete a minimum of nine credit hours outside the Faculty of Science (excluding EDUC 401-406) including six hours from the Faculty of Arts.

In addition to the above, students must take sufficient unspecified upper division courses to complete a minimum of 44 credit hours, and further unspecified courses at any level to total 120 credit hours. Also, see “Requirements for Major” on page 201.

Nuclear Science Courses
NUSC 442 and 485 may be counted as upper division physics courses in a physics major, honors and minor programs.
Applied Physics Honors Program
This program offers a solid physics background combined with an extensive introduction to the applied aspects of physics necessary for students planning careers in high technology industries. In addition, students have the option of various specialized upper division courses. Students should enrol in co-op education to acquire industrial experience. A cumulative GPA of 3.00 or better is required to graduate in the honors program.

Notes: PHYS 432, based on an industrially motivated project, is strongly recommended. An additional second year computing course, such as CMPT 212, is recommended. Students considering graduate school in physics should also consider taking PHYS 413, 415, 425 and 445.

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 (39 credit hours)
Students must complete all of
- MATH 310-3 Introduction to Ordinary Differential Equations
- PHYS 324-3 Electromagnetics
- PHYS 326-3 Electronics and Instrumentation
- PHYS 331-3 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 430-5 Digital Electronics and Interfacing
- PHYS 431-4 Advanced Physics Laboratory I
- PHYS 465-3 Solid State Physics
- PHYS 484-3 Computational Physics
and 12 additional credit hours chosen from
- ENSC 426-4 High Frequency Electronics
- ENSC 495-3 Introduction to Microelectronic Fabrication
- PHYS 365-3 Semiconductor Physics
- PHYS 455-3 Applied Optics
and one of
- CHEM 340-3 Materials Chemistry
- ENSC 330-3 Engineering Materials
- PHYS 395-3 Computational Physics
Non Science Electives
A minimum of nine credit hours outside the Faculty of Science (excluding EDUC 401-406), including six hours from the Faculty of Arts, is required.
In addition to specified courses above, students select sufficient unspecifed 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.

Chemical Physics Honors Program
This program is offered jointly by the Departments of Chemistry and Physics. Entry requires permission of both. Computing skills such as those in CMPT 102 are expected of those entering second year physics. Honors program graduates may do graduate work in either chemistry or physics.

Lower Division Requirements
(55-56 credit hours)
Requirements are the same as for the chemical physics 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
- PHYS 484-3 Computational Physics
and one of
- CHEM 360-3 Kinetics and Thermodynamics
- PHYS 344-3 Thermal Physics
- PHYS 460-3 Advanced Physical Chemistry
- PHYS 445-3 Statistical Physics
and one of
- CHEM 464-3 Quantum Chemistry
- PHYS 385-3 Quantum Physics
- PHYS 431-4 Advanced Physics Laboratory I
- PHYS 432-5 Undergraduate Honors Thesis
- PHYS 484-3 Computational Physics
- PHYS 485-3 Undergraduate Research
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 123 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 201.

Mathematical Physics Honors Program
Advisors
Dr. M. Vetterli BSc (McG), PhD (McM), P8433 Shrum Science Centre, 604.291.4849
Mrs. M. Fankboner BA (Occidental), MSc (S Fraser), K10531 Shrum Science Centre, 604.291.3379
Dr. R. Choksi BSc (Tor), MS, PhD (Brown), K10531 Shrum Science Centre, 604.291.3379

This program is offered jointly by the Departments of Mathematics, and Physics. Graduates may do graduate work in mathematics or physics depending on interest. Some additional work in either mathematics or physics may be required. Students must contact Dr. Vetterli as soon as possible to schedule their programs.

Lower Division Requirements
Students must complete one of
- CMPT 101-4 Introduction to Computer Programming
- CMPT 102-3 Introduction to Scientific 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

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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 270-3 Introduction to Probability and Statistics

Upper Division Requirements
Students must complete all of
- MACM 316-3 Numerical Analysis I
- MATH 310-3 Introduction to Ordinary Differential Equations
- MATH 320-3 Advanced Calculus of One Variable
- MATH 322-3 Complex Variables
- MATH 418-3 Partial Differential Equations
and two of
- MATH 332-3 Introduction to Applied Algebraic Systems
- MATH 419-3 Linear Analysis
- MATH 424-3 Applications of Complex Analysis
- MATH 425-3 Introduction to Metric Spaces
- MATH 438-3 Linear Algebra
- MATH 439-3 Introduction to Algebraic Systems
- MATH 467-3 Dynamical Systems
and one of
- MATH 461-3 Mechanics of Deformable Media
- MATH 462-3 Fluid Dynamics
- MATH 495-3 Selected Topics in Applied Mathematics
and one of
- MACM 416-3 Numerical Analysis II
- MATH 309-3 Continuous Optimization
- MATH 395-3 Computational Physics
plus one additional course to be selected from the three groupings above.
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 335-3 Optics
- PHYS 332-3 Optics Laboratory
or both of
- PHYS 326-3 Electronics and Instrumentation
- PHYS 331-3 Electronics Laboratory
and two of
- NUSC 485-3 Particle Physics
- PHYS 432-5 Undergraduate Honors Thesis
- PHYS 445-3 Solid State Physics
- PHYS 443-3 Nonlinear Physics
- PHYS 490-3 General Relativity and Gravitation

Other Requirements
A minimum of nine hours of electives is required from outside the Faculty of Science (excluding EDUC 401 to 407) including six hours from the Faculty of Arts. Further electives in any division is required to bring the total credit hours to at least 132. CHEM 121 and 122 should be included in these. Further requirements for the BSc (honors) degree are in the Faculty of Science section (page 201).

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 post-graduate
physics study and closely related disciplines. A grade average of B or higher is required to graduate.  

**Lower Division Requirements**  
Requirements are the same as for physics major program.  

**Upper Division Requirements**  
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)  
all of  
PHYS 326-3 Electronics and Instrumentation  
PHYS 331-3 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 413-3 Advanced Mechanics  
PHYS 415-3 Quantum Mechanics  
PHYS 425-3 Electromagnetic Theory  
PHYS 431-4 Advanced Physics Laboratory I  
PHYS 445-3 Statistical Physics  
At least 11 credit hours to be chosen from  
NUSC 485-3 Particle Physics  
PHYS 395-3 Introduction to Electrodynamics  
PHYS 405-3 Computational Physics  
PHYS 430-5 Digital Electronics and Interfacing  
PHYS 432-5 Undergraduate Honors Thesis  
PHYS 455-3 Applied Optics  
PHYS 465-3 Solid State Physics  
PHYS 484-3 Nonlinear Physics  
PHYS 490-3 General Relativity and Gravitation  
PHYS 492-3 Special Topics in Physics  
PHYS 493-3 Special Topics in 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.  
In addition to those above, the student must elect sufficient unspecified courses* in any division to complete a minimum of 132 credit hours total credit.  
Also, "Requirements for Major" on page 201.  
*excluding EDUC 401, 402, 405, 406  

**Nuclear Science Courses**  
NUSC 442 and 485 may be counted as upper division physics courses in a physics major, honors and minor programs.  

**Recommended for First Four Semesters**  

**Semester I**  
CHEM 121-4 General Chemistry and Laboratory I  
PHYS 120-3 Modern Physics and Mechanics  
MATH 151-3 Calculus I  
elective I (CMPT 102 suggested)  
elective II  
16 or 17 credit hours  

**Semester II**  
CHEM 122-2 General Chemistry II  
MATH 152-3 Calculus II  
PHYS 121-3 Optics, Electricity and Magnetism  
PHYS 131-2 Physics Laboratory I  
elective III (CHEM 126-2 suggested)  
elective IV  
15 credit hours  

**Semester III**  
MATH 232-3 Elementary Linear Algebra  
MATH 251-3 Calculus III  
PHYS 211-3 Intermediate Mechanics  
PHYS 232-2 Physics Laboratory II  
elective V  
elective VI  
17 credit hours  

**Semester IV**  
MATH 252-3 Vector Calculus  
MATH 310-3 Introduction to Ordinary Differential Equations  
PHYS 221-3 Intermediate Electricity and Magnetism  
PHYS 234-3 Computers in Physics Laboratory  
PHYS 285-3 Introduction to Relativity and Quantum Mechanics  
elective VII  
17 credit hours  

**Physics and Physiology Honors Program**  
This challenging program, for those who enjoy physics but intend to pursue a career in life sciences, is offered jointly by the Department of Physics and the School of Kinesiology. It provides a strong physics background with enough physiology and biomechanics emphasis for biotechnology industry work, to pursue physiology, kinesiology, or biophysics graduate studies, or to attend professional programs such as medicine. Students pursuing physics graduate work must take fourth year PHYS courses beyond those specified. Medical school applicants should check entrance requirements for the school to which they apply. Participants in the program may participate in the co-operative education program.  

**Lower Division Requirements**  
(total 57 credit hours)  
Students must complete all of  
BISC 101-4 General Biology  
CHEM 121-4 General Chemistry and Laboratory I  
CHEM 122-2 General Chemistry Laboratory II  
CHEM 122-2 General Chemistry II  
KIN 201-3 Introduction to Human Physiology  
MATH 223-2 General Linear Algebra  
MATH 251-3 Calculus III  
MATH 262-3 Vector Calculus  
MB 221-3 Cellular Biology and Biochemistry  
PHYS 211-3 Intermediate Mechanics  
PHYS 221-3 Intermediate Electricity and Magnetism  
PHYS 234-3 Computers in Physics Laboratory  
PHYS 285-3 Introduction to Relativity and Quantum Mechanics  
and one of  
CMPT 101-4 Introduction to Programming  
CMPT 102-3 Introduction to Scientific Computer Programming  
MATH 151-3 Calculus I  
MATH 154-3 Calculus I for the Biological Sciences  
MATH 152-3 Calculus II  
MATH 155-3 Calculus II for the Biological Sciences  
PHYS 101-3 General Physics I  
PHYS 120-3 Modern Physics and Mechanics  
PHY 121-3 Optics, Electricity and Magnetism  
PHYS 130-2 General Physics Laboratory  
PHYS 131-2 Physics Laboratory I  

**Upper Division Requirements**  
(total 56-61 credit hours)  
**Core**  
CHEM 360-3 Chemical Kinetics and Thermodynamics  
KIN 301-3 Biomechanics Laboratory  
KIN 305-3 Human Physiology  
KIN 306-3 Human Physiology II  
KIN 407-3 Human Physiology Laboratory  
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 432-5 Undergraduate Honors Thesis*  
*supervised jointly by physics and kinesiology and three of  
KIN 326-3 Functional Anatomy  
KIN 412-3 Molecular and Cellular Cardiology  
KIN 415-3 Neural Control of Movement  
KIN 416-3 Control of Limb Mechanics  
KIN 418-4 Electrophysiological Techniques Laboratory  
KIN 426-3 Neuromuscular Anatomy  
KIN 442-3 Biomedical Systems  
KIN 485-4 Human Factors in the Underwater Environment  
and three of  
NUSC 341-3 Introduction to Radiochemistry  
PHYS 332-3 Optics Laboratory  
PHYS 355-3 Optics  
PHYS 395-3 Computational Physics  
PHYS 413-3 Advanced Mechanics  
PHYS 415-3 Quantum Mechanics  
PHYS 425-3 Electromagnetic Theory  
PHYS 430-5 Digital Electronics and Interfacing  
PHYS 431-4 Advanced Physics Laboratory I  
PHYS 445-3 Statistical Physics  
PHYS 455-3 Applied Optics  
PHYS 484-3 Nonlinear Physics  
Additional courses must be taken to total 132 credit hours. Students may choose to graduate in either the Faculty of Science or the Faculty of Applied Science and should choose their electives accordingly.  

**Notes:**  
(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 281 may be waived by the School of Kinesiology.  

**Nuclear Science Minor Program**  
This minor program is offered jointly with the Department of Chemistry. See “Nuclear Science Minor Program” on page 206.  

**Physics Minor Program**  
Students must complete a minimum of 14 credit hours from upper division physics courses numbered 300 and above, together with all the prerequisites for those courses.  

**Nuclear Science Courses**  
NUSC 442 and 485 may be counted as upper division physics courses in a 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 BC.  

**Co-operative Education Program**  
Dr. K. Kavanagh, physics co-op co-ordinator, 604.291.4244  
Ms. M. Verity, Faculty of Science co-op co-ordinator, 604.291.4894  
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 206 and page 220.
Prerequisite Grade Requirement

Students must have obtained a grade of C- or better in prerequisites for courses labelled STAT offered by the Department of Statistics and Actuarial Science.

Faculty of Science Requirements

Students must satisfy the Faculty of Science upper division credit, breadth and grade point average requirements.

Certificate in Actuarial Mathematics

This program provides the mathematical and statistical background for the Society of Actuaries early examinations. Students enrolling in this program must already have completed STAT 151, 152 or their equivalents and have knowledge of one programming language. To obtain the certificate, three lower division courses and nine upper division courses must be completed. The lower division courses follow:

MATH 222-3 Elementary Linear Algebra
STAT 270-3 Introduction to Probability and Statistics
STAT 285-3 Intermediate Probability and Statistics

A GPA of at least 2.00 is required on the nine required upper division courses. These nine courses must be chosen from the list below and must include both of:

ACMA 310-3 Mathematics of Compound Interest
ACMA 320-3 Actuarial Mathematics I

at least four of:

ACMA 315-3 Credibility Theory and Loss Distributions
ACMA 335-3 Risk Theory
ACMA 395-3 Special Topics in Actuarial Science
ACMA 425-3 Actuarial Mathematics II
ACMA 445-3 Survival Models
ACMA 455-3 Graduation of Life Tables
ACMA 465-3 Mathematics of Demography
ACMA 490-3 Selected Topics in Actuarial Science
ACMA 495-3 Directed Studies in Actuarial Science

Statisic Programming

ECON 210-3 Money and Banking
BUS 254-3 Managerial Accounting
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

Upper Division Requirements

Students must complete all of:

ACMA 310-3 Mathematics of Compound Interest
ACMA 315-3 Credibility Theory and Loss Distributions
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
STAT 350-3 Linear Models Applied Statistics
STAT 450-3 Statistical Theory

plus at least nine credit hours chosen from:

BSC 312-4 Introduction to Finance
BUS 315-4 Investments
BUS 316-4 Derivative Securities
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory
MACM 316-3 Numerical Analysis I
MATH 308-3 Linear Programming

Math 280-3 Introduction to Ordinary Differential Equations

or any of the courses listed in the honors option (see “Actuarial Science Honors Program” on page 221). 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.

Actuarial Science 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. Unless otherwise stipulated, students must have a grade of C or better in prerequisites for courses labelled ACMA.

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 Tables
ACMA 465-3 Mathematics of Demography
ACMA 490-3 Selected Topics in Actuarial Science
ACMA 495-3 Directed Studies in Actuarial Science
BUC 433-3 Forecasting in Business and Economics
BUC 410-3 Financial Institutions
BUC 413-4 Corporate Finance

Students must also complete upper division courses in any course labelled ACMA, BUS, BUC, CMPT, ECON, MATH, MACM and/or STAT to total 50. BUC 333 may not be used to satisfy this requirement.
Management and Systems Science Program

The Department of Mathematics and the Department of Statistics and Actuarial Science, in conjunction with the Faculty of Business Administration, the School of Computing Science and Department of Economics, offers a major and 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 rapid changes in technology.

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. Admission into the program is decided on a competitive basis. 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.

Management and Systems Science Major Program

• Under program and University regulations a general degree requires a minimum of 44 upper division credits 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, Mathematics, and the Department of Statistics and Actuarial Science.
• 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
Microeconomics
ECON 105-3 Principles of Economics II
Macroeconomics
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 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III
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 475-3 Operations Management
Computing Science
CMPT 305-3 Computer Simulation and Modelling
CMPT 307-3 Data Structures and Algorithms
CMPT 354-3 Database Systems I
CMPT 370-3 Information System Design
Economics
one of
BUS 207-3 Managerial Economics
ECON 301-5 Intermediate Microeconomic Theory

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.

Management and Systems Science 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 GPA 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.
  both of
  CMPT 405-3 Design and Analysis of Computing Algorithms
  STAT 350-3 Linear Models in Applied Statistics
  and one of
  MATH 443-3 Combinatorial Theory
  MATH 445-3 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
BUEC 396-3 The Structure of Industry
CMPT 405-3 Design and Analysis of Computing Algorithms
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.

Statistics Major Program

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 222-3 Elementary Linear Algebra
MATH 251-3 Calculus III

Statistics
Students must complete both of
STAT 270-3 Introduction to Probability and Statistics
STAT 285-3 Intermediate Probability and Statistics

Computing Science
Students must complete one of
CMPT 100-3 Software Packages and Programming
CMPT 101-4 Introduction to Computer Programming
CMPT 102-3 Introduction to Scientific Computer Programming

b) Upper Division Requirements

Students must complete all of
MACM 316-3 Numerical Analysis II

*please contact the department plus
three additional upper division courses labelled
ACMA, MACM, MATH or STAT, excluding STAT 301, 302 and 403, or four if MACM 316 is not taken.
Students should consult a departmental advisor before selecting these courses. It is recommended that the three additional upper division courses be selected from STAT 380, 420 and 460. Note that for honors students these three courses may not overlap with those used to satisfy requirements d) and e) below.

c) Minor Program Requirement

Students are required to complete a minor in a discipline other than statistics. The certificate in actuarial mathematics may fulfill this requirement.
Statistics Minor Program
Candidates for a minor in statistics are subject to the general regulations of the faculty in which they are registered. In addition, students will be required to obtain credit for the following courses.

Mathematics Requirements
Students must complete one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences
plus one of
MATH 152-3 Calculus II
MATH 155-3 Calculus II for the Biological Sciences
plus both of
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III

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
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

Co-operative Education
Students are strongly advised to participate in the Co-operative Education program. Please see “Co-operative Education” on page 226.
Continuing Studies

1300 Lohn Building, West Mall Complex,
604.291.5100 Tel, 604.291.3581 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,
1.800.663.1411 (toll free within BC),
604.291.4946 Fax, www.sfu.ca/cde

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

J. Aberbach BA (Rutgers), MA (Miami), PhD
(Florida), Program Director, Opera Studies and
Seniors Program

V. Adams, Program Director, Program for the Non-
profit and Voluntary Sector

J. Bear BA (Tor), Program Director, Writing and
Publishing Program

D. Bell (Br Col), MEd (Br Col), Program Director,
Community Education Program

S. Burgess BBA (S Fraser), MBA (Br Col), Program
Director, Applied Sciences and Business Programs

J. Collinge BA, MA, PhD (S Fraser), Director, Centre
for Distance Education

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

J. Denham, Program Director, Applied Sciences

C. Dunlop BA (Middlebury), MSc, PhD (Br Col),
Program Director, Project Evaluation

P. Gallaugher BSc, DipEd (Br Col), PhD (S Fraser),
Program Director, Science Programs

L. Goodall BA (Calg), Manager, Administration

J. Hsu MA (Kansas), Associate Program Director,
Interpreter and Translation Programs

A.D. Hungerford BA, MA (S Fraser), Laboratory
Instructor

C. Joyner BA (McGill), PhD (SAIDI,
Philippines), Program Director, International
Programs

C. Knight, Program Director, Information

G. Knott BA, MA (S Fraser), Associate Program
Director, Accent Canada

W. Liu BA (Nankai), BA (Tenn), Program Director,
Interpreter and Translation Programs

K. McManus BSc (Indiana), MA (Nfld), PhD (Br Col),
Program Director, Distance Education

R. McTavish BA (S Fraser), Program Director,
Distance Education

T. Nesbit BA, MA (San Francisco State), PhD
(Br Col), Director, Centre for Integrated and Credit
Studies

J. Oberlander BA (Smith College), MS (Coll), Program
Director, City Program

N. Peterson BA (S Fraser), Program Director,
Professional Programs

R. Price BGS, MA (S Fraser), Program Director,
Integrated Studies Program

P. Southby, Program Director, Conference Services

Y. Tabin BGS, MA, PhD (S Fraser), Associate
Director/Program Director, Distance Education

D. Tiefensee BA, MA (Br Col), PhD (S Fraser),
Program Director, Accent Canada

J. Whatley BA (Chapman Coll), 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

Credit Study

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 Studies
Program)
Public History (Department of History)
Senior Citizens (Certificate for Senior Citizens)
Spanish Language Proficiency (Spanish Program)
Spatial Information Systems (Department of
Geography)

Teaching ESL Linguistics (Department of Linguistics)
Urban Studies (Department of Geography)

Women’s Studies (Department of Women’s Studies)

Faculty of Education

Literacy Instruction

Faculty of Science

Actuarial Mathematics (Department of Mathematics
and Statistics)

Integrated Studies

Several interdisciplinary, part time degree completion
programs (BGS) for mid-career adults are offered
through the Continuing Studies’ Centre for Integrated
and Credit Studies by the Faculty of Arts. Courses in
these Integrated Studies programs provide both the
broad perspective of a liberal arts education and
substantial skills in business administration. For more
information, telephone 604.291.5128/5172, fax
604.291.5159, e-mail cicsinfo@sfu.ca, web
www.sfu.ca/integratedstudies.

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 diploma 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 department’s 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 (School 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 Education**

- Education

**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**

Courses leading toward a certificate, diploma or degree program are available by distance education. Students may complete programs in part and, in some cases, entirely by distance education. The following programs are available completely or in part: certificate programs in applied human nutrition, community and economic development, criminology, ethnic and intercultural relations, health and fitness studies, liberal arts; post baccalaureate diplomas in community economic development, early childhood education, education, criminology, gerontology, social policy issues, major and/or minor degree programs in Canadian studies, criminology, education, English, gerontology, kinesiology, psychology, sociology and anthropology. In addition, courses in archaeology, biological sciences, computing studies, contemporary arts, First Nations, French, geography, German, history, humanities, Japanese, linguistics, mathematics, philosophy, political science, statistics, and women’s studies are currently available.

Students registering in distance education courses are governed by the same regulations and follow the same admission and registration procedures as students taking other university credit courses. Simon Fraser University students can register in day, evening or distance education courses, or a combination thereof. In most cases, students are able to transfer some course credit from other post-secondary institutions to an SFU program listed in this Calendar, subject to specific program transfer credit regulations.

A booklet of courses and programs that are available by distance education, including admission and program requirements, is published each year. For more information or to receive a copy of this booklet telephone 604.291.3524; 1.800.663.1411 (toll free in BC); e-mail cde@sfu.ca; or visit 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 in this Calendar.

**Continuing Professional and Liberal Studies**

**Applied Sciences programs**

**Business and professional programs**

**Business writing programs** (including technical communication, and corporate strategic communications)

**Community education programs**

**Conference Services**

**English language and culture programs** (see “English Language Requirements” on page 40, “Certificate in Teaching ESL Linguistics” on page 175, and “Post Baccalaureate Diploma in Teaching English as a Second Language” on page 175)

**Fellows’ and professional certification programs** and courses for more than fifteen associations and institutes

**Language programs**

**Liberal arts and interdisciplinary programs**

**Mandarin Chinese and Japanese interpreter programs/translation workshop**

**Non-profit sector management programs**

**Professional (creative) writing programs**

**Programs for seniors**

**Programs for the Wosk Centre for Dialogue**

**Publishing programs**

**Science programs**

**Urban studies programs**

For more information, telephone 604.291.5100, fax 604.291.5098, cs_hc@sfu.ca, www.sfu.ca/cstudies/placp.htm
Co-operative Education

1100 Maggie Benston Student Services Centre, 604.291.5496 Fax, www.sfu.ca/coop

Director
Ms. N. Johnston, 604.291.3836

International Co-ordinator
Ms. T. Behrisch, 604.291.5649

Bridging Online Co-ordinator
Ms. A. Sator, 604.291.6745

Curriculum Development Co-ordinator
Ms. Q. Beck, 604.291.6743

Applied Sciences Programs
Mr. T. Botelho, Program Manager 604.291.5954, 5138 Academic Quadrangle

Arts Program
6046 Academic Quadrangle, 604.291.5875 Fax
Ms. P. Johnston, Program Manager, 604.291.3041
Ms. C. Rose, 604.291.5751
Ms. E. Lewis, 604.291.3776

Business Administration Program (including CA)
2310 Lohn Building, 604.291.5922 Fax,
Mr. J. Hsieh, 604.291.3308
Ms. Y. Jin, 604.291.3270
Ms. M. Kletetski, Program Manager, 604.291.4993
Ms. A. Lee, 604.291.5540
Ms. T. Lafleche, (604) 268-6688

Communication Program
6139 Robert C. Brown Hall, 604.291.4024 Fax,
Ms. M. Shimizu, 604.291.3862
Ms. E. Wah, 604.291.5542

Computing Science Program
9917 Applied Sciences Building, 604.291.5829 Fax,
Ms. H. Chicoine, 604.291.3917
Ms. M. Guertin, 604.291.3793
Ms. S. Tonsaker, 604.291.3239

Engineering Science Internship Program
9827 Applied Sciences Building, 604.291.4951 Fax,
Ms. P. Reginato, 604.291.5806
Mr. A. Jenkins, 604.288-6703

Kinesiology Program
K9630 Shrum Science Centre, 604.291.3040 Fax,
Ms. D. Heisler, 604.291.4541

Science and Environment Program (including Mathematics, Statistics and Actuarial Science, Management and Systems Science)
604.291.3031 Fax
Mr. P. DeGrace, 604.291.3115, 7130 Robert C. Brown Hall
Ms. M. Fetterly, 604.291.4654, 8108 South Science Building
Ms. M. Verity, 604.291.4694, C9033 South Science Building
Mr. E. Simons, Program Manager, 604.291.4123, K10513 Shrum Science Centre
Dr. A. Toby, 604.291.5934, 8108B South Science Building

Co-operative Education is an international model of enriched participation which integrates academic studies with learning through related work experience. Co-operative Education reflects the co-operative relationship between the educational institution, the employer and the student.

Admission to the Program
Co-op 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 program. Co-op is mandatory for the School of Engineering Science (see “School of Engineering Science” on page 131) and optional for all others.

Application Procedure
Co-operative Education has an application process, which includes completing the Bridging Online (BOL) course. See www.sfu.ca/coop/bol for details.

In-Course Application
See www.sfu.ca/coop for information. Students should attend program specific information meetings held the first and/or second week of classes, and should contact appropriate co-ordinators as early as in their university career as possible, but no later than one semester prior to the first work term.

Transfer students should contact 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 SFU.

Students are urged to apply to co-op as early as possible. Students may participate in recommended learning-based and employability skills workshops that improve their chances of successful employment.

Acceptance into the Program
Acceptance into the co-op 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 and students should check with their program of interest.

Participation in the Program
The Employment Process
Once a student is accepted into the pre-employment process portion of the program and completes the required curriculum, the student can actively engage in the employment competition. Job opportunities are identified and posted through co-op, and students may select those for which they wish to compete. Students choose which positions to apply to, they may be selected for interview, and they 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.

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 to prospective employers of copies of transcript
- acceptance of the job match
- agreement to register in the appropriate co-operative education course

- agreement to inform SFU of the acceptance of any co-op employment position obtained outside of the match
- agreement to complete four (five for chartered accountancy) co-op education work terms
- all accepted students are responsible for following the policies and procedures outlined in the Co-op Student Handbook that is posted on the web at www.sfu.ca/coop/handbook.html.

Operation of the Program
The co-op co-ordinators facilitate all pre-employment student preparation, negotiate work terms, meet employers to establish employer needs, and meet with students to monitor progress. They oversee job competition and visit students on the job, counsel and advise students, and deal with special problems.

Specialty Options
Students may also find or create their own opportunities, locally or abroad. Guidance is provided for those seeking their own employment and wishing to count it as a co-op term. Self-initiated jobs must be approved by the co-op program in advance of the work term, and students are required to register and pay for the appropriate co-op practicum.

International co-op opportunities continue to expand, particularly in Asia. Specialty programs such as Co-op Japan enable students to access otherwise difficult and remote job markets through the SFU co-op program. Students are encouraged to contact the international co-op coordinator, Tanya Tehrisch at 604.291.5649 for more information.

Work Sequence
Work study charts on the next page show two possible work term and study patterns. 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 normally end their chosen sequence on a work term. (See samples on the next page.)

Co-op Fees
An application to co-op and a registration fee is charged for each four month work practicum in which the student enrols. These fees are tax deductible. For information, see “Undergraduate Fees” on page 57.

Graduation Requirements
Four work terms (five for the CA program) must be successfully completed for a degree with a co-op designation. Successful work term completion 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.)

Certificate Option
Students (except CA and engineering) who successfully complete three work terms are eligible for a certificate of completion. The same performance criteria as noted above are required for the certificate option. Students who receive a certificate do not receive recognition on their diploma, nor are they eligible for further work terms in their current program.
## Sample Work/Study Sequence

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester I</th>
<th>Semester II</th>
<th>Semester III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>September to December</td>
<td>January to April</td>
<td>May to August</td>
</tr>
<tr>
<td>Year 1</td>
<td>study semester #1</td>
<td>study semester #2</td>
<td>study semester #3</td>
</tr>
<tr>
<td></td>
<td>15 credit hours</td>
<td>15 credit hours</td>
<td>15 credit hours</td>
</tr>
<tr>
<td></td>
<td>15 cumulative</td>
<td>30 cumulative</td>
<td>45 cumulative</td>
</tr>
<tr>
<td></td>
<td>credit hours</td>
<td>credit hours</td>
<td>credit hours</td>
</tr>
<tr>
<td></td>
<td>Register for and</td>
<td>Co-op program</td>
<td></td>
</tr>
<tr>
<td></td>
<td>complete BOL I</td>
<td>intake</td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
<td>study semester #4</td>
<td>Work term #2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 credit hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60 cumulative</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>credit hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 3</td>
<td>study semester #5</td>
<td>Work term #3</td>
<td>study semester #6</td>
</tr>
<tr>
<td></td>
<td>15 credit hours</td>
<td></td>
<td>15 credit hours</td>
</tr>
<tr>
<td></td>
<td>75 cumulative</td>
<td></td>
<td>90 cumulative</td>
</tr>
<tr>
<td></td>
<td>credit hours</td>
<td></td>
<td>credit hours</td>
</tr>
<tr>
<td>Year 4</td>
<td>Work term #4</td>
<td>study semester #7</td>
<td>study semester #8</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>105 cumulative</td>
<td>120 cumulative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>credit hours</td>
<td>credit hours</td>
</tr>
</tbody>
</table>

## Year 2

- Work term #1
- Co-op program intake

## Year 3

- Work term #3
- Work term #4

## Year 4

- Work term #3
- Work term #4
Undergraduate Semester in Dialogue

The Undergraduate Semester in Dialogue provides a unique opportunity to affirm the role of a university to educate students into productive, creative, well-balanced, thoughtful, and reflective members of society.

The full time, one semester, 15 credit Undergraduate Semester in Dialogue will provide intensive mentoring, strong emphasis on communication skills, an ability to think critically and evaluate effectively, a perspective that encourages discipline bridging, and an opportunity to learn from, and network with, stimulating and accomplished individuals from off-campus.

Each semester’s program will consist of a core course (DIAL 390) that will be similar for each offering, and individual topics varying with each offering that are focussed on a subject that encourages broad interdisciplinary approaches (DIAL 391 and 392).

Admission to the program will be by application. Students should consult with their department prior to their Dialogue semester to determine the application of DIAL credit hours to fulfill major, minor or elective course requirements.

All three courses must be taken simultaneously. Prospective students should apply eight months prior to the Dialogue program in which they wish to participate. Admission decisions will be made no later than four months prior to program start. A course outline for each offering of DIAL 390, 391 and 392 will be available prior to the application deadline.

Program Admission Requirements

Students must have completed 45 credit hours prior to beginning the Dialogue program. Individual courses may have other prerequisites. Application forms, information about course content, and other information are available from the program office. These courses also are eligible to fulfill electives in post baccalaureate diploma programs.
Actuarial Mathematics ACMA 229

Archeology ARCH 229

Asian and African Studies ASC 231

Biological Sciences BISC 231

Business Administration BUS 233

Business Administration and Economics BU 236

Canadian Studies CNS 237

Chemistry CHEM 237

Chinese CHIN 239

Cognitive Science COGS 239

Communications CMNS 240

Community Economic Development CED 243

Computing Science CMPT 243

Contemporary Arts FPA 246

Criminology CRIM 252

Undergraduate Semester in Dialogue DIAL 255

Earth Sciences EASC 255

Economics ECON 257

Education EDUC 259

Education Professional EDPR 262

Engineering Science ENVSC 263

English ENGL 266

Environmental Science EVSC 268

First Nations Studies FNST 268

French FREN 269

Gender Studies GDST 270

General Studies GS 270

Geography GEOG 270

German GERMAN 273

Gerontology GERONTOLOGY 270

History HIST 274

Humanities HUM 278

Information Technology ITEC 273

Interdisciplinary INTD 273

Italian ITAL 279

Japanese JAPAN 279

Kinesiology KIN 280

Labor Studies LABST 282

Language LANG 283

Latin American Studies LASED 283

Liberal Arts LBBL 284

Linguistics LING 284

Management and Systems Science MESS 285

Management and Technology MTEC 286

Marine Science MAR 286

Mathematics MATH 286

Mathematics and Computing Science MACM 289

Molecular Biology and Biochemistry MB 289

Nuclear Science NSUC 291

Philosophy PHIL 291

Physics PHYS 292

Political Science POL 294

Psychology PSYC 297

Resource and Environmental Management REM 299

Science SCI 300

Sociology and Anthropology SA 300

Spanish SPAN 303

Statistics STAT 303

TechOne TECH 20

Women’s Studies WS 305

Undergraduate Courses – Actuarial Mathematics ACMA 229

Undergraduate Courses

Actuarial Mathematics ACMA Faculty of Science

No student may take, for further credit, any course offered by the Department of Statistics and Actuarial 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.

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 yield methods. Annuity 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 interest theory portion of Course 2 of the Society of Actuaries. (3-1-0) Prerequisite: ACMA 129 or permission of the department.

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 part of the syllabus for Courses 3 and 4 of the Society of Actuaries. (3-0-0) Prerequisite: STAT 285 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: present value functions, basic contracts, recursive equations, fractional durations. This course covers part of the syllabus for Course 3 of the Society of Actuaries. (3-1-0) Prerequisite: ACMA 310 (with a grade of C- or higher). MATH 232 and STAT 285 must precede or be taken concurrently.

ACMA 335-3 Risk Theory

The economics of insurance: utility theory, optimal insurance. Individual risk models for a short term: individual claim, sums of independent claims, approximations for the distribution, applications. Collective risk models for a single period: aggregate claims, compound poisson distribution, approximations. Collective risk models over an extended period: claims processes, adjustment coefficient, discrete time models, surplus below the initial level, maximal aggregate loss. Applications: claim amount distribution, stop-loss reinsurance. This course covers part of the syllabus for Course 3 and background material for Course 4 of the Society of Actuaries. Corequisite: STAT 280 must precede or be taken concurrently. (3-1-0) Corequisite: STAT 285 must precede or be taken concurrently.

ACMA 395-3 Special Topics in Actuarial Science

Topics in areas of actuarial science not covered in the regular certificate curriculum of the department. Prerequisite: dependent on the topics covered.

ACMA 425-3 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. Nonforegone benefits and dividends: equity concept, cash values insurance options, asset shares, dividends. This course covers part of the syllabus for Course 3 and background material for Course 4 of the Society of Actuaries. (3-1-0) Prerequisite: ACMA 320.

ACMA 445-3 Survival Models


ACMA 465-3 Mathematics of Demography


ACMA 490-3 Selected Topics in Actuarial Science

The topics included in this course will vary from semester to semester depending on faculty availability and student interest. (3-3-0) Prerequisite: ACMA 310. Corequisite: ACMA 320 or permission of the Department of Statistics and Actuarial Science.

ACMA 495-3 Directed Studies in Actuarial Science

Independent study and/or research in topics chosen in consultation with the supervising instructor. Prerequisite: written permission from the Department of Statistics and Actuarial Science undergraduate curriculum committee.

Archeology ARCH Faculty of Arts

ARCH 100-3 Ancient Peoples and Places

A broad survey of human cultural development from the late Palaeolithic/Paleoindian 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. (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 sites and cultural traditions from 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, organized 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 Paleolithic, 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 artificial 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: PHYS 181 or permission of department.

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 and 272, 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 340-5 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/laboratory) Prerequisite: ARCH 201.

ARCH 344-3 Primate Behavior
The evolution of the primate order and the ecology and behavior characterizing the different grades of primates: prosimians, monkeys, and apes. Current trends in interpreting primate behavior are emphasized. (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 European contact, organized on a culture area basis. Native groups in each area will be discussed in terms of languages, population estimates, early post-contact history and its impact on traditional ways of life, dominant ethnographic economic/adaptive emphases, socio-political organization, 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 of the major early culture 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, socio-economic, and environmental factors in culture growth. (lecture) Prerequisite: ARCH 273.

ARCH 385-5 Paleoanthropology
The relationship between culture and biology in prehistoric human evolution. Emphasis on the theoretical 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 Archaeobotany
An introduction to the recovery and analysis of macroscopic archaeological plant remains. The major methodological and interpretive issues in archaeobotany will be covered, with an emphasis on plant domestication in a region of the world. (lecture/laboratory) Prerequisite: ARCH 201 and either 272 or 273.

ARCH 432-5 Advanced Physical Anthropology
An intensive investigation of the theory and problem areas in physical anthropology. (lecture/laboratory/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 433 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 land-forming and land-altering systems. Lectures will also focus on the application of recent human pedological contents. (lecture) Prerequisite: ARCH 373.

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/seminar) 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-S 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 498-5 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 ASC Faculty of Arts Department of Humanities

ASC 101-3 Introduction to Asia-Canada Studies I An introductory course on Asia-Canada interactions. It will survey various issues, both historical and contemporary, including those involving Asian-Canadians. (lecture/tutorial) Prerequisite: ARCH 435.

ASC 102-3 Introduction to Asia-Canada Studies II 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 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 An introductory course on Japanese culture and history. It is designed for students with no Japanese background and 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 GS 201 or GS 251 may not take this course for further credit.

ASC 202-3 Studies in Asian Cultures An introduction to East, Southeast or South Asian art, literature, history or philosophy. The emphasis will be on the cultural importance of the themes covered and on their relationship to contemporary societies. (lecture/tutorial) Prerequisite: 15 semester hours. Students who have taken GS 251 cannot 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 covering 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 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: 45 credit hours and ASC 101 or 102 or permission of the instructor.

ASC 301-3 Asia-Canada Identities: Experiences and Perspectives This course will explore the experience of Asian immigrants and their children, focusing in particular on social and cultural aspects. (seminar) Prerequisite: 45 credit hours and ASC 101 or 102 or permission of the instructor.

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) Prerequisite: 30 credit hours. Recommended: 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) Prerequisite: 30 credit hours. Recommended: ASC 201.

ASC 400-3 Selected Topics in Asia-Canada Studies (seminar) Prerequisite: 45 credit hours.

ASC 401-3 Directed Studies Individual study. Prerequisite: ASC 101 or 102, and one ASC 300 level course and permission of the program director.

Biological Sciences BISC 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) Students with credit for BISC 101 or a succeeding biology course may not take BISC 100 for further credit. Students with credit for biology 12 normally will not be permitted to take this course for credit.

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. 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. 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. (3-0-0) Prerequisite: BISC 101 and 102. 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. Credit will not be granted for both BISC 204 and GEOG 215. BISC 101 and 102 are prerequisites for the BISC 101 and 102 course.

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. (3-0-0) Prerequisite: BISC 101 and 102.

BISC 317-3 Insect Biology
Life histories, bioeconomics, 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.

BISC 326-3 Biology of Algae and Fungi
A survey of the algae and fungi including a study of the origin and evolution of plants, the life history evolution (pollination, defence, dispersal), and reproduction. A comparison of the functional mechanisms in invertebrates and vertebrates. (3-1-0) Prerequisite: BISC 202.

BISC 303-3 Microbiology
The biology of microorganisms and their significance in the understanding of cellular processes. (2-0-4) Prerequisite: MBB 202.

BISC 304-3 Animal Ecology
A study of the interrelationships of animals and their physical and biotic environment. (3-1-0) Prerequisite: BISC 204.

BISC 305-3 Animal Physiology
A comparative study of basic physiological mechanisms in invertebrates and vertebrates. (3-1-0) Prerequisite: BISC 204 or GEOG 215. Experimental and observational laboratory exercises are primarily conducted outdoors. (2-0-4) Prerequisite: BISC 204.

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 (3-0-0). Prerequisite: CHEM 121 and 122, MBB 221, PHYS 102, STAT 201.

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. (3-0-0) Prerequisite: BISC 202 and MBB 222. Students with credit for BISC 203 may not complete BISC 333 for further credit.

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. (3-0-0) Prerequisite: BISC 101 and 102.

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 science co-operative education program.

BISC 355-3 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 223. 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. (3-0-0) Prerequisite: MBB 221.

BISC 367-3 Plant Physiology Laboratory
A laboratory course using contemporary techniques of plant physiological research. (1-1-4) Prerequisite: BISC 305 and 329.

BISC 372-3 Special Topics in Biology
Selected topics in the study of animals 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 in species, population, and individual levels. Man's origin and the special biological significance of human adaptive capacities. (3-1-0) Prerequisite: 75 credit hours including BISC 101 and 102.

BISC 403-3 Current Topics in Cell Biology
The lectures will explore two or three major themes in current cell biology, such as cell motility, the cell cycle, and cellular signalling. A critical component of the course is to develop an understanding of the experimental basis of our knowledge about cells. (3-1-0) Prerequisite: MBB 221 and 222.

BISC 404-3 Plant Ecology
The study of the distribution and abundance of plants, including how individuals, populations, and communities are affected by abiotic (climate, soil) and biotic (competition, herbivory) factors. A major focus will be life history evolution (pollination, defence, dispersal), and the functional basis of our knowledge about cells. Experimental and observational laboratory exercises are primarily conducted outdoors. (2-0-4) Prerequisite: BISC 204.

BISC 405-3 Cell Physiology
The physiology of cells with emphasis on the chemical and physical processes in 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.

BISC 407-3 Population Dynamics
An evaluation of factors influencing the natural fluctuation of animal population numbers. (3-1-0) Corequisite: BISC 304.

BISC 410-3 Behavioral Ecology
An introduction to the evolution of behavior and its adaptiveness in a natural context. (3-1-0) Corequisite: BISC 304 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. Experimental and observational laboratory exercises are primarily conducted outdoors. (2-0-4) Prerequisite: 75 credit hours in an approved 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 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.

BISC 419-3 Wildlife Biology
Theoretical and applied aspects of ecology and behavior in relation to wild 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. Recommended: BISC 316.

**BISC 422-3 Population Genetics**

Theoretical and experimental aspects of inheritance at the population level. Principles of 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 and STAT 201.

**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. (1-1-6) Prerequisite: BISC 329.

**BISC 430-3 Plant Pathology**

Fungi, bacteria, viruses, nematodes, parasitic plants and insect vectors as agents of plant disease will be considered. Infection and epidemiology 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.

**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. 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. 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. Prerequisite: minimum 60 credit hours including BISC 204, or GEOG 215. Some background in botany, biogeography, or earth sciences is desirable.

**BISC 435-3 Introduction to Pest Management**

Survey of the nature, 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, or 75 credit hours.

**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 lectures will cover the unique physiology/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 443-0 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.

**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: Histochecmistry**

Techniques in histochemistry, Principles and application of bright-field-phase contrast fluorescence — and interference microscopy, microspectrophotometry. (1-1-6) Prerequisite: BISC 329.

**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.

**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.

**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, or permission of the department.

**BISC 471-475-3 Special Topics in Biology**

Selected topics not currently offered within the undergraduate course offerings in the department of Biological Sciences. Prerequisite: to be announced within the Course Timetable and Exam Schedule.

**BISC 490-5 Research Design**

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; completion of all physics, chemistry and mathematics requirements for the major or honors program; at the time of application, students will normally have a CGPA of 3.00 (B standing). Corequisite: BISC 490 and 491.

**BISC 498-3 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 499-3 Undergraduate Research II**

A student will be permitted to enroll in this second research course only with the prior written agreement of a professor to act as research advisor. A different advisor is required than for BISC 498. Prerequisite: 90 credit hours.

**Business Administration BUS 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 30 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 130-3 Business in the Networked Economy I**

The management and operation of business, including the principles, concepts, ideas and tools used by managers. Management in the contemporary world of high technology is emphasized, featuring examples and cases involving high-tech firms. In addition, the course exposes students to international and local business issues, and to large companies as well as to smaller, entrepreneurial firms. Students with credit for TECH 128, 129 and 130 may not take this course for further credit.

**BUS 131-3 Business in the Networked Economy II**

Introductory knowledge and skills for developing business goals, vision, direction and ultimately a successful business plan are emphasized. Marketing and financial planning in the context of development of a business plan is addressed, including elements of the marketing mix (product planning, market selection, proximity pricing and distribution), and key concepts associated with analysing financial resources. Students with credit for TECH 131, 132 and 133 may not take this course for further credit. Prerequisite: BUS 130.

**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 demand, costs of 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-operative Practicum I**

This is the first semester of work experience for students in the Co-operative Education 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 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 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 analysis and 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 valuations, portfolio theory, asset pricing models, efficient markets and portfolio performance evaluation. (lecture/tutorial) Prerequisite: BUS 312, 336; 60 credit hours. Students with credit for BUS 416 may not take BUS 316 for further credit.

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, 336; 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 323-3 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 non-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-operative Education 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-operative Education 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-operative Education 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
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 Data and Decisions II
This course is an extension of BUED 232. It develops and applies the quantitative models that are most directly relevant to business decisions. Beginning with material on multiple regression and forecasting modeling, the course moves on to decision analysis, business simulation, quality control, and an introduction to optimization. (lecture/tutorial) Prerequisite: MATH 157 and BUED 232, 60 credit hours.

BUS 341-3 Fundamentals of Marketing for Integrated Studies Programs
This course is intended to be a first course in marketing management. Its purpose is to present students with the fundamentals of the marketing management process and of the importance of marketing in general. You will also develop some insight into the complex area of marketing decision-making and what marketing managers need to know to be effective. By applying fundamental principles, government policies, business to solve real world marketing problems. Particular emphasis will be placed on understanding consumer behavior and segmentation analysis, the management of promotion, product-related decisions, and market distribution. Uncontrollable environmental elements pertinent to marketing planning will also be discussed. (3-0-0) Prerequisite: 60 credit hours. This course is only open for credit to students in the Integrated Studies Program within the bachelor of general studies degree.

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: 60 credit hours.

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
BUS 362-4 Information Analysis and Systems Design
The course focuses on the various issues involved in investigating, analysing 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: 60 credit hours; 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 272; 60 credit hours. Students with credit for BUS 430 may not take BUS 380 for further credit. Recommended: BUS 346.

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, 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 392-3 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 392.

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 360.

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 transactions, the regulatory environment, risk measurement and hedging strategies. (seminar) Prerequisite: BUS 315, 316, 360; 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, 316, 360; 60 credit hours.

BUS 417-3 Security Analysis
This course covers the historical, theoretical and practical issues involved in the valuation of securities. Three general areas are studied: valuation of fixed income securities; valuation of equity securities; and topics in portfolio management. Prerequisite: BUS 315, 360. Students who have taken BUS 492 under the topic Security Analysis may not take BUS 417 for further credit.

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, 316, 360; 60 credit hours.

BUS 419-3 Advanced Derivative Securities
This is a second course in derivative securities. Topics may include: extensions of the Black-Scholes model, pricing of American options, interest rate derivatives, complex derivatives and real options. Prerequisite: BUS 316, 360. Students who have taken BUS 493 under the topic Advanced Derivative Securities may not take BUS 419 for further credit.

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, 360; 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, 360, BUS 207 or ECON 301; 60 credit hours.

BUS 424-3 Managerial Accounting II
Process costing; product costing; inventory planning and control; cost accounting and statistical methods, relationship to operations research. (seminar) Prerequisites: BUS 319, 336, 360, 75 credit hours.

BUS 425-0 Co-op Practicum V
This is the fifth semester of work experience for students in the accounting Co-operative Education 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 frameworks of 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, 360 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, 360; 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 360, 381; 60 credit hours. Recommended: BUS 346.

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, 360; 60 credit hours.

BUS 437-3 Decision Analysis in Business
A seminar in the use of Bayesian techniques in business decisions. (seminar) Prerequisite: BUS 336, 360; 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, 360; 60 credit hours.

BUS 442-4 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, 336, 360; 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, 336, 360; 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 and managerial problems of planning. Case analysis and problem solving will be the major orientation of the
course. (seminar) Prerequisite: BUS 312, 347, 360; 60 credit hours.

BUS 447-3 Global Marketing Management

The marketing of goods and services in an international context, with emphasis on Pacific Rim countries. Theoretical concepts, environmental influences, forecasting international markets. The management of international marketing. (seminar) Prerequisite: BUS 343, 360; 60 credit hours. Recommended: BUS 346.

BUS 448-4 Advertising and Sales Promotion

An integrative approach to the study of promotion including advertising, 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, 360; 60 credit hours.

BUS 449-3 Ethical Issues in Marketing

A critical examination of topics such as consumerism, marketing ethics, and social responsibility, efficiency of marketing. Theoretical and practical applications. (seminar) Prerequisite: BUS 349, 360; 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 systems shells and executive support system builders. (lecture/laboratory) Prerequisite: BUS 336, 360, 362 (or 364); 60 credit hours.

BUS 464-3 Building Business Systems

Two trends are shaping the use of information in organizations: the increasing importance of cross-functional business processes and the use of enterprise resource planning (ERP) information systems to support these processes. This course will take a closer look at areas such as analyzing, designing, and implementing information systems and information technology in support of integrated business processes. The material will be drawn from literature in the business process re-engineering and enterprise resource planning subject areas. (3-0-1) Prerequisite: BUS 360, 362 (or CMPT 370). Recommended: CMPT 100.

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 360, 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 360, 364; 60 credit hours. Corequisite: BUS 462 and/or 466 can be taken concurrently with BUS 468.

BUS 472-3 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, 360; 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 considerations in small and large businesses, evaluation of new ventures organization, capitalization, planning, marketing and financial management. (seminar) Prerequisite: BUS 312, 343, 360; 90 credit hours.

BUS 478-3 Seminar in Administrative Policy

Integration of the various areas of business for the purpose of analyzing and recommending strategies for planning and decision-making within the firm and a defined environment. (seminar) Prerequisite: BUS 207, 312, 343, 360 and either BUS 374 or 381; 90 credit hours.

BUS 480-3 Negotiation/Conflict Resolution for Integrated Studies Program

Overall, the course will be a combination of theory, discussion, instructor demonstration, skill practice in large and small groups and small group practice of the four-stage negotiation/conflict resolution model/process. The students in this course will learn about and be able to discuss interest-based negotiation and conflict resolution theory, strategize and plan for various negotiations and conflict situations and be able to put into practice a practical, efficient and productive process for negotiating agreements and resolving conflict. (3-0-0) Prerequisite: BUS 360; 60 credit hours. This course is only open for credit to students in the Integrated Studies Program within the bachelor of general studies degree.

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), BUS 360, 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), BUS 360, 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 implementation for the attainment of due process in the workplace and the flexibility and efficiency of work organization. (seminar) Prerequisite: BUS 360; 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 course, organizations are viewed as systems composed of subsystems in dynamic interaction. (seminar) Prerequisite: BUS 360, 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: BUS 360, 60 credit hours, BUS 374 or 381.

BUS 490-491-3 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 494-5 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 498-3 Directed Studies

Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: permission of the faculty; 60 credit hours.

BUS 499-5 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 BUEC

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 324-4 Data and Decisions

An introduction to business statistics with a heavy emphasis on applications and the use of EXCEL.
Students will be required to use statistical applications to solve business problems. (3-1-0)

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 200 and 105 or 205. Students who have taken ECON 301, 305 or 381 may not take BUEC 280 for further credit.

BUEC 333-4 Statistical Analysis of Economic Data
An introduction to the use and interpretation of statistical analysis in the context of data typical of economic applications. (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 choice of alternative employment systems. Characteristics, conflict resolution processes and outcomes of various employment systems will be examined. (lecture/tutorial)
Prerequisite: ECON 103 or 200, 105 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 and 105 or 205; 60 credit hours.

BUEC 485-3 Collective Bargaining
Prerequisite: ECON 103 or 200 and 105 or 205 and BUEC 384; BUS 360; 60 credit hours. Students with credit for BUEC 385 and 386 may not take BUEC 485 for further credit.

BUEC 495-3 Legal Aspects of Economic Relationships
A selected number of legal concepts will be examined in depth together with their effects on economic relationships. (seminar)
Prerequisite: BUEC 391, ECON 103 or 200 and ECON 105 or 205; 90 credit hours; or permission of the faculty or department.

Canadian Studies CNS 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, industrialism, 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 national needs and the nature 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 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)
This course is identical to POL 223 and students cannot take both courses for credit.

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 the Canadian frontier to be explored. The cross-section of the Canadian frontier is explored. The cross-section of the Canadian frontier is explored. The cross-section of the Canadian frontier is explored.

CNS 481-3 Special Regional Topics
The role of the regions of regionalism in Canada is increasingly problematic, as the burden of the unity debate extends outward from the Ontario/Quebec divide. This seminar will provide students with a grounding in interdisciplinary readings pertaining to the topic and an opportunity to pursue directed research on a specific topic of their choice. (3-0-0)
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 CHEM Faculty of Science
See also courses listed under Nuclear Science (NUSC).

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.

CHEM 481-3 Special Topics
An advanced course in an area of current interest. May be repeated for credit with permission of the department. 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; thermochromy; 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 121) as a corequisite.

CHEM 121-4 General Chemistry and Laboratory I
Atomic and molecular structure; chemical bonding; thermochromy; 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 101 and 106). 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. (2-1-0) Prerequisite: CHEM 121 or 120 (or 102). Recommended: MATH 152 (or 155) and PHYS 121 (or 102) as a corequisite.

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 periodicity of properties, valence, ionization potential, electron affinity, electronegativity, stability of oxidation states, bonding, structure and stereochemistry. Co-ordination 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 250-4 Atoms, Molecules, Spectroscopy
Elements of physics-inspired 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-op 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 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 232.)

CHEM 333-3 Inorganic Chemistry of Biological Processes
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 360-3 Thermodynamics and Chemical Kinetics
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 265).

CHEM 381-4 Intermediate Organic Chemistry
An intermediate level course in modern organic chemistry, including both theoretical design of synthetic routes and practical training in the laboratory. The central topics to be discussed include methods to form carbon-carbon bonds, use of organometallic reagents, asymmetric synthesis, pericyclic reactions, the use of enzymes in organic synthesis, and the automation of synthetic organic chemistry. Prerequisite: CHEM 380.

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 of 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 419-3 Special Topics in Analytical Chemistry
Principles and applications of emerging techniques in analytical chemistry. (3-1-0) Prerequisite: CHEM 316.

CHEM 432-3 Organometallic 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 440-3 Solid State Materials Chemistry
The study of the detailed chemistry of solid state inorganic materials in terms of crystal structures, bonding, preparative methods, analytical and characterization techniques, mixed valence states, solid solutions, defects and non-stoichiometry, molecular mechanisms of the optical, electronic, ionic, magnetic and dielectric properties, and materials applications in advanced technology. (3-1-0) Prerequisite: CHEM 340.

CHEM 442-3 Polymeric Materials Chemistry
The course covers the detailed chemistry of polymers, including polymer structure, studies of polymer solutions, molecular weight determination, and the synthesis of polymers. In addition, topics of current interest in polymer science will be discussed. (3-2-0) Prerequisite: CHEM 282.

CHEM 444-3 Organic Materials Chemistry
Emphasis will be placed on the synthesis and properties of materials that are useful in the design of electronic devices, such as light emitting diodes (LEDs) and liquid crystal displays (LCDs). Topics to be discussed will include liquid crystals, conjugated polymers, and the assembly of thin film materials. A case study approach will be employed in order to provide an overview of these areas of research, with examples taken from the primary literature. (3-1-0) Prerequisite: CHEM 282.

CHEM 450-3 Physical 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.

CHEM 452-3 Bio-organic Chemistry
An advanced treatment of the use of enzymes in organic synthesis, the use of stable and radioisotopes in the study of enzymatic processes and the design of enzyme inhibitors. (3-1-0) Prerequisite: CHEM 381 or permission of the department.

CHEM 455-3 Synthetic Organic Chemistry
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 381 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 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 Ramans and Nuclear magnetic 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 465-3 Electrochemistry
Modern techniques and concepts in electrochemistry. Topics include equilibrium and dynamic electrochemistry, ion transport and voltammetry. Electrochemical systems of increasing importance including chemically modified electrodes, fuel cells and solar energy conversion applications will also be discussed. (3-1-0) Prerequisite: CHEM 360.

CHEM 468-469-3 Special 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 at 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 CHIN Faculty of Arts
Department of Linguistics
Language Training Institute
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 language skills acquired in CHIN 100. (tutorial) Prerequisite: CHIN 100 or permission of the department.

CHIN 151-3 Spoken Mandarin for Speakers of Other Chinese Dialects
This course is especially designed for native speakers of Chinese Dialects other than Mandarin who, though able to read and write Chinese fluently, have no knowledge of spoken Mandarin. Speakers of a Chinese dialect who have taken Mandarin courses should not take this course. (tutorial) Prerequisite: ability to read, write and speak a Chinese dialect.

CHIN 152-3 Spoken Mandarin for Speakers of Other Chinese Dialects II
This is a second course in conversational Mandarin for Cantonese speakers. Students enrolled in this course should already have a good command of Chinese reading and writing. This course is designed for Cantonese speakers who have acquired basic skills in Mandarin phonetics to continue to build vocabulary and gain fluency in Mandarin. CHIN 152 will continue to develop aural comprehension and oral fluency. Contrasts between Mandarin and Cantonese will continue to be made in pronunciation, diction, vocabulary, idiomatic expressions and subtle differences in grammar. (0-4-0) Prerequisite: CHIN 151 or equivalent.

CHIN 185-6 Intensive Mandarin Chinese in the China Field School
This six week intensive language study course will be taught by all students registering in the China Field School. Upon arrival at the university in China, students will be assigned to two course sections at the appropriate level according to their language skills from beginners to upper intermediate in reading, writing, comprehension, conversation and grammar. For students wanting to continue their language studies at SFU after attending the field school, the Chinese language instructor will conduct a placement interview and assign the appropriate course level. (tutorial)

CHIN 200-3 Mandarin Chinese III
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 200, 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 COGS 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 370-0 Cognitive Science Practicum I
First semester of work experience in the Cognitive Science Co-operative Education Program. 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. Prerequisite: normally 30 credit hours, including COGS 100 and four other courses in the Cognitive Science program, with a minimum CGPA of 2.75.

COGS 371-0 Cognitive Science Practicum II Second semester work experience in the Cognitive Science Co-operative Education Program. 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. Prerequisite: successful completion of COGS 375 and 45 credit hours with a minimum CGPA of 2.75.

COGS 470-0 Cognitive Science Practicum III Third semester work experience in the Cognitive Science Co-operative Education Program. 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. Prerequisite: successful completion of COGS 371 and 60 credit hours with a minimum CGPA of 2.75.

COGS 471-0 Cognitive Science Practicum IV Fourth semester work experience in the Cognitive Science Co-operative Education Program. 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. Prerequisite: successful completion of COGS 470 and 75 credit hours with a minimum CGPA of 2.75.

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: 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 The research proposed in COGS 490 is executed, culminating in the compilation 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 CMNS 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 major, honors or minor in communication. (lecture/tutorial)

CMNS 200-3 Effective Communication Introduction to techniques and methods of communicating effectively in complex organizations; with the media, government, the public; in the workplace, 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. (seminar) Prerequisite: 25 credit hours. Recommended: for communication co-op students.

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 introduces 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 understanding advertising styles and functions of advertising in the 20th century. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 226-3 Digital Media Communication Techniques This course introduces students to a variety of digital media communities and technologies and techniques, including image and sound capturing and manipulation, Internet-based publishing and research, digitizing, editing and archiving. Design and management tasks involved in communicating using digital media are also introduced, including strategic and research planning, data integrity management, file structuring and packaging and work presentation. (lecture/lab) Prerequisite: CMNS 110 and 130. Recommended: CMNS 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 within and outside Canada, 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 new 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 256-3 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 analyse 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 analyse 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 45 credit hours including CMNS 110 and 130.

CMNS 310-4 Communication Thought in the Evolution of the Social Sciences An examination of discussions of human communication in the sociocultural context in the 18th and 19th centuries, including that of Rousseau, More, 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: 60 credits including two of CMNS 220, 221, 223, 226. Strongly recommended: CMNS 362 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: 60 credits including any one of CMNS 221, CMNS 323-4 Cultural Dimensions in Advertising
This course develops a critical overview of the contemporary debates about the consumer society. This exploration of consumer culture begins by examining recent characterizations of the psycho-social dynamics of consumption in consumer culture. It goes on to trace the historical formation of advertising as a key cultural practice, mediating the market transactions between producers and consumers. The marketing communication model is the focus of a detailed examination of the increasingly sophisticated co-ordination of communication and consumer research activities. (lecture/lab) Prerequisite: 60 credit hours, including two of CMNS 220, 221, 223, or 226. Strongly recommended: CMNS 362 or 363.

CMNS 324-4 Media, Sports and Popular Culture
This course examines the changing relationships between media, sport and popular culture in both a North American and a global context. The course adopts a broadly historical perspective, beginning with an exploration of the role of the mass press in the popularization and commercialization of sport in the 19th century, moving on to consider the close interrelationships that grew up between sport and radio, and sport and television, and finally examining sport as a key element of national popular cultures and identity formation as well as an important part of the broader entertainment industries in the age of digital technologies, media convergence, and globalization. (lecture/tutorial) Prerequisite: 60 credit hours, including two of CMNS 220, 221, 223, 240. Cannot be taken for further credit is student has taken CMNS 386 under same title.

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 Digital Media Communication Techniques (CMNS 226), and apply that knowledge to the production of the School of Communication’s web based news magazine and documentary program On The Hill (www.sfu.ca/oth). Students will draw on their understanding of public communication in democracies and media analysis skills to create new and innovative visual and aural journalism. In addition, students will learn to build teamwork skills as they produce segments for the shows in groups. The course seminars will emphasize communication design, and the social and ethical issues which arise when working with documentary and news materials. Public dissemination (seminar/laboratory) Prerequisite: permission of instructor, and 60 credit hours including CMNS 226 and 235.

CMNS 331-4 News Discourse and Political Communication
An examination of journalism and the news media as a set of institutions with important political and ideological roles. The course overviews theoretical perspectives and applies selected theoretical concepts to such topics as influences on media content, how news generates meaning, ideological aspects of media frames, and the evaluation of journalism’s performance in relation to normative expectations of democratic political communication. (lecture/tutorial) Prerequisite: two of CMNS 230, 235 and 240.

CMNS 333-4 Broadcasting Policy and Regulation in the Global Context
Television and radio broadcasting, 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 on-line 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. (seminar) 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, culture, industry and heritage. Related social policies, such as bilingualism and multiculturalism, and the international context of Canadian cultural policy, will also be addressed. (seminar) Prerequisite: CMNS 230 and 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 346-4 Communication and Development
An introduction to the analysis and interpretation 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 increasing and new strategies and new means to communicate. Examples from Canada and other countries will be used. (lecture/tutorial) Prerequisite: 60 credit hours including CMNS 110 or 130. Students who have taken CMNS 345 may not take CMNS 346 for further credit.

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: 60 credit hours including CMNS 110 or 130. Recommended: CMNS 247 and 362.

CMNS 353-4 Social Contexts of Information Technology
Examination of a particular application of information/communication technology, focussing 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 and technology, 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 during labs. Lab exercises will emphasize making decisions that occur during the design process, and making values that enter into design processes explicit. (lecture/lab) Prerequisite: 60 credit hours, including any one of CMNS 253; CMPT 275; KIN 201, 205 or ENSC 100. CMNS students must also have completed CMNS 362 or 363.

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 extensively with specific problems in psychoacoustics, acoustic design, soundscapes studies, noise in the community, acoustic 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 362-6 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/lab) 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/lab) Prerequisite: at least 60 credit hours, including one of CMNS 220, 221 or 223, and CMNS 260.

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 introductory course follows the book-publishing process from the acquisition and editing of manuscripts through to production, promotion and distribution. With each phase, techniques and functions that are used in the production of books are covered. Prerequisites: From basic concepts and precepts to case studies of particular kinds of publishing companies (e.g., literary, regional and general trade) and particular types of books (e.g., children’s, genre, fiction and poetry). Students work in small groups through the decision-to-publish process. Required readings focus on the history of book publishing, as well as on
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. (seminar) 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 Communication and Cultural Policy
Advanced seminar on current issues in communication policy. Topics will be selected from among current policy issues in local, national and international aspects of broadcasting, the cultural industries, the arts and heritage. (seminar) Prerequisite: 75 credit hours including CMNS 333 or 334.

CMNS 435-4 Information Rights in the Information Age
An advanced seminar to examine key information-policy issues, and the actors involved in setting policy (governments, information industry, news media, libraries, citizen groups) in Canada, with international comparisons. (seminar) Prerequisite: 75 credit hours, including CMNS 261 and one of CMNS 235, 293, 334, 335, 336.

CMNS 436-4 Telecommunication Regulation in North America
Development of the theory and practice of regulation of the telecommunications industry in Canada and the USA. (seminar) Prerequisite: at least 75 credit hours including CMNS 220, 240 and 333.

CMNS 437-4 Media Democratization: From Critique to Transformation
An advanced seminar on the normative debates, social bases, and strategic potential for media democratization in the context of economically developed liberal democracies like Canada and the United States. This course complements other courses which critically examine state communication policies and the political economy and allegedly ideological character of corporate media. Here, we focus on campaigns in civil society to define and build alternative communicative forms based on equality, democratic participation and/or human rights. (seminar) Prerequisite: 75 credit hours, including CMNS 235, 240 or 331. Cannot be taken for further credit if student has taken CMNS 426 or 487 under the same title.

CMNS 438-4 Communication Policy Project Group
An advanced workshop in communication policy in media and information technology focussed on applied research. (laboratory) Prerequisite: two upper division CMNS courses and permission of the instructor.

CMNS 444-4 Political Economy of International Communication
An examination of the domestic and international implications of the development of mass media and telecommunications and the differential impact of the free flow of technology and information. (seminar) Prerequisite: 75 credit hours, including CMNS 240.

CMNS 446-4 The Communication of Science and the Transfer of Technology
Evaluation of the communication of scientific knowledge and technology, both within industrialized settings and to non-industrialized settings. Specific reference to the communication of values related to the use of technologies and the role of science and technology in international development. (seminar) Prerequisite: 75 credit hours, including CMNS 261 and 346. Recommended: CMNS 253, 260, 362.

CMNS 447-4 Negotiation and Dialogue as Communication
This course provides frameworks and tools with which to understand and evaluate negotiation and evaluate negotiation as a form of communication. The objective of the course is to provide an understanding of the role of communication in the negotiating process, and the consequences of different kinds of negotiation strategies in intercultural, international, competitive, and conflictual situations. It combines theoretical discussion with practical case studies, involves guest negotiators and analysts, and provides an appreciation of the world-wide scale and importance of negotiation as a basis for clarifying relationships. (seminar) Prerequisite: 75 credit hours, including CMNS 347 and 362.

CMNS 448-4 International Communication Policy Group
An advanced workshop in international communication and development focussed on applied research. (laboratory) Prerequisite: two upper division CMNS courses and permission of the instructor.

CMNS 453-4 Issues in the Information Society
Advanced seminar to discuss issues in the interplay between contemporary society, information technologies, and computer/communication technologies, at the level of comprehensive theories of society, on one hand, and major public policy, on the other. (lecture/lab) 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 computers. An examination of the influence 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 110 and 130. Recommended: CMNS 253, 353, 362.

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, 293, 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
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 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 494-0 Communication Practicum III
The third semester of work experience for students in the School of Communication’s Co-operative Education Program. Credit is awarded as in 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 496 and a minimum GPA of 2.70. Credit is given as pass/withdraw (P/W).

CMNS 497-5 Honors Research Proposal
Presentation and discussion in a seminar format of honors student research projects and colloquia of interest. Course may be offered on a pass/fail basis. Prerequisite: students accepted into honors program only.

CMNS 498-10 Honors Research Project
Intensive work in a particular topic in the general field of communication. Involves either group or individual research project under the direct supervision of at least two School of Communication faculty members who will provide guidance and critical feedback as necessary. Prerequisite: successful completion of CMNS 497.

Community Economic Development CED Faculty of Arts

CED 201-3 Introduction to Community Economic Development
A survey of community economic development. The focus of this course is on understanding the strengths and weaknesses of conventional approaches to economic development; the rationale for alternative approaches to economic development; the varying definitions and interpretations of community and of development; and the components which must be addressed by any coherent economic development strategy. Prerequisite: CED certificate program approval, 30 credit hours or permission of the CED Centre.

CED 301-4 Sustainable Community Development
A more sophisticated theoretical foundation for understanding sustainable development at the community level, including an integrated approach to environmental, economic, and social aspects of development. The course includes sections on natural and social capital, and on making community policy (e.g., the role of local government, economic instruments, etc.) which are essential for the subsequent 400 level courses in the program. Prerequisite: CED certificate program approval and CED 201 or CED diploma program approval or completion of 60 credit hours.

CED 401-4 Concepts, Techniques and Principles for CED Practice
Study of concepts and principles for economic and policy analysis in community economic development. (seminar) Prerequisite: CED 301 or permission of the CED Centre.

CED 403-4 Models and Cases in Community Economic Development
An examination of historical and ecological issues from previous CED courses with the methods for case studies of communities and their socio-economic development processes. (seminar) Prerequisite: CED 301, or permission of CED Centre.

CED 404-4 Project in CED
Provides a situation in which a student applies ideas and models acquired in the program to a practical problem in community economic development. Prerequisite: CED 301, 401, and 403.

CED 410-4 Special Topics in Community Economic Development
A specific topic within the field of CED, not covered by regularly scheduled, required courses in the program. Prerequisite: CED 301 or permission of the CED Centre.

CED 412-4 Directed Studies in Community Economic Development
This is an individual study course designed to permit students to significantly expand their knowledge base 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: student must successfully complete at least two School of Community faculty members, who will provide guidance and critical feedback as necessary. Prerequisite: successful completion of CMNS 497.

Computing Science CMPT 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 a 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 modern computing 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 that is MATH 100). Students with credit for CMPT 101 may not take CMPT 110 for further credit.

CMPT 119-3 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 119 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 may not 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 interpretable languages, functional programming, modularization, 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
Introduction to object-oriented software design concepts, the object-oriented features of the C++ language, other languages, plus a simple introduction to the fundamentals of graphical user interfaces and the development of windowed 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: CMPT/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
Introduction to software engineering techniques used in analysis/design and in software project management. The course centres on a team project involving requirements gathering, object analysis and simple data normalization, use-case-driven user documentation and design followed by implementation and testing. Additionally, there is an introduction to project planning, metrics, quality assurance, configuration management, and people issues.

(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, management of 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 history or 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 problem 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 or 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, and experimental control in biology and medicine will be explored.

(lecture) Prerequisite: completion of 60 credits including CMPT 101 (or 102, 103 or 104 with a grade of B or higher).
CMPT 341-3 Introduction to Computational Biology
This course introduces students to the computing science principles underlying computational biology. The emphasis is on the design, analysis and implementation of computational techniques. Possible topics include algorithms for sequence alignment, database searching, gene finding, phylogeny and structure analysis. (3-0-0) Prerequisite: CMPT 201, MACM 201.

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, anti-aliasing, 2D and 3D geometrical transformations, 3D projections/viewing, Polygonal and hierarchical models, hidden-surface removal, basic rendering techniques (color, 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 provides 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 loading 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, MACM 101 (or CMPT 205).

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 proving. (lecture/laboratory) Prerequisite: CMPT 201; 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 301, 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 machine environments, 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 and all algorithms; intersection problems; closest-point problems and their applications. (lecture) Prerequisite: CMPT 307.

CMPT 407-3 Computational Complexity
Machine models and their equivalences, complexity classes, separation theorems, reductions, Cook’s theorem, NP-completeness, 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/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
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 coordinator 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 coordinator 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 300 and 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.

CMPT 461-3 Advanced Computer Graphics
This course covers advanced topics and techniques in computer graphics. Topics include: solid modeling, 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 468-3 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 on-line 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
Students will study in-depth the techniques, tools and standards needed in the management of software development. Topics will include software process and quality standards, life cycle models, requirements specification issues, project estimation, planning and tracking, project management tools, team dynamics and management, configuration and change management techniques and tools, metrics, quality assurance and test techniques, professional and legal issues. 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 FPA 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 subhead 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. It is a 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 examining 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* 299-3 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.
Undergraduate Courses – Contemporary Arts FPA 247

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. (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 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 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 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 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 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 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 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 489-5 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. Prerequisite: will vary according to the topic.

Dance

FPA 120-3 Introduction to Contempory 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)

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, art, and literal and abstract imagistic stimuli. (studio) Recommended: dance or theatre experience.

FPA 129-3 Fundamental Integration of Human Movement
This studio/theory course incorporates techniques of body awareness, centering, and structural realignment. The course will be of interest to dancers, actors, kinesiologists, and athletes. (seminar/ studio) Corequisite: dance majors and extended minsors 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. (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. (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
This course will examine 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 329 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 223.

FPA 324-3 New Dance Composition
Students will be introduced to traditional choreographic structures and explore new directions in composition. Emphasis will be on the creation and analysis of work generated by extending the parameters of source, style, and control 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 on 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.

FPA 327-3 Repertory II
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.

Corequisites: students must be concurrently enrolled in a technique course at an appropriate level.
FPA 329-3 Selected Topics in Dance II
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 220 and/or prior approval.

FPA 420-4 Contemporary Dance VII
The third of four upper division courses which build upon the movement vocabulary of modern dance. (studio) Prerequisite: FPA 321.

FPA 421-4 Contemporary Dance VIII
Continues and expands the work undertaken in FPA 420. (studio) Prerequisite: FPA 420.

FPA 425-5 Intensive Studies in Performance
Advanced performance studies in intensive specialized workshops and/or participation in choreographic projects culminating in public performance. Course content may include interdisciplinary collaborations and a variety of performance styles and techniques. (studio) Prerequisite: prior approval by application.

FPA 426-3 Dance/Movement Analysis
An introduction into the theory and practice of movement analysis based on recognized theories of analysis. Experiential work may be included in the course and a dance or similar movement background is necessary. (studio/seminar) Prerequisite: FPA 120 or 123 or 151.

FPA 427-3 Ballet III
This course is an extension of classical ballet technique on an upper intermediate level. Understanding of basic principles is assumed and attention will be focused on combinations of movement, musicality and performance. (studio) Prerequisite: FPA 426.

FPA 428-3 Ballet IV
This is an advanced course. Students must have a thorough background in the vocabulary and techniques of classical ballet. Attention will be given to movement sequences from the ballet repertoire. (studio) Prerequisite: FPA 427.

Film
FPA 130-4 Fundamentals of Film
Introduces students to the basic components of filmmaking through lectures, film screenings and creative projects in the various media that combine to form cinema. (seminar/laboratory) Prerequisite: prior approval through formal application. Students who have taken FPA 132, 133,134 or 230 may not take FPA 130 for further credit. A laboratory fee is required. Students should be advised that course activities may require additional costs.

FPA 131-4 Filmmaking I
An introductory course in 16 mm. film production, emphasizing creative use of the medium. Each student is expected to conceive, direct and edit a short film with a non-synchronous sound track, as well as participate in the making of class exercises and other students’ films. (production) Prerequisite: FPA 130 and prior approval. A laboratory fee is required. Students should be advised that film production will probably incur significant costs in addition to lab fees. Students who completed FPA 230 The Crafts of Film I in spring 1990 or earlier may not take this course for further credit.

FPA* 136-3 The History and Aesthetics of Cinema I
This course will examine the early development of cinema from 1890 until about 1945, with particular emphasis on the fundamental principles of film as an art form. A substantial number of films will be shown during laboratory sessions. (lecture/tutorial/laboratory) Students with credit for FPA 236 offered in 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 cinema 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 156 or 157, 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 230, 233 and laboratory fee required. Students should be advised that film production will probably incur significant costs in addition to lab fees.

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. (laboratory) Prerequisite: FPA 131 and prior approval. Laboratory fee required. Students should be advised that location sound recording and audio post production will probably incur significant costs in addition to lab fees.

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. Recommended: 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 or137, 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 the methodologies 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 undertake a series 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 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 information successfully to their own artistic pursuits. (production) Prerequisite: six hours credit in FPA 230 and prior approval. Students who have taken FPA 233 Video Production for credit may not take FPA 290 for further credit. Laboratory fee required.

FPA 332-3 Film Production Seminar
Facilitates an in-depth understanding of the organizational aspects of film production, with emphasis on pre-production planning. The class will study methods of proposal writing, pre-production and production, developing production packages for short film and video projects. This course is strongly recommended for all students intending to take FPA 430. (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. Laboratory fee required.

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) 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 course for credit in 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, development of treatments and proposals. (lecture/seminar) Prerequisite: one of FPA 238 or 353 or 457 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 and Video in FPA 430 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 the 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 teaches the fundamentals of digital video production and post-production. Students will be introduced to DV camera technology and non-linear editing, and will have an opportunity to become familiar with and explore the potential of digital video technology. This course is intended for third year film students preparing for their fourth year productions. (lecture/laboratory) Prerequisite: FPA 290 or equivalent and prior approval. Laboratory fee required.

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. Students should be advised that film production will probably incur significant financial costs in addition to required 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 participation will be determined in consultation with the instructor. (laboratory) Prerequisite: FPA 430. A laboratory fee is required. Students should be advised that film production will probably incur significant costs in addition to lab fees.

FPA* 436-3 Advanced Seminar in Film and Video Studies
This course features intensive study and analysis of selected topics in film theory, history, criticism and aesthetics. Examination of specific directors or periods; theories of narrativity; ideological analysis; particular aspects of national cinemas, etc. The course may be repeated for credit if a new topic is taught. (seminar) Prerequisite: FPA 335 or permission of instructor.

Music
FPA* 104-3 Music Fundamentals
This course is designed to provide a basic understanding of the music medium 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 (e.g. 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 (e.g. 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: consultation/invitation.

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 multi-track 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 (studio), 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 ethnomusical 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; tibal 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.

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)

FPA* 151-3 Introduction to Acting II
Expands the work of Acting I with an increased emphasis on text, leading to scene work. (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. Laboratory fee required. (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 source of the 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. Laboratory fee required.

FPA 253-3 Playmaking II
Expands the work undertaken in Playmaking I emphasizing writing skills and story structure. (studio) Prerequisite: FPA 150, 151 and 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 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.

FPA* 257-3 Context of Theatre I
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* 258-3 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* 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. (studio) Prerequisite: FPA 250 and/or prior approval.

FPA 327-3 Technical Production I
Students with basic production and design experience will undertake intermediate level responsibilities. As crew chiefs, stage management personnel and 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: FPA 270 or 271 and prior approval.

FPA 328-3 Technical Production II
A continuation of FPA 327-3. Students with some intermediate level technical theatre experience will undertake further production responsibilities. Prerequisite: FPA 372 and prior approval.

FPA 337-3 Stage Lighting
This course explores contemporary stage lighting for theatre, dance and opera. Participants will review the principles of theatrical lighting instruments and control systems and will experiment with the components of lighting design in a variety of studio projects. This course will require a practicum in an actual performance. Prerequisite: FPA 270 and prior approval. Students with credit for FPA 371 may not take FPA 374 for further credit. Laboratory fee required.

FPA 375-3 Stage Design
For students with an intermediate level of knowledge of technical theatre. Students will study various topics for design in depth in the virtual and actual environments of contemporary theatre.
scenographic techniques and be required to solve theoretical problems related to aspects of production. (seminar/laboratory) Prerequisite: FPA 270. Students with credit for FPA 370 may not take FPA 375 for further credit. Laboratory fee required.

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 studios. (studio) Prerequisite: prior approval or audition.

FPA 453-3 Selected Topics in Directing
Primarily a course in the fundamentals of directing leading to public performance of student directed projects. The course allows the option of public performance with a professional director. The focus is to integrate and implement the techniques acquired in the earlier studios. (seminar/studio) Prerequisite: FPA 150, 151, and prior approval.

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.

FPA 251-3 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 work in the context. Artworks, ideologies and movements of this period. Debates around modernism, postmodernity, 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 160. 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. A course materials fee is required.

FPA 265-3 Photography I
This course introduces students to photography 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. A course materials fee is required.

FPA 268-3 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 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 367. (studio) Prerequisite: FPA 360 and 366. Corequisite: FPA 367. A course materials fee is required.

FPA 362-3 Drawing II
A studio course in advanced drawing skills, media and techniques. Drawing is considered as one 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 arts topics of an historical, critical and theoretical nature which concern practising 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. (seminar) 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 practising 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. (seminar) 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 CRIM
Faculty of Arts

CRIM 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, psychiatric, 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 crime and deviance that will include both mainstream 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 and 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
Introduction to 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 161-0 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 that have affected the development of the correctional system, including: sentencing, parole and the community. (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 219-3 Introduction to Women and Deviant Behavior

courses with credit for CRIM 100 may not take CRIM 251 for further credit.

CRIM 251-3 Introduction to Policing
An examination of the organization, structure and operation of contemporary Canadian policing. 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 251-0 Practicum II
Second semester of work experience in the Criminology Co-operative Education Program. (practicum) Prerequisite: successful completion of CRIM 101 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. All 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 391-3 Crime in Contemporary Society
Contemporary issues, problems and themes pertinent to the field of criminology. Development, character and function of criminology as an 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; consideration 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 and about the political commitment of the social scientist. (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 controversy, 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 diverse deinstitutionalization and de-legitimization 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. Analysis of possible discrimination, 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 considered 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 the CRIM 302-3 Criminology 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 law. 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 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. (seminar) Prerequisite: one of CRIM 100, 101 or 102. Recommended: CRIM 131.

**CRIM 315-3 Restorative Justice**
An examination and analysis of the principles, assumptions, key concepts and applications of restorative (Transformatative) 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 conferencing and circle remedies. Prerequisite: CRIM 131 and one of CRIM 100 or 101 or 102.

**CRIM 320-3 Quantitative Research Methods in Criminology**
A detailed examination of the qualitative research methods and techniques most frequently used in criminological research. Advantages and shortcomings of each method and the appropriateness of each technique for criminological research. Problems of pure and applied research. Specific issues of interdisciplinary research. Critical evaluation of the quantitative methods used in certain major criminological studies, (lecture/tutorial) Prerequisite: one of CRIM 120 or 220, CRIM 320 may be taken concurrently with CRIM 321.

**CRIM 321-3 Qualitative Research Methods in Criminology**
A detailed examination and application of qualitative research methods and techniques most frequently used in criminological research. Advantages and disadvantages of each method and the appropriateness of each technique for criminological research. Ethics of criminological research. Specific issues of interdisciplinary research. Critical evaluation of qualitative methods used in certain major criminological studies. Prerequisite: one of CRIM 100, 101 or 102; one of CRIM 120 or 220. This course may be taken concurrently with CRIM 320.

**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 adversary system is operated. 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, the 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**
recreation. Operating youth services centres, residential programs, crisis intervention and emergency centres. (lecture/seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 352-3 Environmental Criminology: Theory and Practice
Explores the impact of the field of environmental criminology and critically examines the theoretical approaches within the field. Special emphasis is placed upon the relationship between crime, fear and the environment, the quality of place and the decision processes involved in criminal events. Prerequisite: one of CRIM 100, 101 or 102.

CRIM 355-3 The Forensic Sciences
This course will examine the use and interpretation of physical forensic evidence in court. It will critically examine and evaluate the major forensic sciences used in criminal investigations today, as well as look at the crime scene. Subjects examined will include forensic pathology, odontology, biology, DNA evidence, firearms evidence, toxicology chemistry and questioned documents. Techniques will be illustrated with real cases. (lecture/tutorial) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 361-0 Practicum III
Third semester of work experience in the Criminology Co-operative Education Program. (practicum) Prerequisite: successful completion of CRIM 261 and 80 credit hours including CRIM 226 and 227. (lecture/field) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 369-4 Professional Ethics and Interpersonal Skills in Criminal Justice
Immediate ethical issues confronting the professional in the criminal justice system are examined. Such concerns include privileged communications and confidentiality in field and research situations; the conflict between the professional's duty to protect society and her/his duty to the client; ethics of decision-making; research ethics; situation ethics; professional ethical codes and legal constraints on professional conduct. Different modes of personal interaction in selected parts of the criminal justice system are examined and taught. Mixed problems of skill and ethics are explored in controlled laboratory settings. (lecture/laboratory) Prerequisite: one of CRIM 100, 101 or 102; reserved for criminology majors and honors. This course is a prerequisite for CRIM 462. Completion of this course does not guarantee admission to field practice.

CRIM 370-3 Directed Readings
Independent readings in a selected field of study, under the direction of a single faculty member. Papers will be required. Prerequisite: CRIM 320 and 330, and written application to the school no later than the last day of classes of the preceding semester. CRIM 370 and 470 may not be taken concurrently.

CRIM 402-3 Biological Explanations of Crime
Examines possible biological factors that could result in a predisposition towards criminal behavior. These include not only the genetic factors that affect behavior and therefore could potentially predispose towards crime, but also biochemical, neurological, nutritive and accidental effects such as head injuries. This course will look critically at all evidence both for and against any possible biological predispositions for criminogenic behaviors, together with the interaction with the environment. In particular, moral and ethical issues will be considered and debated. Prerequisite: one of CRIM 100, 101 or 102. Students with credit for CRIM 416 in the summer 2000 or 2001 semester may not take CRIM 402 for further credit.

CRIM 410-3 Decision-Making in Criminal Justice
Examination of the factors which influence decision making in the criminal justice system. The exercise of discretion by criminal justice personnel; the role of organizational policies and priorities in decision making; the involvement of victims and the public. Consideration of decision making at specific stages of the criminal justice process. (seminar) Prerequisite: CRIM 131.

CRIM 412-3 Crime, the Media and the Public
Focus is upon the relationship among the content of media, the public and crime. There will be an examination of the type and frequency of crimes associated with displays in the media, either coincidentally or causally, and the perception by and impact upon the public of these crimes (physically and psychologically). In addition, there will be an examination of the nature of political efforts by members of the public to alter this inferred relationship through law enforcement and legislative measures. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 413-3 Terrorism
This course will consider the nature, extent, and basis of terrorism as an official crime throughout the world and its impact upon criminal justice systems. Theoretical explanations in a comparative perspective will be employed and the impact of terrorism on various countries and the response of governments to it. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 416-418-3 Current Issues in Criminology and Criminal Justice
A critical analysis of certain 'hot' issues in criminology and criminal justice. The topics covered change from semester to semester. (seminar) Prerequisite: one of CRIM 100, 101 or 102. A student may not take for credit 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 contemporary consideration 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 RCMP 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.

CRIM 430-3 Judicial Administration and Planning
Theory and practice of court administration. Examination of the organization of court systems with particular attention to problems of administration and planning. Discussion of the various functions involved in court administration including court registries; court reporting; casework management; the role of the judiciary in administration; personnel, fiscal and records management; and information systems. (lecture/seminar) Prerequisite: one of CRIM 100, 101 or 102; 131 and 231.

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, and the creation of new, non-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 435-3 Adult Guardianship Law
A comprehensive exploration of the law affecting adult guardianship, substitute decision-making, and adult protection in Canada, including a detailed examination of the form, content and philosophical underpinnings of the relevant legislation in British Columbia. Topics include assessing mental incapability, powers of attorney, living wills and health care directives, end of life decision-making, the law affecting consent to health care, and court-ordered guardianship for adults. Prerequisite: one of CRIM 100, 101 or 102. Recommended: one of CRIM 330 or 335. This course is identical to GERO 435 and students cannot take both courses for credit. Students with credit for CRIM 418 when offered as Adult Guardianship Law, and GERO 410 when offered as Adult Guardianship Law, may not take CRIM 435 or GERO 435 for further credit.

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 safeguard stock market investors; crimes against the environment such as air and water pollution; 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, and professions) and the increasing demand by other occupational groups and social and economic entities to be governed by these internal controls in addition
CRIM 420-3 Correctional Practice: Advanced Topics
An in-depth examination of the various community-based 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. behavior 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) Prerequisite: CRIM 315 and 330.

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 451-3 Advanced Techniques in Forensic Science
Looks at the advanced and sometimes more controversial areas of forensic science used in the criminal justice system today. Most areas are those outside the crime lab and require extensive and in-depth training in a very focused field. Seminars may cover areas such as the use of polygraph, blood spatter pattern analysis, entomology, pathology, odontology, anthropology, genocide investigation, facial approximation, crime scene analysis on land, underwater and mass homicide scenarios. (0-3-0) Prerequisite: one of CRIM 100 or 101 or 102. Students with credit for CRIM 420 in 01-3, 00-3, 99-3, 98-3 or 97-3 may not take CRIM 451 for further credit. Recommended: CRIM 355.

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, staff, and advancement. Personnel supervision, internal discipline. Problems of communication, information and statistics. Improving resource allocations by means of operational research. Evaluation 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/semia) Prerequisite: one of CRIM 100, 101 or 102; 131 and 251.

CRIM 461-0 Practicum IV
Fourth semester of work experience in the Criminology Co-operative Education Program. (Practicum) Prerequisite: successful completion of CRIM 361 and 75 credit hours with a minimum CGPA of 2.75.

CRIM 462-15 Field Practice
Supervised three month field practicum in selected criminal justice agencies. Students are required to complete a series of reports addressing theoretical and practical issues relating to their placement as well as 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, 321 and 369. A minimum grade of B- in CRIM 360 is required. Only one facet. An in-depth examination of the various research projects 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; 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, or selected students from the 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 as well as initial and partial completion of the thesis research. Open only to students who have been admitted to the criminology honors program. (Independent study) Prerequisite: successful completion of two of the major criminology courses. Recommended: CRIM 460.

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; 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, or selected students from the criminology honors and majors. Recommended: CRIM 370.

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 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. Prerequisite: a minimum grade of B in CRIM 490 and 491 is required.

Undergraduate Semester in Dialogue DIAL
DIAL 390-5 Undergraduate Semester: Dialogue
The Dialogue component of the Undergraduate Semester at the Centre for Dialogue will immerse students in the art and practice of thinking and communicating. The focus will be on strategies and methods to use in understanding diverse perspectives. Students will have an opportunity to expand their verbal and written communication skills as well as explore dialogues as a developing academic field. The specific focus of the course and the assignments will be linked and intertwined with the current semester’s offering of DIAL 391 and 392, which must be taken simultaneously with DIAL 390. (0-5-0) Prerequisite: 45 credit hours prior to beginning the Undergraduate Semester at the Centre for Dialogue. Dialogue students should apply two semesters before the semester in which they wish to enroll. Corequisite: DIAL 391, 392.

DIAL 391-5 Undergraduate Semester: Seminar
Topics covered each semester will vary, but generally each course will examine a subject that encourages broad approaches and probes provocative issues. The course will consist of discussions led by faculty, frequent visits from relevant off-campus experts, a heavy reading load, and a number of individual and group student projects. Learning will be active rather than passive, stimulating students to research, explore and discuss rather than following a lecture format. (0-5-0) Prerequisite: 45 credit hours prior to beginning the Undergraduate Semester at the Centre for Dialogue. Dialogue students should apply two semesters before the semester in which they wish to enroll. Corequisite: DIAL 390, 392.

DIAL 392-5 Undergraduate Semester: Final Project
For their final project, each student will produce a manuscript suitable for submission to a major public media outlet on a topic relevant to the course focus for that semester. (0-5-0) Prerequisite: 45 credit hours prior to beginning the Undergraduate Semester at the Centre for Dialogue. Dialogue students should apply two semesters before the semester in which they wish to enroll. Corequisite: DIAL 390, 391.

Earth Sciences EASC
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 103-3 The Rise and Fall of the Dinosaurs
An introductory course that deals with the class Dinosauria, and in particular, how our understanding of this extinct group of animals has been radically altered in the light of new discoveries during the last few decades. The course addresses the rise of the dinosaurs, criteria for the recognition of the different groups, fossil data regarding dinosaur metabolism, evidence of dinosaur behavior, possible evolutionary relationships with birds and so-called feathered dinosaurs, and theories of dinosaur extinction. (2-0-2)

EASC 201-3 Stratigraphy and Sedimentation
An introduction to the nature, origin and interpretation of stratified earth materials. Principles of lithostratigraphy, biostratigraphy and chemostratigraphy. 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 paleoecological significance of fossils. (2-0-3) 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 131.

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
Distribution and cycles of elements, minerals and rocks on and within Earth. Understanding and evolution of Earth systems through high and low temperature fluid-rock interaction, aqueous geochemistry, stable and radiogenic isotopes. (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 and 208.

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 geology which deals with the relationship of people to their geological habitat. Topics covered will include environmental impact of mineral 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 and GEOG 213.

EASC 304-3 Hydrogeology
Introduction to the theory of groundwater flow; flow nets; well hydraulics; regional groundwater evaluation. (2-0-3) Prerequisite: one of PHYS 102 or 121, and one of EASC 101 or GEOG 111.

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, 206 and GEOG 213.

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, tectonic 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 and 207. Students who completed EASC 407 prior to fall 1998 may not take this course for credit.

EASC 313-3 Introduction to Soil and Rock Engineering
An introduction to the engineering properties and behavior of soil and rock. Laboratory and field measurements of soil and rock properties. Applications in engineering design will be illustrated with case studies of slope stability, road design, foundations and underground excavations. Emphasis will be placed on the importance of soil and rock mechanics in the resources sector. (2-0-2) Prerequisite: EASC 101, 204 or permission of instructor.

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 metalliferous 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 Structural Geology II
Application of advanced concepts in structural geology to a variety of tectonic problems; deformation mechanisms; flow concepts applied to ductile deformation; description and interpretation of microstructural fabrics; strain partitioning from grain scale to global scale. (2-0-3) Prerequisite: EASC 202, 204, 205, 309.

EASC 406-3 Field Geology III
An advanced field study course that provides real-world examples of major topics in the earth sciences. This involves lectures, seminars and preparation of a term paper and guidebook during the term which serve as background for a 14-18 day field component held shortly after the spring examination period (generally early May). The field component encompasses a fast-paced excursion to a variety of field sites (which change yearly). (field study) Prerequisite: EASC 306 and a minimum of nine other credit hours in geological sciences or permission of the instructor. Recommended: EASC 309.

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 and sediment transport and deposition, and river engineering casestudies. (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 technologies 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. Recommended: GEOG 253, 313.

EASC 412-3 Advanced Geochemistry
Application of thermodynamics to earth science problems, experimental study of mineral equilibria, theoretical development of geothermobarometers 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 413-3 Forestry Geotechnics
Terrain stability, channel, watershed and gully assessments in forested terrain. Slope failure mechanisms in soil and rock. Methods of slope stability analysis. Techniques of slope reinforcement and stabilization. Slope monitoring, Forest road construction and deactivation. Introduction to risk assessment and decision analysis. (2-0-3) Prerequisite: EASC 313 or permission of instructor.

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 Seismology
Elasticity theory and the elastodynamic wave equation; P waves, S waves, and surface waves; reflection and refraction of seismic waves; and seismometers' earthquakes, Earth structure and plate tectonics of Western Canada; seismic surveying methods in exploration of Earth's crust and detection
of hydrocarbons. (2-0-2) Prerequisite: MATH 251 and PHYHS 121 or permission of instructor.

Recommended: EASC 101, MATH 232 and 252.

EASC 418-1 Terrain Stability: Assessment and Mitigation
A field-based course dealing with site specific assessment of the areas to be logged or impacted by road construction. Topics covered will include terrain stability assessment field procedures, environmental impact and mitigation in forest terrains, forestry-related landslides, forest road construction and deactivation. Rock slope stability assessment.

(1-0-1) Prerequisite: EASC 313, 411 and 413.

EASC 419-1 Forest Harvesting Technology
A field-based course dealing with techniques used in the harvesting of timber; their impact and mitigation. Topics covered will include forest harvesting techniques (ground-based systems, cable systems, aerial systems, hand logging and horse logging), elements of operational logging (layout of cut blocks and road systems), and forest development plans.

(1-0-1) Prerequisite: EASC 313, 411 and 413.

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 done in consultation with a faculty member in earth sciences. A research seminar will be delivered at the end of the semester. (student project) Prerequisite: 105 credit hours, admittance to the honors program and consent of a thesis supervisor.

Economics ECON

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 approved as 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 102-3 Contemporary World Economies
An examination of the nature, experience and prospects 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 inflation, 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
A study of the evolution of the main concepts of economic theory. Attention will be given to the relationships 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 centralized banking system and in 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 Economic Development in the Pre-Industrial Period
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 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 261 cannot take this course for further credit.

Undergraduate Courses – Economics ECON 257

Prerequisite: economics lower division requirements and completion of 45 semester hours at least 12 of which 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 300-3 Introduction to Economic Concepts and Issues
The objective of this course is to introduce students to the economic approach to decision-making by individuals, firms and institutions. They will see how economic analysis can be used to interpret current economic issues and as an aid to the formation and evaluation of government policy. The course will focus on both microeconomic and macroeconomic concepts. By exploring economic issues, the course will encourage critical thinking and develop problem-solving skills. (3-0-0) Prerequisite: this course is available only to students who are registered in the Integrated Studies Program.

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. (lecture/tutorial) 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 Marxian 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
Prerequisite: ECON 103 or 200. Students with credit for ECON 210 for further credit.
ECON 331-5 Introduction to Mathematical Economics
The mathematical interpretation of fundamental economic concepts; demand, supply, competitive equilibrium; calculus to production and distribution theory, growth models and investment theory. Differential and difference equations in dynamic economic models. Introduction to activity analysis. 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 353-4 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 the theory 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/tutorial) 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 toward 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 Regression 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.
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; BUED 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 350; 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 460-3 Seminar in Environmental Economics
Focus will vary from semester to semester. (seminar) Prerequisite: ECON 301, 305; 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 CGPA 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: employment and unemployment, 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 395; 60 credit hours.

ECON 482-484-3 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 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 CGPA of 3.0. Pre- or corequisite: 435.

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.

EDUC 223-3 Social Lives of School Children
An overview of theory, research and practice concerning social emotional development and social interactions and relationships in the school context. Emphasis on the role of peer relationships in development and the role of the school in supporting positive interactions. Prerequisite: EDUC 220 or PSYC 250.

EDUC 232-3 The Social Lives of School Children
An overview of theory, research and practice concerning social emotional development and social interactions and relationships in the school context. Emphasis on the role of peer relationships in development and the role of the school in supporting positive interactions. Prerequisite: EDUC 220 or PSYC 250.

EDUC 259-0 Undergraduate Courses – Education
ECON 259
methods, assessing student achievement, published tests of achievement and aptitude, marking and reporting. Prerequisite: EDUC 220.

EDUC 326-3 Classroom Management and Discipline
An examination of contemporary approaches to classroom management and discipline, including a consideration of legal, organizational and administrative issues. The major goal of the course is to enable students to comprehend the basic principles and develop a number of management approaches and to translate these principles into specific teaching strategies and skills. Prerequisite: EDUC 401/2 or one of EDUC 100, 220, 230, 240.

EDUC 327-3 Self, Psychology and Education
A critical examination of theoretical and empirical programs of inquiry in educational psychology that are concerned with the self (e.g., self-esteem, self-concept, self-directed or self-regulated learning). Students will participate in a wide-ranging seminar that considers topics such as the relationship between personal and social being, historical perspectives, Prerequisite: 60 hours of credit, including one of EDUC 220, 230, 240 or 250.

EDUC 328-3 Career Education and Career Counselling
An introduction to theories of career choice, adjustment and development. Emphasis on critical evaluation of established theories that are influential in the development of career education curricula and in the practice of career counselling. Prerequisite: EDUC 220 or 401/402.

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 including six hours in EDUC courses.

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 certicate in literacy instruction. Prerequisite: 60 hours of credit.

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 368-3 Foundations of Educational Technology
A survey of major traditions of research and development in educational technology, including the arguments and assumptions they make about what constitutes a valuable educational outcome. Focus on analysing and understanding educational technologies as cultural tools that are both shaped by and in turn shape teaching and learning in K-12 schools. Prerequisite: EDUC 260.

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 labelled 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. Course may be given on a pass/fail basis. A maximum of 12 credit hours in Education Special Topics courses may be used toward a bachelor of education degree.

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/withdrawal basis. (Not offered in summer semester.)

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/withdrawal basis. (Not offered in summer semester.) Corequisite: 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 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/withdrawal basis. (Not offered in summer semester.) 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 observation/teaching sequence, 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 411-3 Investigations in Mathematics for Secondary Teachers
Students examine secondary mathematics from an advanced standpoint, focusing on problem solving, investigating connections among various topics and relating them to secondary mathematics in a broader context, both mathematical and historical. Corequisite: EDUC 415 or appropriate math background and permission of instructor.

EDUC 412-4 Designs for Learning: Secondary Language Arts
Focuses on teaching secondary school language arts and addresses aspects of the theory and practice of language arts education. Students examine their own thinking about language arts education through critical reflection, work with the prescribed curriculum, and explore various ways to develop engaging learning experiences for young adults within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 472 prior to the 2001-2 semester cannot take EDUC 412 for further credit.

EDUC 414-4 Designs for Learning: Secondary Social Studies
Focuses on teaching secondary school social studies and addresses aspects of the theory and practice of social studies education. Students examine their own thinking about social studies education through critical reflection, work with the prescribed curriculum, and explore various ways to develop engaging learning experiences for young adults within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 474 cannot take EDUC 414 for further credit.

EDUC 415-4 Designs for Learning: Secondary Mathematics
Focuses on teaching secondary school mathematics. Students explore mathematical learning, their own mathematical thinking and curriculum; and plan mathematical instruction within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 475 prior to the 2001-2 semester cannot take EDUC 415 for further credit.

EDUC 416-4 Designs for Learning: Secondary Science
Focuses on teaching secondary school science. Students explore the sciences and aspects of learning science; examine their own scientific thinking, work with the prescribed curriculum, and plan science learning experiences within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 476 prior to the 2001-2 semester cannot take EDUC 416 for further credit.

EDUC 422-4 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 220.

EDUC 423-4 Helping Relationships
Introduction to the rationale for and the practice of basic counseling skills. Emphasis on the development of counselling skills as a means of establishing effective helping relationships in educational settings. Prerequisite: EDUC 332.

EDUC 424-4 Learning Disabilities: Laboratory
Supervised experience in analysis and evaluation of treatment strategies to be used with classroom students having learning disabilities. Prerequisite or corequisite: EDUC 422.

EDUC 426-4 Teaching Children and Youth with Special Needs
An introduction to the field of special education including studies of the definitional criteria and characteristics of major categories of special need, and the distinctive instructional challenges associated with these categories. The course focuses on the special learning needs of school age students, both elementary and secondary school levels, and emphasizes both the analysis of issues and treatment needs across the array of special needs. Prerequisite: 60 hours of credit.

EDUC 428-4 Nature and Nurture of Gifted Students
Concepts and practices related to the nature and nurture of the potential for giftedness in educational settings will be introduced. Theoretical and historical foundations of common practices in gifted education will be covered. Grading will be on a pass/fail basis. Prerequisite: EDUC 220 or PSYC 250 or PSYC 302 and EDUC 401/402.

EDUC 430-4 Designs for Learning Dance
This course is for students and teachers with some movement and dance experience who are planning to teach dance in school or recreational settings. Students will continue experiential and theoretical explorations of the language and culture of dance and historical analysis of dance concepts with increasing emphasis on expressive, formal and critical aspects of dance and movement education. Prerequisite: EDUC 330 and either EDUC 401/402, or permission of instructor.

EDUC 433-4 Philosophical Issues in Curriculum
Examines fundamental philosophical issues involved in designing, evaluating, or changing educational curricula. Such issues as the nature and justification of educational curriculum, the components of a rational curriculum, the nature of knowledge and its differentiation, curriculum integration and the education of the emotions. Also deals with such current issues as the place of behavioral objectives in education, the hidden curriculum and the sociology of knowledge. Prerequisite: 60 credit hours including 6 hours in EDUC courses or EDUC 401/402.

EDUC 437-4 Ethical Issues in Education
Ethical problems in education are identified and examined. Four major areas of concern are explored: 1. the normative character of education as a whole; 2. the justification of education; 3. ethical questions related to equality, autonomy, interpersonal relationships, and rights in education; 4. moral education and values education. Prerequisite: EDUC 230 or EDUC 401/402 or permission of the instructor.

EDUC 441-4 Multicultural/Anti-Racist Education
Focuses on developing approaches for multicultural and anti-racist teaching. Topics include: diversity of race, language and culture among learners; identifying the operation of racism, prejudice and discrimination in classrooms and schools; becoming familiar with a variety of approaches such as: co-operative learning, culturally appropriate assessment, and community involvement to counteract and prevent negative classroom and school dynamics; identifying bias in curriculum resources; and locating entry points in selected curriculum areas (dance, the visual arts, social studies, art, music, etc.) for integrating approaches which employ a range of multicultural/anti-racist curriculum resources. Prerequisite: EDUC 240 or SA 333, and EDUC 401/402.

EDUC 445-4 Legal Context of Teaching
This course is designed to provide education students, teachers, counsellors and school administrators with a comprehensive understanding of the legal issues and potential legal liabilities encountered in the BC public school system. Special attention is devoted to the legal dimensions and consequences of routine classroom and administrative activity. Topics include: sexual abuse by school board employees; negligence and supervision; private lifestyles and community 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 446-4 Law for the Classroom Teacher
The course provides teachers with the necessary background understanding of the law and legal practices required to teach the law-related 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 practice 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 dealt with in environmental education and the various program activities and environmental education and the various program activities and environmental education. The course provides teachers with the necessary background understanding of the legal issues and potential legal liabilities encountered in the BC public school system. Special attention is devoted to the legal dimensions and consequences of routine classroom and administrative activity. Topics include: sexual abuse by school board employees; negligence and supervision; private lifestyles and community 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 453-4 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 454-4 Drama and Education
This course deals with theory, curriculum 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, stagewright, 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 460-4 Multimedia for Curriculum Design
This course focuses primarily on the evaluation of the use of multimedia software packages in relation to important curricular 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 260 or permission of instructor.

EDUC 464-4 Early Childhood Education
Current trends, issues and research relating to the education of young children. Prerequisite: EDUC 401/402 or PSYC 250.

EDUC 465-4 Children's Literature
Historical, sociological and literary perspectives on literature for children. Prerequisite: 60 hours of credit.

EDUC 466-4 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 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: Elementary Language Arts
Focuses on developing knowledge, skills and strategies to create a rich and stimulating language arts program in the elementary classroom. Issues in reading, writing, speaking and listening will be examined through current theory and teaching practice. Prerequisite: EDUC 401/402. Students who have credit for EDUC 472 prior to 2001-2 semester cannot take EDUC 472 for further credit.

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: Elementary Social Studies
Focuses on teaching elementary school social studies and addresses aspects of the theory and practice of social studies education. Students examine their own thinking about social studies education through critical reflection, work with the prescribed curriculum, and explore various ways to develop engaging learning experiences for children within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 474 prior to 2001-2 semester cannot take EDUC 474 for further credit. Students with credit for EDUC 414 cannot take EDUC 474 for further credit.

EDUC 475-4 Designs for Learning: Elementary Mathematics
Focuses on teaching elementary school mathematics. Students explore mathematical learning, their own mathematical thinking, and curriculum; and plan mathematical instruction within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 475 prior to 2001-2 semester cannot take EDUC 475 for further credit.

EDUC 476-4 Designs for Learning: Elementary Science
Focuses on teaching elementary school science. Students explore science, aspects of learning science, and their own scientific thinking; work with the prescribed curriculum; and plan science learning experiences within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 476 prior to 2001-2 semester cannot take EDUC 476 for further credit.

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 curriculums 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 second language) as a special education programme-cadre in British Columbia. Emphasis on integration of four skills (listening, speaking, reading and writing) particularly on speaking. Error analysis, teaching techniques and development of activity centres. Exploration 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 programme-cadre set forth in the BC Information Technology Curriculum. Prerequisite: EDUC 260 and 401/402 or permission of instructor.

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 skills, teacher as researcher, teacher as developer of curriculum. Students will observe, use and evaluate these techniques. Techniques for providing effective writing experiences will be studied, demonstrated and practised. Students will observe, work and evaluate these techniques. Course content will include - 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 486-489-3,4,5 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. Prerequisite: this will be announced prior to the beginning of each semester. A maximum of 12 hours in education special topics courses may be used toward a bachelor of education degree. Please refer to SA 333 Sociology of Education, as this course is also accepted as education credit.

Education Professional EDPR Faculty of Education
EDPR 384-399-2,3,4,5 Special Topics
These field based courses will explore issues of concern to experienced practising educators. Courses may be offered on a pass/fail basis. Prerequisite: EDUC 405 or special permission of the instructor.

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 proposed project. Evaluation is based on a pass-withdrawal system. Field based studies in curriculum development 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. Prerequisite: teaching certificate or permission of the director of field programs. Maximum of 10 credit hours of field based studies in curriculum development may be used towards a BEd degree.

EDPR 414-417-2,3,4,5 Field Based Studies in Educational Practice
These courses are intended for practising teachers who wish to upgrade their professional work in a specific area of instruction or educational service. The field work is completed by individuals or groups of teachers under the supervision of a faculty member or field studies supervisor 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 proposed project. 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 professional programs.
programs. A maximum of 10 credit hours of field based studies in educational practice may be used towards a BEd degree.

EDPR 411-421-2,3,4,5 Group Field Studies in Selected 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 credit hours of 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 490-499-2,3,4,5 Special Topics
These field based courses will explore issues of concern to experienced practising educators. Courses may be offered on a pass/withdrawal basis. Prerequisite: EDUC 405 or special permission of the instructor.

Engineering Science ENSC 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 103, 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: PHYS 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 used 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: CMPT 150 or 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/W) 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 Fall 2017.

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's 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 220 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 device physics and terminal characteristics; implementations and models of basic semiconductor devices (diodes, BJTs and MOSFETs); circuit simulation via SPICE; 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 elements and mechanisms. 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 employer as ENSC 195. Prerequisite: ENSC 195.

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 196.

ENSC 299-4 Job Practicum V
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 299 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)

ENSC 301-3 Engineering Economics
The engineer as business person and entrepreneurs. Preparation of a business plan. The economics of
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 (either ENSC 340 or 440) that provides practical experience with the design process for development projects. It includes project management, team writing, project documentation (proposals, functional and design specifications, progress reports, and users manuals), group dynamics, and dispute resolution. (1-0-0) Corequisite: ENSC 340 or 440.

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.

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.

ENSC 325-4 Microelectronics II

This course introduces Students to analog integrated circuit design in the context of modern silicon integrated circuits technology. Topics included: integrated circuit technology and design tools; integrated component characteristics and limitations, differential amplifiers; multi stage amplifiers; feedback amplifiers; stability and frequency compensation; integrated operational amplifiers; bipolar and MOS digital circuits; analog aspects of digital electronics. (3-0-2) Prerequisite: ENSC 225 or 222.

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 QPSK. Laboratory work is included in this course. (3-0-2) Prerequisite: ENSC 281 or 380 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; and the interactions of matter with the environment. The course also includes material on how to design for safety, engineering standards and human factors. (1-0-4) Prerequisite: ENSC 151, 225 and 351. Students with credit for ENSC 440 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 interfacing 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.

ENSC 380-3 Linear Systems

The objectives of this course are to cover the modelling and analysis of continuous and discrete signals using linear techniques. Topics covered include: a review of Laplace transforms; methods for the basic modelling of physical systems; discrete and continuous convolution; impulse and step response; transfer functions and filtering; the continuous Fourier transform and its relationship to the Laplace transform; frequency response and Bode plots; sampling; the Z-transform. (3-0-1) Prerequisite: ENSC 125 or 220, and MATH 310. Students with credit for ENSC 281 or 382 cannot take this course for further credit. Corequisite: ENSC 320. This course will be taught for the first time in semester 00-01.

ENSC 383-4 Feedback Control Systems

This course is an introduction to the analysis, design, and applications of continuous time linear control systems. Topics include transfer function representation of feedback systems, time domain specifications and steady state error, sensitivity analysis, time and frequency response, and stability criteria. It includes a treatment of methods for the analysis of control systems based on the root locus, Bode plots and Nyquist criterion, and their use in the design of PID, and lead-lag compensation. Lab work is included in this course. (3-0-2) Prerequisite: ENSC 281 or 380.

ENSC 387-4 Introduction to Electro-Mechanical Sensors and Actuators

This course provides an introduction to sensors and actuators for electromechanical, computer-controlled machines and devices. Topics include operational principles, design considerations, and applications of analog sensors, digital transducers, stepper motors, continuous-drive actuators, and drive system electronics. Component integration and design considerations are studied through examples selected from applications of machine tools, mechatronics, precision machines, robotics, aerospace systems, and ground and underwater vehicles. Laboratory exercises strengthen the understanding of component performance, system design and integration. (3-0-2) Prerequisite: ENSC 281 or 380 or 382.

ENSC 395-0 Job Practicum V

This is the fifth semester of work experience in the Co-operative Education Program available to engineering students. Credit is awarded as in ENSC 195. ENSC 395 may or may not involve the same employers as preceding practicum semesters. Ideally, students should enrol in ENSC 498 instead of ENSC 395. Prerequisite: ENSC 296 and permission of the undergraduate curriculum chair.

ENSC 396-0 Job Practicum VI

This is the sixth semester of work experience in the Co-operative Education Program available to engineering students. Credit is awarded as in ENSC 195. ENSC 396 may or may not involve the same employers as preceding practicum semester. Students should strongly consider enrolling in ENSC 498 instead of 396 at this time. Prerequisite: ENSC 395 and permission of the undergraduate curriculum chair.

ENSC 400-402-4 Directed Studies in Engineering Science

Directed reading and research in a topic chosen in consultation with a supervisor. Admission requires agreement by a proposed faculty supervisor and submission of a proposal to the school at least one month prior to the start of the semester in which the course will be taken. Upon completion of a directed study course, the student must submit a copy of the "deliverables" to the chair of the undergraduate curriculum committee. (3-0-2) Prerequisite: permission of the undergraduate curriculum committee chair.

ENSC 406-2 Social Responsibility and Professional Practice

This course explores the social implications and/or environmental impacts of a technology relevant to the participants' field of study through research. This course also uses lectures, case studies and group discussions to increase awareness and understanding of the legal ethical responsibilities of professional engineers, including issues of worker and public safety, (2-0-0) Prerequisite: 100 credit hours or permission of the instructor.

ENSC 407-1 Engineering Law and Ethics

This course uses lectures, case studies and group discussions to increase awareness and understanding of the legal and ethical responsibilities of professional engineers. Students exercise their skills as audience analysts and persuade a committee of employers. (1-0-0)

ENSC 408-0 Writing for Publication

This course examines a range of issues related to the process of publishing articles in professional journals including audience analysis, the publication process, referencing and format conventions, and anonymous reviews. It also provides a focused review of the writing process as well as how style and form can impact upon the reader's comprehension of information.
ENSC 424-4 Multimedia Communications Engineering
This course covers the technical basis for multimedia communications systems. The main topics are as follows: methods for audio and visual signal compression and processing; the communications requirements of multimedia systems, such as synchronization, quality of service and bandwidth; the architectures and protocols associated with multimedia communications networks. (3-0-2) Prerequisite: ENSC 281 or 380 or 382.

ENSC 425-4 Electronic System Design
Aspects of design using digital and analog integrated circuits as circuit blocks for the realization of required systems functions, with project activities in the laboratory. Topics include differential amplifiers; operational amplifiers — non-ideal aspects; slew rate, gain error, sensitivities. Active filter design, D/A and A/D conversion. MSI and LSI digital circuits, combinational and sequential; decoders, encoders, multiplexers, ROM’s, counters, controllers. Communication circuits: AM and FM modulators and demodulators, multiplexers, pulse modulation. Laboratory work is included in this course. (2-0-4) Prerequisite: ENSC 383 and 387.

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 composite material 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 convolutional 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 440-4 Capstone Engineering Science Project
This capstone design course is based around a group project that consists of researching, designing, building, and testing the hardware implementation of a working system. The course also includes material on how to design for safety, engineering standards, and human factors. (1-0-4) Prerequisite: ENSC 151, 225, 351, and an Integrated (VL)ENSC 325, 327, 383 and 387. Students with credit for ENSC 340 cannot take ENSC 440 for further credit. Corequisite: ENSC 305.

ENSC 450-4 VLSI Systems Design
This course provides an introduction to the design of Very Large Scale Integration (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; combinational 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 460-462-4 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 481-4 Designing for Reliability
Aspects of quality control and reliability in manufacturing environments will be discussed, including stress and strain, failure modes, reliability testing, statistical and experimental methods, and destructive/non-destructive testing. (2-0-4) Prerequisite: ENSC 330.

ENSC 483-4 Modern Control Systems
Analytical representation of the finite dimensional linear systems, analysis and design of linear feedback control systems based on the state space model, and state/output feedback. Topics include: review of linear spaces and operators, mathematical modelling, state space representation and canonical forms, controllability, observability, realization of transfer function, and solution of the state equation. Applications include: stability concepts and definitions. Lyapunov’s Direct Method, design of the state and output feedback control systems, eigenspectrum assignment, and state estimator design. (3-0-2) Prerequisite: ENSC 383.

ENSC 488-4 Introduction to Robotics
Fundamentals of the 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 489-4 Computer Aided Design and Manufacturing
Survey of methods for computer aided design and manufacturing (CAD/CAM), including experience with CAD/CAM systems. Computer aided design and manufacturing; flexible manufacturing systems concepts. The use of finite element modelling and analysis will be presented through examples from thermal sciences 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 a manufacturing cell consisting of several robots and computer control systems. (3-0-2) Prerequisite: ENSC 281 or 380 or 382.

ENSC 491-1 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 chair.

ENSC 492-2 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 chair.

ENSC 493-3 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 chair.

ENSC 494-4 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 chair.

ENSC 495-4 Introduction to Microelectronic Fabrication
This provides an introduction to the practice and theory of semiconductor integrated circuit fabrication. The practical area will be covered in lectures and reinforced with laboratory experience where the students will manufacture diodes, transistors and small circuits. Major areas to be covered are: clean room technology and economics, silicon wafer production, thermal oxidation, photolithography, thin film deposition (evaporation, sputtering, chemical vapor deposition, epitaxy), etching (wet, plasma, sputtering, reactive ion), diffusion, ion implantation, multi-layer...
Prerequisite: two 100 division English courses.

Middle English and Renaissance periods.

Literature

ENGL 199-3 Introduction to University Writing

wider cultural

Literature and Culture

as the essay, biography, autobiography, travel

ENGL 103-3 Introduction to Drama

literary and artistic genres, and will pay some

include the comparative study of works in related

ENSC 498 activities must be submitted to the school

Prepare 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.

Prerequisite: 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.

Prerequisite: ENSC 498.

English ENGL

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 autobiographical 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. Prerequisite: 12 university credit hours.

ENGL 204-3 Medieval and Renaissance Literature

The study of literary works from the Old English,

Middle English and Renaissance periods.

Prerequisite: two 100 division English courses.

ENGL 205-3 Seventeenth and Eighteenth Century Literatures in English

The study of literary works from the Jacobean, Commonwealth, Restoration and eighteenth century

periods. May include some writing from North America. Prerequisite: two 100 division English courses.

ENGL 206-3 Nineteenth Century Literatures in English

The study of literary works from the Romantic period

to the beginning of modernism. May include some

writing from North America. Prerequisite: two 100 division English courses.

ENGL 207-3 Twentieth Century Literatures in English

The study of literary works of the twentieth century. May include Canadian, British, American, and other literatures.

Prerequisite: 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. Prerequisite: 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.

Prerequisite: 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 germaine to the study of reading and writing.

Prerequisite: 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.

Prerequisite: two 100 division English courses.

ENGL 300-4 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.

Prerequisite: 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.

Prerequisite: 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. Prerequisite: 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. Prerequisite: 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.

Prerequisite: 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. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 311-4 Early Shakespeare

An intensive study of the early works of William

Shakespeare, particularly the history of comedy,

plays, situated in the context of Elizabethan culture.

Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Students may take both ENGL 311 and 313 for credit towards the English major. Students with credit for ENGL 312 may not take this course for further credit without permission of the department.

ENGL 313-4 Late Shakespeare

An intensive study of the later works of William

Shakespeare, particularly the tragedies and

romances, situated in the context of Jacobean

culture. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Students may take both ENGL 311 and 313 for credit towards the English major. Students with credit for ENGL 312 may not take this course for further credit without permission of the department.

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.

Prerequisite: 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. Prerequisite: 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.

Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 322-4 Studies in the Eighteenth Century British Novel

The study of selected 18th century novels, situated in

their cultural context. Prerequisite: 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. 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 324 or 326 may not take this course for further credit.

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.

Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.
ENGL 329-4 Studies in Nineteenth Century British Literature
The study of selected 19th century works written after the Romantic era, with an emphasis on genres other than the novel. 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 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. 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 332 or 334 may not take this course for further credit.

ENGL 336-4 Literature of Transition from the Nineteenth to the Twentieth Century
Addresses changes in society, culture and literature from the late nineteenth century to the early 20th century, through a selection of texts organized by various critical issues or approaches. May include Canadian, British, American and other literatures. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 339-4 Studies in Modernism
Addresses issues in Modernism. May include Canadian, British, American and other literatures. 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 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. Students with credit for ENGL 356 or 358 may not take this course for further credit.

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
The study of a selection of literary works in English, mainly from regions other than 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 411-4 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 department.

ENGL 443-4 Directed Studies C
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 department.

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 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 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 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 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 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 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 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 EVSC
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. Recommended: REM 100

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: ENPL 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 topics in recent developments in environmental science. The course is limited to 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 in the environmental science program, with at least 30 upper division credits, or with permission of the program director.

First Nations Studies FNST
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 ethnographic 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 322-3 Special Topics in First Nations Studies
(3-0-0) Prerequisite: will vary according to the topic.

FNST 332-3 Ethnobotany of British Columbia First Nations
This course is an introduction to the study of plant knowledge and use by First Nations peoples in British Columbia. It provides students with information about the role of plants in First Nations' cultures including such areas as foods, medicines, technology, ceremony, ecological indicators, and within First Nations' knowledge and classification systems. Special focus may be placed on the ethnobotany of one or more Aboriginal groups or culture areas. Prerequisite: FNST 101 or by permission of the department.

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.
FREN 211-3 Intermediate French II
Designed to improve listening and reading comprehension. Emphasis on accuracy in oral and written communication. Instruction in class and in lab. (0-4-1) Prerequisite: grade 12 French with a grade of A or FREN 151 or 210 (or equivalent based on placement test). May not be taken by FREN 212 or 216 students. Students with credit for FREN 201 may not take this course for further credit.

FREN 212-3 French for Immersion Program
Students
Developed for French immersion program students who wish to refine their oral and written language competence. Instruction in class and in lab. (0-4-1) Prerequisite: FREN 101 or 122 or grade 12 French (or equivalent based on placement test) or those who have studied in a Francophone milieu. Placement test required. Students with credit for FREN 201 or 211 or 216 may not take this course for further credit.

FREN 215-3 Intermediate French: Oral Practice
Designed to develop listening comprehension and oral expression. Instruction in class and in lab. (0-4-1) Prerequisite: FREN 201 or 211. May be taken concurrently with FREN 212. Students with credit for FREN 205, 300 or 330 may not take this course for further credit.

FREN 217-3 French Pronunciation
Designed to improve pronunciation. Instruction in class and in lab. (0-4-1) Prerequisite: FREN 201 or 211. May be taken concurrently with FREN 212. Students with credit for FREN 312 may not take this course for further credit.

FREN 221-3 French Writing I
A reading and writing course with emphasis on vocabulary and logical structure in written expression. Instruction in class, in lab and online. (0-4-1) Prerequisite: FREN 201 or 211, or FREN 212 or 216, or with a grade of A, FREN 151 or 210. In the last case, FREN 211 and 212 may be taken concurrently. Students with credit for FREN 202 may not take this course for further credit.

FREN 222-3 French Writing II
Focusing on grammar and grammatical analysis, and the process of writing. Instruction in class, in lab and online. (0-4-1) Prerequisite: FREN 202 or 221, or, with a grade of A, FREN 201 or 211, or, with a grade of A, FREN 212 or 216. Students with credit for FREN 206 may not take this course for further credit.

FREN 225-3 Topics in French Language
The topic will vary: French for Business, French for Professional Purposes, Practice in Translation, or French and the Media. (0-3-0) Prerequisite: FREN 206 or 222 (or equivalent based on placement test). Students with credit for FREN 220 may not take this course for further credit.

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, 222, 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, 222, 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: FREN 206 or 222, or FREN 301.
FREN 360-4 Intermediate French Literature
Introduction to critical analysis based on the study of texts from the Middle Ages to the 19th century. (0-4-0) Prerequisite: FREN 230 or 240.

FREN 370-4 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. (seminar) Prerequisite: FREN 270.

FREN 410-3 French Stylistics
Introduction to the application of linguistic concepts, pragmatics, discourse analysis, translation theory to the study of a variety of French texts. (seminar) Prerequisite: all of FREN 301, 360 and 370. Students with credit for FREN 406 may not take this course for further credit.

FREN 411-3 Aspects of French Morphology
Analysis of selected topics of the morphological system of modern French. (seminar) Prerequisite: FREN 301 and 370.

FREN 412-3 Aspects of French Syntax
Analysis of selected grammatical problems in French syntax. (seminar) Prerequisite: FREN 301 and 370.

FREN 413-3 Aspects of French Phonetics and Phonology
Analysis of selected topics of the sound system of modern French. (seminar) Prerequisite: FREN 301 and 370.

FREN 415-3 Aspects of French Semantics and Lexicology
Study of diachronic and synchronic organization of semantic and lexical fields. Formation and evolution of French vocabulary. (seminar) Prerequisite: FREN 301 and 370. Students with credit for FREN 420 may not take this course for further credit.

FREN 416-3 French Applied Linguistics
This course studies the applications of various branches of linguistics to the problem of second language acquisition and the teaching of French as a second language. (seminar) Prerequisite: FREN 301 and 370. Students with credit for FREN 310 may not take this course for further credit.

FREN 423-3 Topics in the History of French Studies of selected topics in French historical linguistics. Subject matter may include external history, history of sound changes, morphological and syntactic changes. (seminar) Prerequisite: FREN 301 and 370. Students with credit for FREN 407 and/or 408 may not take this course for further credit.

FREN 424-3 Topics in French Linguistics
The subject matter will vary according to faculty and student interests. Selected aspects of French linguistic theories as they apply to the study, teaching and/or learning of French. (seminar) Prerequisite: FREN 301 and 370. Students with credit for FREN 414 may not take this course for further credit.

FREN 425-3 Topics in the Varieties of French Study of selected topics in French dialectal variation. Subject matter may include, but is not limited to, French Dialects, Canadian French and French Creoles. (seminar) Prerequisite: FREN 301 and 370. Students with credit for FREN 421 and/or 422 may not take this course for further credit.

FREN 430-3 The French-Canadian Novel and Theatre
(seminar) Prerequisite: FREN 301 and 360.

FREN 461-3 French Medieval Literature
Medieval French literature with special emphasis on a genre, on an author, or on a region. (seminar) Prerequisite: FREN 301 and 360.

FREN 462-3 French Renaissance Literature
A study of French Renaissance works and literary genres in their historical and cultural contexts. (seminar) Prerequisite: FREN 301 and 360.

FREN 463-3 Literature of the Seventeenth Century
(seminar) Prerequisite: FREN 301 and 360. FREN 465-3 Literature of the 18th Century
(seminar) Prerequisite: FREN 301 and 360.

FREN 467-3 Romanticism
(seminar) Prerequisite: FREN 301 and 360.

FREN 470-3 Realism to Naturalism
(seminar) Prerequisite: FREN 301 and 360.

FREN 472-3 The Contemporary Theatre
(seminar) Prerequisite: FREN 301 and 360.

FREN 474-3 French Poetry
(seminar) Prerequisite: FREN 301 and 360.

FREN 475-3 The Contemporary Novel
(seminar) Prerequisite: FREN 301 and 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. (seminar) Prerequisite: FREN 301 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 360 or 370, or by permission of the course chair. To be taken in conjunction with a 400 division course in French literature 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 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 French literature or French linguistics.

Gender Studies GDST

Faculty of Arts

FREN 241-3 Thinking About Gender
An introduction to the major critical debates on gender from an interdisciplinary and cross-cultural perspective. Topics include the construction and regulation of gender and the relation between gender and ideologies of sexuality, race, class and nation.

General Studies GS

Faculty of Arts

GS 420-429-3,4,5 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.

Geography GEOG

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)

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, interrelationships 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; regional differences in socio-economic growth. (lecture/tutorial)

GEOG 213-3 Geomorphology I
An examination of landforms, processes, laws, and theories of development; types and distributions. (lecture/laboratory) Prerequisite: GEOG 111 or EASC 101.

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 and change. (lecture/laboratory) Prerequisite: GEOG 111.

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 granted credit for GEOG 215 may not be granted credit for BISC 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.

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.

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 Quantitative Geography
An introduction to basic quantitative methods and software for the solution of geographic problems. Topics include spatial data measurements, central tendency measures, simple probability theory and distributions, inferential methods, and correlation analysis. (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.
natural events and the amelioration of the effects of such events within different cultural contexts.

(lecture/laboratory) Prerequisite: GEOG 111 or EASC 101. Students with credit for GEOG 212 may not take this course for further credit.

GEOG 313-4 Geomorphology II
Intermediate analysis in fluvial and coastal geomorphology with particular reference to British Columbia. (lecture/laboratory) Prerequisite: GEOG 213.

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 or permission of instructor. 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 or BISC 204.

GEOG 316-4 Ecosystem Biogeochmistry
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 aspects of elemental cycling are emphasized. Environmental problems resulting from disturbance to natural equilibria in the 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 one of GEOG 213, 214, 215, CHEM 121.

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.

GEOG 324-4 Geography of Transportation
An empirical and theoretical examination of the geographical aspects of transportation systems. (lecture/tutorial) Prerequisite: GEOG 221 and 241.

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 and Visualization
Elements of cartographic design, analysis and visualization, with an emphasis on digital mapping, animation techniques, cartographic software and internet mapping. (lecture/laboratory) Prerequisite: GEOG 255.

GEOG 352-4 Spatial Analysis
Advanced quantitative techniques for spatial analysis of geographic data and patterns. Topics include geostatistics, spatial interpolation, autocorrelation, kriging, and their use in geographic problem solving with spatial analysis software. (lecture/laboratory) Prerequisite: GEOG 251 or STAT 270 or 201.

GEOG 353-4 Remote Sensing
An applied remote sensing and image analysis. Topics include air photo interpretation, multimodal and color photography, thermal imagery, multispectral scanners, microwave applications, satellite imagery. The relation of remote sensing information and Geographic Information Systems is discussed. Digital interpretation and photogrammetric analysis will be emphasized. (lecture/laboratory) Prerequisite: GEOG 253.

GEOG 355-4 Geographical Information Science II
An examination of computer techniques of GIS. Topics include spatial representations, generalization and data management; computational algebra and set theory; digital surfaces and terrain models. (lecture/laboratory) Prerequisite: GEOG 255.

GEOG 356-4 Cognitive Cartography
Analyses 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 in the 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.

GEOG 375-4 Historical Geography I
Geographical factors in the settlement of Canada and the United States; the role of the frontier; and geographic factors in the changing nature of the perception of resources. (lecture/seminar) Prerequisite: GEOG 241.

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.

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 and 241.

GEOG 385-4 Agriculture and the Environment
An examination of the relationship between agricultural production systems and the biophysical environment, with emphasis on the origins of, and potential solutions to, agri-environmental degradation. (lecture/tutorial) Prerequisite: GEOG 221.
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 GERO 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
An examination of concepts and theories relating to the way human populations are shaped by, and shape, their biophysical environments in subsistence, dualistic and capitalist societies. For the last focus, attention is directed to the origins of contemporary environmental degradation and the capacity of various ‘green’ approaches to amend current human-environment relations. (lecture/tutorial) Prerequisite: GEOG 221 or EVSC 200 (formerly ENPL 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 Science and Environment co-operative education program. Students should apply to a co-op co-ordinator in the Science and Environment co-op program 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 Science and Environment co-operative education program. Students should apply to a co-op co-ordinator in the Science and Environment co-op program 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 Science and Environment co-operative education program. Students should apply to a co-op co-ordinator in the Science and Environment co-op program 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 models; 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.

GEOG 416-4 Palaeogeographic Geography
An examination of the physical geographic, pedologic and biotic processes and evidence from human geographic of the period will be studied as they affect landscape changes. (lecture/seminar) Prerequisite: one of GEOG 213, 214, 215, 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 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 422-4 Theories and Practices of Development
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, and 241.

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 362.

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 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 comparisons 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/seminar/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. Spend an 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
This course explores sites of socio-cultural change in a global context. Particular emphasis is placed on regional and international migration and the territorial and geopolitical bases of conflict. (lecture/seminar) Prerequisite: 60 credit hours including eight hours of upper division geography.

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. (semester) Prerequisite: at least 60 credit hours, including at least one of GEOG 351, 354 or 369, or enrolment in either the Post Baccalaureate Program in Community Economic Development or the Post Baccalaureate Program in Urban Studies.

GEOG 450-4 Environmental Workshop
This is an interdisciplinary course whose principal 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. (semester) Prerequisite: GEOG 389.

GEOG 451-4 Spatial Modelling
Spatial models for the representation and simulation of physical, human and environmental processes. GIS and spatial analysis software are used in the laboratory for model development, from problem definition and solution to visualization. Prerequisite: GEOG 255 and 352.

GEOG 453-4 Remote Sensing of Environment
Computational aspects of environmental remote sensing. Topics include digital image processing, image enhancement, sensor systems, statistical extraction, and environmental analysis. (lecture/laboratory) Prerequisite: GEOG 352 and 353.

GEOG 455-4 Theoretical and Applied GIS
A critical examination of advanced topics in GIS, such as: boundary definition, expert systems and artificial intelligence, error and uncertainty, and scale in a digital context. Examines social applications and the roles of GIS in society. Students will design original projects, including data acquisition, analysis, and web site development. (lecture/seminar) Prerequisite: GEOG 355 and pre-or corequisite GEOG 352. Students with credit for GEOG 452 may not 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 489-490-4 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 50 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.

GEOG 497-5 International Field Study
A fieldwork based study of a selected region conducted in an international setting. Emphasis is placed on how to understand landscapes by relating concepts and models with direct observation, inference and collection of field evidence, as well as published literature on the selected region. Prerequisite: at least 60 credit hours including 12 hours of upper division geography courses.

German GERM Faculty of Arts
Department of Linguistics
Language Training Institute

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 104-3 German for Reading Knowledge I
This is a first year German course intended for absolute beginners who want to acquire some rudimentary reading knowledge of German. Prerequisite: no knowledge of German is required.

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.

Gerontology GERO Faculty of Arts

GERO 300-3 Introduction to Gerontology
Examination of the aging process from a multi-disciplinary 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 develop skills and knowledge 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. (lecture/seminar) 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 and outside the community. Course requirements include participation in a group research project. (seminar) Prerequisite: 60 credit hours. GERO 300, 301 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 317 or SA 420. This course is restricted to students in the Gerontology diploma program.

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 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, looking specifically 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.
GERO 414-4 Special Topics in Gerontology IV
Selected psychological, sociological, economic, biological and practical aspects of the aging of individuals and populations (lecture/seminar)
Prerequisite: 60 credit hours. Recommended: GERO 300.

GERO 420-4 Sociology of Aging
The structural and behavioral implications of aging. Topics include demographic aspects of aging; the relationship of aging to political, economic, familial and other social institutions; the psychological significance of aging. (2-2-0) Prerequisite: 60 credit hours. Recommended: GERO 300. This course is identical to SA 420 and students cannot take both courses for credit.

HIST 205-3 Premodern Japan
A survey of Japanese history from antiquity until the late nineteenth century or early modern period (2-1-0) Prerequisite: 60 credits with credit for HIST 206 offered prior to 2002-2 cannot take this course for further credit.

HIST 206-3 Modern Japan
A survey of Japanese history from 1868 until 1952 which will examine, among other topics, the establishment of Japan's colonial empire, the wars with Russia, China and the United States, and the post-war Allied Occupation. (2-1-0) Recommended: HIST 205.

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: independence, political collapse and reconsolidation; 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
A broad survey of some of the central developments that have shaped the history of the British Isles from Roman antiquity to the present.

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 The Later Middle Ages
This course will examine European history from the high middle ages to the beginning of the Reformation. Attention will be given to both material and cultural dimensions of medieval European civilization. (lecture/tutorial)

HIST 222-3 Early Modern Europe, 1500-1789
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 regimes. (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 Classical 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: 45 credit hours including 9 hours of lower division history credit.

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: 45 credit hours including 9 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: 45 credit hours including 9 hours of lower division history credit; admission to the honors program in history.

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: 45 credit hours including 9 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: 45 credit hours including 9 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 outgroups and in formulating policies for dealing with them. Conflicting interpretations of the origins and functions of the welfare state. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 315-4 Politics and Society in England, 1500-1717
This course provides a general overview of the social and political history of Tudor and Stuart England. (lecture/tutorial) Prerequisite: 45 credit hours including 9 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: 45 credit hours including 9 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: 45 credit hours including 9 hours of lower division history credits.

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) Prerequisite: 45 credit hours including 9 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: 45 credit hours including 9 hours of lower division history credit.

HIST 325-4 History of Aboriginal Peoples of North America to 1850
This course examines selected themes in the history of Aboriginal peoples of North America from first contact with Europeans to the mid-nineteenth century. Contact along a range of colonial frontiers including British, French, Spanish and Russian will be considered. Topics include the fur trade, disease, missionaries, intermarriage, and imperial politics. (3-1-0) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 326-4 History of Aboriginal Peoples of North America Since 1850
An examination of selected themes in the history of Aboriginal peoples of North America in the nineteenth and twentieth centuries. Topics include the fur trade, missionaries, intermarriage, the Metis, government policies, wage labour, education, treaty making, oral narratives and political activism. (lecture/tutorial) Prerequisite: 45 credit hours including 9 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: 45 credit hours including 9 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: HIST 102 plus 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 101.

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: 45 credit hours including 9 hours of lower division history credit.

HIST 331-4 Germany from the Reformation to 1815.
An examination of the principal themes in German social, political, economic and intellectual history from the reformation to the defeat of Napoleon. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 332-4 Germany Since 1815
An examination of the principal themes in German political, social, economic and intellectual history from the defeat of Napoleon in 1815 to the reunification in 1990. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 335-4 Twentieth Century Russia
An in-depth study of the social, economic, and political history of the Soviet Union, examining its revolutionary origins, rapid modernization, and emergence as a super power. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 336-4 Absolutism and Enlightenment in Europe
An examination of the economic, social, political and intellectual developments in 17th and 18th century continental Europe, with emphasis either on the period of Absolutism or on the period of the Enlightenment. Students will read excerpts from important contemporary sources, such as Locke, Voltaire, Rousseau, and Kant. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 223 or 224.

HIST 337-4 The Balance of Power in Europe
An examination of the shift of power among competing European states from the late 19th century until the mid-20th century. Attention will be given to the origins and consequences of the two great European wars and to the policies of Britain, France, Germany, and Russia which brought about the significant changes in the balances of power. Study will be based primarily upon documents from the Chanceries. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 225.

HIST 338-4 World War II
An introduction to the history of the origins and course of the second world war. (distance education) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 225.

HIST 339-4 The British Empire and Commonwealth
This course provides an outline history of the British Empire, its rise and decline, and discusses the origin and significance of the Commonwealth. In addition there is a detailed account of the ‘Westminster Model’ of parliamentary democracy, on which the political institutions of many Commonwealth nations are based. (distance education) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 343-4 Africa and the Slave Trade
An examination of the trade in slaves from Africa and the rise of slavery within that continent. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Students with credit for HIST 478 may not enroll in HIST 343. Recommended: HIST 146 or 231.

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: 45 credit hours including 9 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 causes which led to the rise of apartheid. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: at least one of HIST 146, 231.

HIST 350-4 The Ottoman Empire and Turkey
A study of Ottoman society and the impact of Ottoman rule from the conquest of Constantinople to the death of Ataturk, the founder of the Turkish Republic. Emphasis will be on the conflict between investigation 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: 45 credit hours including 9 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: 45 credit hours including 9 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/Ptolemaic cosmology, alchemy, physics and the human sciences. The rejection of modern ideas during the scientific revolution will be studied through the work of Copernicus, Vesalius, Paracelsus, Brahe, Kepler, Galileo, Harvey and Newton. (lecture/tutorial) Prerequisite: 45 credit hours including 9 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: 45 credit hours including 9 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: 45 credit hours including 9 hours of lower division history credit including HIST 254 or permission of the department.

HIST 370-4 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 371-4 The Asia-Pacific War in Modern Japanese History
Covers the period in Japan from the 1930s to the 1950s and will introduce students to topics such as wartime atrocities, the dropping of the atomic bombs and the prosecution of war criminals. It will also attempt to explain why so much controversy surrounds interpretations of events arising from Japan’s last war, the Asia-Pacific War. Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: at least one course on modern Japan.

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 Culture1830-1900
In 1830 most Americans lived on farms or in small towns, worked on the land, and dreamed of salvation. By 1900, cities, roads, 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 patterns. (seminar) Prerequisite: 45 credit hours including 9 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. Prerequisite: 45 credit hours including 9 hours of lower division history credit.

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. Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 386-4 The Material History of North America, 1500-1850
Examines North American material history from the time of contact through the settlements of the Dutch, English, French, and Spanish, through the collapse of empires and the rise of independent states, addressing issues such as utility, class difference, ideology, aesthetics and taste, and consumerism. The influence of the African diaspora in the New World will also be examined. (0-4-0) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 392-4 The Material History of North America, 1851-Present
Examines North American material history in the latter 19th and 20th centuries, considering stylistic revivals, technological innovation, the class-based nature of taste and role of consumption as ideology. Household objects, furniture, domestic spaces and architecture will be used to explore the ways in which changes in North American culture signify changes in social, economic and political life. (0-4-0) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 212.

HIST 397-4 The Material History of North America, 1851-Present
Examines North American material history in the latter 19th and 20th centuries, considering stylistic revivals, technological innovation, the class-based nature of taste and role of consumption as ideology. Household objects, furniture, domestic spaces and architecture will be used to explore the ways in which changes in North American culture signify changes in social, economic and political life. (0-4-0) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 105 or 106.

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: 45 credit hours including 9 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: 45 credit hours including 9 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: 45 credit hours including 9 hours of lower division history credit including HIST 220 or 223 or permission of the department.

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: 45 credit hours including 9 hours of lower division history credit and one of HIST 215, 219, 220, 223, 315 or 316, or permission of the department.

HIST 405-4 Early Modern English Society
This research seminar will examine selected 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: 45 credit hours including 9 hours of lower division history credit and one of HIST 215, 219, 220, 223, 315 or 316, 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: 45 credit hours including 9 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. Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**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: HIST 225 plus 45 credit hours including 9 hours of lower division History credit. Recommended: HIST 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: HIST 225 plus 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 337.

**HIST 415-4 Victorian Britain**

A study of major developments and controversies in social, cultural, political, religious, economic -- during the period of the rise of industrial and class society. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: one or more of HIST 224, 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: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 223, 224.

**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: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 224 or 225.

**HIST 419-4 Late Imperial and Revolutionary Russia**

A detailed examination of the impact of modernization in late imperial and early Soviet Russia. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 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: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 224 or 225.

**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: 45 credit hours including 9 hours of lower division history credit.

**HIST 422-4 Greece, 1935-1944: Occupation and Resistance**

Examining 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: 45 credit hours including 9 hours of lower division history credit.

**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: 45 credit hours including 9 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, and it will consider the influences of gender relationships upon politics, society and the economy. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**HIST 426-4 State Power and Social Regulation in North America**

An examination of the growth and evolution of the relationship between state and society in North America. It will examine the myriad direct and indirect ways in which the state has regulated the lives of North Americans and the equally diverse ways in which North Americans have sought to influence and shape state policy. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history. Recommended: PHIL 120 or 220.

**HIST 427-4 Problems in the History of Aboriginal Peoples**

Examination of selected themes in the history of Aboriginal peoples (0-4-0) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**HIST 428-4 Problems in the Social and Economic History of Canada**

Selected problems in the history of Canadian agriculture, economic development, migration and settlement, labor, native policy and class structure. (seminar) Prerequisite: 45 credit hours including 9 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: HIST 101 plus 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 102.

**HIST 431-4 Problems in the History of British North America, 1760-1850**

The social and political development of British North America: religion, education, economic pursuits, social and humanitarian attitudes, politics, and English-French relations. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 101.

**HIST 432-4 Problems in Environmental History**

An investigation into the major themes and arguments in the environmental histories of North America, emphasizing how different individuals and groups have used, perceived, and managed their environments over time. (0-4-0) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Students with credit for HIST 485 in 2001-3 cannot take this course for further credit.

**HIST 434-4 Things and Stuff: Problems in Material History**

Through the use of case studies, this course considers how historians can effectively and powerfully use furniture, architecture and objects as evidence. Issues to be addressed include 'text' and 'context' and the methodology of reading of material evidence. (0-4-0) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Students with credit for HIST 486 in 2000-1 or HIST 488 in 2001-3 may not take this course for further credit. Recommended: HIST 386 and/or 387.

**HIST 435-4 Problems in the History of the North American West**

This course examines selected problems in the social, economic, political and cultural history of the Canadian and/or American West. (seminar) Prerequisite: 45 credit hours including 9 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: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 101 and 102.

**HIST 446-4 American Revolution and the Making of the Constitution**

Selected topics may include the Revolutionary War Era; the American Enlightenment; the New Nation; American Diplomacy in the Formative Period. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 212.

**HIST 450-4 The Era of the American Civil War**

Examining 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: 45 credit hours including 9 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 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: 45 credit hours including 9 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: 45 credit hours including 9 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
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Revolution, populism, the modernizing military). Emphasis placed on changing historiographical interpretations. (Seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: one of HIST 104, 208, 209, LAS 200. HIST 465-4 The Palestinian-Israeli Conflict 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 Palestinian-Israeli dispute in regional and international affairs. (Seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit and one of HIST 151, 249, 251, 350, 354, 355 or permission of the department. HIST 467-4 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: 45 credit hours including 9 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 history, with an emphasis on traditional patterns and on their transformation in the modern world. (Seminar) Prerequisite: 45 credit hours including 9 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 History. Normally, students should have completed 45 credit hours (or the equivalent) prior to enrollment in any upper division history course. HIST 471-4 Women in Modern Japanese History The history of Japan from 1600 to the mid 20th century with a focus on the economic, social, cultural and political contributions of women. (0-4-0 Prerequisite: 45 credit hours including 9 hour of lower division history credit. Students with credit for HIST 485 in 2001-1 or HIST 486 in 2002-1 may not take this course for further credit. HIST 473-4 The Making of South African Society An examination of the way in which South African society evolved in the 19th and 20th centuries. Particular attention will be paid to the problem of race relations. (Seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 231, 348. HIST 474-4 Modern Chinese Identities This seminar offers an opportunity for upper level undergraduates to explore in-depth the historicity and constructedness 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: 45 credit hours including 9 hours of lower division history credit including HIST 295 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: 45 credit hours including 9 hours of lower division history credit and HIST 339 or permission of the department. HIST 483-4 The Struggle for Identity in Sub-Saharan Africa Selected topics in the history of an African state. (Seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. HIST 485-4 Studies in History I Special topics. (Seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. HIST 486-4 Studies in History II Special topics. (Seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. HIST 489-4 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: 45 credit hours including 9 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: 45 credit hours including 9 hours of lower division history credit. Recommended: at least three upper division courses in history. HIST 498-8 Honors Essay Written under the direction of an individual faculty member, the honors essay will reflect a familiarity with the events and literature of a particular area of study. Prerequisite: 45 credit hours including 9 hours of lower division history credit. 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. Humanities HUM Faculty of Arts HUM 101-3 Introduction to the Humanities An introduction to issues and concepts central to the study of the Humanities. Through exposure to primary materials drawn from different periods and disciplines, students will become acquainted with a range of topics and ideas relating to the study of human values and human experience. 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 203-3 Great Texts in the Humanities III An introduction to classic texts which have endured as monuments of Asian thought and literature. Readings and discussions of primary texts and their central ideas will introduce students to philosophical, literary and religious themes in a selected, major Asian tradition. (lecture/tutorial) Prerequisite: 30 credit hours. HUM 227-3 Introduction to the Study of the Future An introduction to the study of the future as a field of inquiry, its methodology, issues, and the problems that arise when we attempt to understand or control what will happen. (lecture/tutorial) Students who have taken GS 227 cannot take this course for further credit. HUM 230-3 Introduction to Religious Studies The exploration of religion as expressed in a number of major traditions including an investigation of primary textual sources. (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 study of Athenian society in the 5th century BC, a period unique in the record of human achievement during which virtually all the major humanistic fields were either initiated or received significant new impetus. Integrates the remarkable achievements of this 'Golden Age' in an interdisciplinary examination of its art, architecture and writings. (seminar) Prerequisite: 45 credit hours.

HUM 303-4 The Latin Humanist Tradition
Studies in the writings of various Latin authors. (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 Italian Renaissance Humanism
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
An exploration of the characteristic ways in which the humanities, with its emphasis on expression, belief and tradition, presents the important philosophical concepts of western civilization. Based upon an interdisciplinary selection of texts drawn from history, philosophy, literature and the arts. (seminar) Prerequisite: 45 credit hours. Students who have taken this course as HUM 306 cannot take this course for further credit.

HUM 321-4 The Humanities and Critical Thinking
A study of the counter-traditions within western civilization. Compares and contrasts diverse traditions within western culture that critique its central values and traditions. A study of the counter-traditions within western civilization that critique its central value and tradition, presents the important philosophical and cultural factors that help to explain a city's significance and investigates the achievements of its citizens. (seminar) Prerequisite: 45 credit hours.

HUM 325-4 The Humanities and Natural World
A study of the humanistic, scientific, political, and ideological discourses deriving from concern with the natural environment. Using classic and contemporary sources, this course examines the interaction of humans with the non-human world, and includes such topics as human communities and nature, the immersion of the individual in nature, nature and the human habitat. (seminar) Prerequisite: 45 credit hours.

HUM 327-4 Critical Issues in the Study of the Future
An exploration of central controversies and issues in the study of the future. (seminar) Prerequisite: 45 credit hours. Students who have taken this course as GS 427 cannot take this course for further credit. Recommended: HUM 227 is strongly advised.

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 332-4 Mythology in Context
A detailed interdisciplinary study of the role of mythology within a particular culture or tradition. (seminar) Prerequisite: 45 credit hours. Recommended: HUM 102.

HUM 340-4 Great Cities in Their Time
An exploration of the cultural and intellectual accomplishments of a specific city that achieved prominence in a particular time period, and had substantial impact and influence on human civilization. Examines the political, social, religious, and cultural factors that help to explain a city's significance and investigates 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
A focused interdisciplinary study of the role of methodology within a particular culture or tradition. (seminar) Prerequisite: 45 credit hours.

HUM 382-4 Selected Topics in the Humanities II
A focused interdisciplinary study of the role of methodology within a particular culture or tradition. (seminar) Prerequisite: 45 credit hours.

HUM 383-4 Selected Topics in the Humanities III
A focused interdisciplinary study of the role of methodology within a particular culture or tradition. (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 credit hours 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.

HUM 471-0 Practicum I
First semester of work experience in the Humanities Co-operative Education Program. Students should apply to the Faculty of Arts Co-op Education co-ordinator one semester in advance. Prerequisite: a minimum of 30 credit hours with nine credit hours in Humanities courses and a minimum CGPA of 2.75.

HUM 472-0 Practicum II
Second semester of work experience in the Humanities Co-operative Education Program. Students should apply to the Faculty of Arts Co-op Education co-ordinator one semester in advance. Prerequisite: successful completion of HUM 471, a minimum of 45 credit hours with nine credit hours in Humanities courses plus a minimum CGPA of 2.75.

HUM 473-0 Practicum III
Third semester of work experience in the Humanities Co-operative Education Program. Students should apply to the Faculty of Arts Co-op Education co-ordinator one semester in advance. Prerequisite: successful completion of HUM 472, a minimum of 60 credit hours with nine credit hours in Humanities courses plus a minimum CGPA of 2.75.

HUM 474-0 Practicum IV
Fourth semester of work experience in the Humanities Co-operative Education Program. Students should apply to the Faculty of Arts Co-op Education co-ordinator one semester in advance. Prerequisite: successful completion of HUM 473, a minimum of 75 credit hours with nine credit hours in Humanities courses plus a minimum CGPA of 2.75.

Italian ITAL
Faculty of Arts
Department of French
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 Department of French general office for the procedure to be followed.

ITAL 100-3 Introductory Italian I
This course is designed to provide the student with the means of acquiring basic spoken fluency and reading facility. (tutorial/laboratory) Prerequisite: ITAL 100.

ITAL 101-3 Introductory Italian II
This course continues the work of ITAL 100. Considerable emphasis will be placed on oral and reading facility as well as basic writing skills. (tutorial/laboratory) Prerequisite: ITAL 100.

ITAL 200-3 Intermediate Italian I
An intermediate Italian course continuing the work of ITAL 101. In addition to consolidation of oral practice, grammar, reading and composition skills, a cultural component is included as well as selected readings from Italian authors. Prerequisite: ITAL 101.

ITAL 201-3 Intermediate Italian II
ITAL 201 continues the work of ITAL 200. Oral and written competence in Italian are extended through grammar review, oral practice, cultural studies, selected readings from Italian authors and multimedia activities. Prerequisite: ITAL 200.

Japanese JAPN
Faculty of Arts
Department of Linguistics
Language Training Institute
JAPN 101-3 Introduction to Japanese I
A comprehensive introduction to the Japanese language including the three writing systems. (tutorial) Prerequisite: students with any prior knowledge or experience in Japanese beyond the level of this course may not register in this course. Students with some previous knowledge of Japanese should consult with the instructor for course placement.

JAPN 101-3 Introduction to Japanese II
Continuation of JAPN 100. (tutorial) Prerequisite: JAPN 100 or permission of the department.

JAPN 200-3 Advanced Beginners’ Japanese I
Continuation of JAPN 101. (tutorial) Prerequisite: JAPN 101 or permission of the department.

JAPN 201-3 Advanced Beginners’ Japanese II
Continuation of JAPN 200. (tutorial) Prerequisite: JAPN 200 or permission of the department.

JAPN 250-3 Conversation and Composition
Conversation and composition on selected topics in advanced beginners’ level. (tutorial) Prerequisite: JAPN 101 or permission of the department.
Kinesiology KIN
Faculty of Applied Sciences

Students wishing to register for kinesiology courses must have obtained a grade of C- or better in prerequisite courses.

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, cardiorespiratory system, kidney and gastrointestinal system. (distance education) Kinesiology majors and honors students 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 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 around 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 labelling 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. Recommended: grade 11 chemistry.

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 behavior (such as diet and 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 preparation for 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 exercise physiology. Focuses on personal exercise prescription to improve aerobic capacity, muscular strength and endurance, and flexibility. Also discusses athletic conditioning, e.g., speed and power training. The effects of nutritional and environmental factors on exercise and the role of exercise in weight control and stress management are considered. (lecture/laboratory) Recommended: medical clearance from a personal physician.

KIN 201-3 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, PHYS 102 or 121, PHYS 130 or 131, KIN 142.

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 intended as a survey course, some topics will be covered in reasonable detail in order to give insight into mechanisms of function. (lecture/tutorial) Prerequisite: MBB 221 (or BICH 221), PHYS 101 (or 120), and PHYS 102 (or 121). Kinesiology majors and honors students who have taken KIN 105 must also take KIN 205. For students taking both of these courses, credit will only be given 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 and integrated 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 the 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.

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.

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 STAT 201.

KIN 304-3 Inquiry and Measurement in Kinesiology
This course covers the evaluation of measurement quality, test construction and assessment, and computer techniques for data capture and signal processing relevant to issues in Kinesiology. Prerequisite statistical knowledge will be put into practice when discussing typical research designs, modeling and hypothesis testing in Kinesiology. (3-1-0) Prerequisite: KIN 142, 201, 205, 207, and STAT 201.

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 201, 205, CHEM 281 (or 150 and 155), PHYS 102 (or 121), MATH 155 (or 152). Students other than kinesiology majors require KIN 205 or BISC 305 plus permission of the instructor.

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, 207, CHEM 281 (or 150 and 155), PHYS 102 (or 121), MATH 155 (or 152). Students other than kinesiology majors require KIN 205 or BISC 305 plus permission of the instructor.

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. 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 both. The course is presented in the Canadian context featuring sources of help on Canadian practice, standards and regulations. Prerequisite: KIN 105 or 205 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 in several small group projects investigating specific nutrition issues and products. Prerequisite: KIN 105 (or 205), and 110.

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 C 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 326 may not take KIN 325 for further credit.

KIN 326-4 Functional Anatomy
Pursues a systematic study of human anatomy with emphasis on functional applications. A comparative study of organs and body systems using laboratory dissections to provide an understanding of the three dimensional organization of the human body. Participation in all labs is required.
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 of the individual worker, his/her task, groups of workers, and the management structure of the organization. Prerequisite: PSYC 210 or both of KIN 207 and STAT 201. Corequisite: STAT 201 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, protection and prevention. Prerequisite: KIN 142, 201, 205, PHYS 130 or 131.

KIN 383-3 Human-Machine and Human-Computer Interaction

Human information processing and motor control factors are considered in 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: KIN 201 and 207.

KIN 402-3 Mechanical Behavior of Tissues

An extension of KIN 201, designed to provide students with an understanding of tissue structure-function relations in health and disease, from a biomechanical perspective. Topics include the effect of disease (and aging) on tissue properties, the mechanics and prevention of tissue injury, and the design of implants and prostheses. While the focus will primarily be on the musculoskeletal system at the tissue and whole-body levels, we will also consider biomechanical models of the cardiovascular and respiratory systems. (lecture/tutorial) Prerequisite: KIN 201.

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.

KIN 412-3 Molecular and Cellular Cardiology

This course explores human neuromuscular anatomy using a lecture format supplemented by course readings, an anatomy atlas and tutorials which are presented in an interactive fashion via the Macintosh Computer Laboratory on campus. A strong grounding will be provided in neuroanatomy with additional emphasis on the limb musculature and its innervation. Prerequisite: KIN 326.

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 systems and the visual system. (lecture/tutorial) Prerequisite: KIN 306 or BISC 305 and KIN 326.

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 418-3 Electrophysiological Techniques Lab

The 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

Selected topics in areas 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

Selected topics in areas 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

Selected topics in areas 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 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 424-3 Selected Topics in Kinesiology V

Selected topics in areas 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 course explores human neuromuscular anatomy using a lecture format supplemented by course readings, an anatomy atlas and tutorials which are presented in an interactive fashion via the Macintosh Computer Laboratory on campus. A strong grounding will be provided in neuroanatomy with additional emphasis on the limb musculature and its innervation. Prerequisite: KIN 326.

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 (or BICH 323).

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: MBB 221 and at least 90 credit hours.

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 305. Recommended: KIN 110, 306, 310 and 343.

KIN 445-3 Advanced Cardiac Rehabilitation
This course will provide students with experience in practically assessing cardiac performance and techniques of cardiac rehabilitation. It will also introduce students to relevant research questions in cardiac rehabilitation and provide a basis for understanding of how this field will expand and evolve. Along with KIN 444 and time spent working in a cardiac rehabilitation program, this course will help prepare students for certification through the ACSM as an exercise specialist. Prerequisite: KIN 444.

KIN 446-3 Neurobiology of Disease
Examines neural and neuromuscular diseases, including Alzheimer’s disease, amyotrophic lateral sclerosis, multiple sclerosis, stroke, and myasthenia gravis. Emphasizes currently favoured hypotheses, underlying evidence and pathogenic mechanisms. (3-0-0) Prerequisite: KIN 306. Recommended: KIN 336 and/or KIN 415.

KIN 448-3 Rehabilitation of Movement Control
This course is aimed at students interested in neuromuscular rehabilitation. Students will learn about the pathological origins of movement disorders associated with impaired function of sensory and motor systems. The course will be focused on the stages and strategies for recovery of voluntary control of essential functions. The range of rehabilitation interventions available to assist recovery and restore voluntary control will be explored, with special emphasis on advanced techniques to restore control of movement and bodily functions in paralyzed people. (3-0-0) Prerequisite: KIN 201, 207, 306.

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. They will normally be required to have completed KIN 352.

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.

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.

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, the varieties of aging changes they manifest. (lecture/tutorial) Prerequisite: KIN 105 or 205, 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 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 given to the back, neck, hand and arm. (lecture/tutorial/laboratory) Prerequisite: KIN 201 and 326.

KIN 484-3 Attitude & Aerospace Physiology
The theme of this course is human physiology in environments of decreased atmospheric pressure, high G-force, and weightlessness. The course will deal with acute and chronic adaptations to these environments as well as life support systems and “countermeasures” developed to expand the envelope of human performance. Developments of breathing apparatus and G-suits for high performance aircraft will be examined as they relate to solving the physiological problems of exposure to these environments. Effects of short and extended periods of weightlessness on cardiovascular, cerebrovascular, musculo-skeletal, neural, hormonal and vestibular systems will be explored. (3-0-3) Prerequisite: KIN 305, 306. Recommended: KIN 407.

KIN 485-4 Human Factors in the Underwater Environment
The physiological effects of pressure on the human body and interfaces in 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 timezone, 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 components so as to minimize production inefficiencies and quality control and safety 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. Prerequisite: KIN 304, 380 and 383.

KIN 496-3 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 chair of the undergraduate program committee by the end of the first week of classes of the semester. Prerequisite: 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.

Labor Studies LBST
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.

Language LANG
Faculty of Arts
Department of Linguistics
Language Training Institute
LANG 100-149-1,2,3,4,5 Introduction to a World Language I
The acquisition of introductory language skills in a world language not separately designated in the Calendar. The specific course number and credit hours assigned will vary with the language studied as well as the focus and method of instruction.
LANG 150-199-1,2,3,4,5 Introduction to a World Language II
The acquisition of basic proficiency in language skills in a world language not separately designated in the Calendar. The specific course number and credit hours assigned will vary with the language studied as well as the focus and method of instruction. Prerequisite: LANG 100-149 in the same language, or placement on the basis of prior knowledge. Please inquire at the Language Training Institute for information on placement.
LANG 200-249-1,2,3,4,5 Intermediate Language Study I
The development of fluent language skills in a world language not separately designated in the Calendar. The specific course number and credit hours assigned will vary with the language studied as well as the focus and method of instruction. Prerequisite: LANG 150-199 in the same language, or placement on the basis of prior knowledge. Please inquire at the Language Training Institute for information on placement.
LANG 250-299-1,2,3,4,5 Intermediate Language Study II
Further development of the skills of reading, writing and speaking in a world language not separately designated in the Calendar. The specific course number and credit hours assigned will vary with the language studied as well as the focus and method of instruction. Prerequisite: LANG 200-249 in the same language, or placement on the basis of prior knowledge. Please inquire at the Language Training Institute for information on placement.

Latin American Studies LAS
Faculty of Arts
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) Students with credit for SPAN 140 may not take LAS 140 for further credit.
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) Prerequisite: LAS 100 or 140 or permission of the instructor.
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 312-3 Special Topics: Latin American Cultural Topics
A cross-disciplinary focus on specific elements of contemporary Latin American culture. Topics such as indigeneity, Afro-Latin culture, religion, literature, and folklore will be studied. (lecture/tutorial) 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 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 or LAS 200. Students taking LAS 337 may not take POL 337 for further credit.
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. Students taking LAS 380 may not take POL 337 for further credit.
LAS 380-0 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 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 392-4 Latin America
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, 203, 206, 293, or LAS 200. Students with credit for SA 391 or 392 may not take this course for further credit.
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 403-4 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. This course is identical to SA 403 and students cannot take both courses for credit.
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 411-4 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. This course is identical to LAS 311, POL 340 and 440, and students cannot take more than one of these courses for credit.
LAS 428-4 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. This course is identical to LAS 318, SA 328, SA 428, POL 383 and 483, and students cannot take more than one of these courses for credit.
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.
Linguistics LING
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 of meaning of words, the change in form of words. Examples from English, French and other languages. A general interest course open only 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 Studies program should take LING 231 before LING 130.
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) Students who have taken 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 240 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 335-3 Topics in First Nations Language I
Course content varies as required by First Nations language communities or learners. It will usually focus on having students gain insights into intermediate to advanced level topics on structural aspects of a particular First Nations language, with further emphasis on how those structural features of the languages can best be learned and taught in the classroom. (0-3-0) Prerequisite: LING 130, 231, 332 or permission of instructor. Recommended: LING 360.
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; or LING 310. 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, 220; or 310.
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 370-0 Linguistics Practicum I
First semester of work experience in the Linguistics Co-operative Education Program. Prerequisite: normally 30 credit hours, including LING 130 and 220 and three other courses in Linguistics, with a minimum CGPA of 2.75.
LING 371-0 Linguistics Practicum II
Second semester of work experience in the Linguistics Co-operative Education Program. Prerequisite: successful completion of LING 370 and 45 credit hours with a minimum CGPA of 2.75.

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 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. Recommended: LING 250.

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 250.

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: 12 upper division linguistics credits. Recommended: LING 241 and 323.

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 433-3 First Nations Language Mentoring I
Intended for advanced learners of a particular First Nations language. It will enable them to get advanced vocabulary and/or grammatical skills in the First Nations language through individualized practice with fluent speakers (usually elders) of that language. Enrollment in this course requires the prior approval of the Department of Linguistics and the local First Nations community. Students will be evaluated on the basis of the individualized goals and objectives set at the beginning of the course. (0-3-0) Prerequisite: LING 332 or permission of course supervisor. This course is graded on a pass/fail basis.

LING 434-3 First Nations Language Mentoring II
A follow up to LING 433. It will involve students, on an individualized basis, carrying out 39 hours of learning with a mentor, who is a fluent speaker (usually First Nations elder) or a particular First Nations language. (0-3-0) Prerequisite: LING 433 or permission of course supervisor. This course is graded on a pass/fail basis. Recommended: LING 431 and 432.

LING 435-3 Topics in First Nations Language II
Course content varies as required by First Nations language communities or learners. It will usually focus on having students gain insights into intermediate to advanced level topics on structural aspects of a particular First Nations language, with further emphasis on how those structural features of the languages can best be learned and taught in the classroom. (0-3-0) Prerequisite: LING 220, 332 or permission of instructor. Recommended: LING 360, 431 and 432.

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 470-0 Linguistics Practicum III
Third semester of work experience in the Linguistics Co-operative Education Program. Prerequisite: successful completion of LING 371 and 60 credit hours with a minimum CGPA of 2.75.

LING 471-0 Linguistics Practicum IV
Fourth semester of work experience in the Linguistics Co-operative Education Program. Prerequisite: successful completion of LING 470 and 75 credit hours with a minimum CGPA of 2.75.

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 linguistic courses counting toward the honors degree.

Management and Systems Science
MSSC
Faculty of Science
See also courses listed under Biological Sciences (BISC) (page 225).

Marine Science MASC
Faculty of Science
See also courses listed under Biological Sciences (BISC) (page 225).

Note: These courses are generally offered at the Bamfield Marine Station, located on Vancouver Island, during the summer and fall. See “Department of Biological Sciences” on page 194 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.

Minimum Grade Requirement
A grade of C- or better is required on all prerequisite BISC and MBB courses.

MASC 400-6 Directed Studies
A 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 401-3 Directed Studies in Marine Science
A 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 field opportunities offered by the Marine Station. 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 410-6 Marine Invertebrate Zoology
A survey of the marine phyla, with emphasis on the benthic fauna in the vicinity of the Bamfield Marine Station. The course includes lectures, laboratory periods, field collection, identification, and observation. Emphasis is placed on the study of living specimens in the laboratory and in the field. 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 411-6 Comparative Embryology of Marine Invertebrates
A comprehensive study of development of marine invertebrates available at the Bamfield Marine Station
including all major phyla and most of the minor phyla. Lectures will cover gametogenesis, fertilization, regeneration, cell lineage, mosaic and regulated development, larval development and metamorphosis of the embryonic work will include methods and techniques of obtaining and handling gametes, preparation and maintenance of larval cultures and observation of development up to metamorphosis if possible. Some selected and clearly defined experiments will be performed. Efforts will also be made to study various pelagic larvae. 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 420-6 Marine Ecology
An analytical approach to biotic associations in the marine environment. Opportunities will be afforded for study of the intertidal realm in exposed and protected areas and of beaches and estuaries in the vicinity of the Bamfield Marine Station; plankton studies and investigations of the sub-tidal and benthic environments by diving and dredging are envisaged. 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 430-6 Marine Biology
An analytical approach to the marine environment. Opportunities will be afforded for study of the intertidal realm in exposed and protected areas and of beaches and estuaries in the vicinity of the Bamfield Marine Station; plankton studies and investigations of the sub-tidal and benthic environments by diving and dredging are envisaged. 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 437-3 Marine Population Ecology and Dynamics
An analytical approach to the study of marine ecology and marine populations. Intertidal and subtidal communities will be examined, with emphasis on the biota of the Barkley Sound region. 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 440-6 Biology of Marine Birds
The interrelationship of birds and the marine environment. Lectures will emphasize the systematics and ecological relationships, behavior, life histories, movements and conservation of marine birds. Census techniques for studying marine birds in the field will be stressed during field trips in the Barkley Sound region. Seabird identification, classification, morphology, plumages and molt will be examined in the laboratory. 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 445-6 Biology of Marine Mammals
A survey course covering systematics and distribution of marine mammals, their sensory capabilities and physiology, with special emphasis on the cetacea. The course includes lectures, laboratory periods and numerous field trips in the Barkley Sound region. The course will involve an independent field study. 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 446-6 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 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 470-479-3,6 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.

MASC 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 Bamfield Marine Station researchers, graduate students and visiting scientists as well as by the students themselves. 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.

Mathematics MATH
Faculty of Science
See also courses listed under Mathematics and Computing Science (MACM) (page 283), Statistics (STAT) (page 298), and Actuarial Mathematics (ACMA) (page 223).

Open Workshops for MATH Courses
(since 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 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 mathematics in a friendly and helpful environment.

Algebra Workshop
MATH 100, 190, 232, MACM 201 – AQ 4135
Calculus Workshop
MATH 151, 152, 251 – AQ 4110
Applied Calculus Workshop
MATH 154,155,157,158 – K 9503

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 the student 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 604.291.3331/3332 for information.

Students considering registering in a mathematics course who do not have BC principles of mathematics 11 (or equivalent) at least C or may take the non-credit course, basic algebra, offered by the Department of Mathematics.

The prerequisites for the first mathematics courses are as follows.

**MATH 100,110,113,190**
BC principles of 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 principles of mathematics 12 (or equivalent) with a grade of at least B; or MATH 110 with a grade of at least C or permission of the department; MATH 100 with a grade of at least C-

**MATH 151,154**
BC principles of mathematics 12 (or equivalent) with a grade of at least B 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 algebra workshop, AQ 4135 or SFU at Harbour Centre. Students should make certain that they discuss the test results with the appropriate student advisor.

**Minimum Grade Requirement in Prerequisites for Later MATH Courses**

Students enrolled in courses offered by the Department of Mathematics 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 which is a prerequisite to a course for which the student has already received credit.

**MATH* 100-3 Precalculus**
Algebraic, exponential, logarithmic and trigonometric functions and their graphs. Conic sections, applications. (3-0-1) Prerequisite: BC principles of 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 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 110 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 principles of 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 principles of mathematics 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 110 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. Polygornal areas. Pythagorean theorem. Geometrical constructions. (3-1-0) Prerequisite: BC principles of 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 principles of 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 156 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 bioinformatics; optimization and approximation methods. (3-0-1) Prerequisite: BC principles of 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 151 or 155 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 or 158 may not take MATH 155 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 application to business, economics, optimization and approximation methods; sequences and series. (3-0-1) Prerequisite: BC principles of mathematics 12 (or equivalent) with a grade of at least B; or MATH 110 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 152-0 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: MATH 151, 154 or 157. Corequisite: MATH 152, 155, or 158. 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 principles of 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. 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.

**MATH 198-4 Selected Topics in Mathematics**
Topics in areas of mathematics and statistics not covered in the regular undergraduate curriculum of
the department. (4-1-0) 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 equivalent) or MCM 101.

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: It is recommended that MATH 232 be taken before or concurrently with MATH 251.

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: MCM 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 252 or 155 (or MATH 158 with a grade of A or B) and MATH 232.

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 co-op co-ordinator at least one semester in advance. They will normally be required to have completed 45 credit hours 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* 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 evolution of the subject. (3-0-0) Prerequisite: MATH 252 and MACM 201.

MATH 384-3 Linear Analysis Convergence in Euclidean spaces, Fourier series and their convergence, Legendre polynomials, Hermite and Laguerre polynomials. (3-0-0) Prerequisite: MATH 314 (or PHY S 384) or permission of the department.

MATH 385-3 Partial Differential Equations Existence and uniqueness theorems, Green’s functions for second order equations, plane autonomous systems, stability, expansions about ordinary and singular points. (3-0-0) Prerequisite: MATH 310. Recommended: MATH 314 and 322.

MATH 418-3 Partial Differential Equations First-order linear equations, the method of characteristics. The wave equation. Harmonic functions, the maximum principle, Green’s functions. The heat equation. Distributions and transforms. Higher dimensional eigenvalue problems. An introduction to nonlinear equations. Burgers’ equation and shock waves. (3-0-0) Prerequisite: MATH 314 (or PHY S 384) or permission of the department.

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, 320 or permission of the instructor. Recommended: MATH 252 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 or 339 or permission of the instructor.

MATH 439-3 Algebraic Systems Algebraic systems including, for example, groups, rings, Polynomial theory. (3-0-0) Prerequisite: MATH 332.

MATH 440-3 Galois Theory An introduction to the theory of fields, with emphasis on Galois theory. (3-0-0) Prerequisite: MATH 332.


MATH 445-3 Graph Theory Connectivity, Euclidean graphs, Hamiltonian graphs, planar graphs, matchings, vertex coloring, and applications of graphs. (3-0-0) Prerequisite: MACM 201.
MATH 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 232. Recommended: MATH 322.

MATH 461-3 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 314 or permission of the instructor. Students with credit for MATH 361 may not take MATH 461 for further credit.

MATH 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.

MATH 467-3 Dynamical Systems
Stability and bifurcation in vector fields and discrete maps. Centre manifold theory and applications of normal forms. Introduction to chaos, Lyapunov exponents, and normal hyperbolicity. (3-0-0) Prerequisite: MATH 310. Recommended: MATH 320.

MATH 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.

MATH 486-0 Job Practicum V
This is an optional fifth semester of work experience in a co-operative education program available to mathematics and statistics students. (0-0-0) Prerequisite: MATH 437 and permission of the co-op coordinator. Students must apply at least one semester in advance.

MATH 491-2 Honors Essay
Selected topics. Prerequisite: written permission of the department undergraduate studies committee.

MATH 492-494-4 Directed Studies
Independent reading or research in topics selected in consultation with the supervising instructor. Prerequisite: written permission of the department undergraduate studies committee.

MATH 495-3 Selected Topics in Applied Mathematics
The topics included in these courses will vary from semester to semester depending on faculty availability and student interest. (3-0-0) Prerequisite: will be specified according to the particular topic or topics offered under these course numbers.

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: will be specified according to the particular topic or topics offered under these course numbers.

Mathematics and Computing Science MACM
Faculties of Applied Sciences and Science
See also courses listed under Mathematics (MATH) (page 281), Computing Science (CMPT) (page 237), and Statistics (STAT) (page 298).

Minimum Grade Requirements
Students wishing to register for Mathematics/Computing Science courses must have obtained grades of C- or better, in prerequisite courses. Students will not normally be permitted to enrol in any MACM course for which a D grade or lower was obtained in any prerequisite. No student may take, for further credit, any course offered by the Department of Mathematics which is a prerequisite for a course the student has already completed with a grade of C- or higher, without permission of the department.

MACM 101-3 Discrete Mathematics I
Introduction to counting, induction, automata theory, formal reasoning, modular arithmetic. (lecture) Prerequisite: BC high school mathematics 12. Entry into this course is obtained through the School of Computing Science.

MACM 201-3 Discrete Mathematics II
A continuation of MACM 101. Topics covered include graph theory, trees, relations, asymptotics, generating functions and recurrence relations. Prerequisite: MACM 101.

MACM 202-4 Mathematical Modeling and Computation
A variety of continuous and discrete models including difference equations, differential equations, automata and networks are introduced. Students will learn to model physical phenomena and analyse the mathematical model. A mathematical software package, such as Maple, will be extensively used in a laboratory setting. Prerequisite: MATH 152, CMPT 101 (or equivalent) and one of MACM 101 or MATH 232.

MACM 300-3 Introduction to Formal Languages and Automata with Applications
Languages, grammars, automata and their applications. Turing machines. Computability and undecidability. Context-free grammars, pushdown automata. (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.

MACM 416-3 Numerical Analysis II
The numerical solution of ordinary differential equations and elliptic, hyperbolic and parabolic partial differential equations will be considered. (3-0-0) Prerequisite: MATH 310 (or 352) and MACM 316. Students with credit for MATH 416 may not take MACM 416 for further credit.

Molecular Biology and Biochemistry MBB
Faculty of Science
For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C- (C minus).

MBB 151-0 Practicum I
First semester of work experience in the Molecular Biology and Biochemistry Co-operative Education Program. (0-0-0) Prerequisite: Acceptance in the Science Co-operative Education Program.

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 courses. (3-1-0) Prerequisite: BISC 101. Corequisite: CHEM 281 (or 150), Recommended: CHEM 281 precede MBB 221. Students with credit for BICH 221 may not take MBB 221 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 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 251-0 Practicum II
Second semester of work experience in the Molecular Biology and Biochemistry Co-operative Education Program. (0-0-0) Prerequisite: Acceptance in the Science Co-operative Education Program.

MBB 300-1 Special Topics in Biotechnology and Business
A survey of the legal, economic and social aspects of technology transfer in the areas of molecular biology, biochemistry, and biotechnology presented by a series of local experts. Topics will include patents, contracts, intellectual property, capitalization and other. The format will be a formal lecture followed by a workshop. (1-1-0) Prerequisite: completion of the second year in the Molecular Biology and Biochemistry and Business Administration joint major or equivalent experience.

MBB 306-3 Molecular Biology and Biochemistry Laboratory I
Modern molecular biological and recombinant DNA methods such as DNA isolation, plasmid preparation, restriction enzyme digestion, Southern blots, cloning and polymerase chain reaction. (1-0-4) Prerequisite: MBB 222 (or BICH 222), CHEM 281. Students with credit for BISC 431, BICH 311 or MBB 311 may not take MBB 306 for further credit.

MBB 309-3 Molecular Biology and Biochemistry Laboratory II
Contemporary techniques in biochemistry including protein purification, immunoochemical methods, and lipid characterization. (1-0-4) Prerequisite: CHEM 282, 286, MBB 222. Students with credit for MBB 312 or BICH 312 may not take MBB 309 for further credit.

MBB 321-3 Intermediary Metabolism
Major catabolic and anabolic pathways and their regulation. Particular emphasis is placed on bioenergetics and experimental methods encountered in biochemical research. (3-1-0) Prerequisite: MBB 222 (or BICH 222) and CHEM 282 (or 250). Students with credit for BICH 321 may not take MBB 321 for further credit.
MBB 322-3 Molecular Physiology
Cellular and biochemical aspects of immunology, muscle contraction, cell motility, neural transmission, the action of hormones. The course will also explore the cellular problems concerning cancer. (3-1-0) Prerequisite: MBB 222 (or BICH 222) and CHEM 282 (or 250). Recommended: MBB 321 (or BICH 321). Students with credit for BICH 322 may not take MBB 322 for further credit.

MBB 323-3 Introduction to Physical Biochemistry
Introduction to physical biochemistry including rigorous treatment of thermodynamics and molecular transport and interactions with specific emphasis on biochemical and molecular biological processes. CHEM 360 may be substituted as an alternative to this requirement for MBB majors. (3-1-0) Prerequisite: MATH 152 (or 155), PHYS 121 (or 120), CHEM 122 (or 102), MBB 222.

MBB 331-3 Molecular Biology
The study of DNA and RNA in relation to gene structure and expression: DNA replication and the regulation of gene expression in bacteria and higher organisms. Introduction to recombinant DNA and cloning theory; natural vector structures and recombinant vector construction. (3-1-0) Prerequisite: MBB 200, BISC 202. Students with credit for BISC 331 may not take this course for credit.

MBB 351-0 Practicum III
Third semester of work experience in the Molecular Biology and Biochemistry Co-operative Education Program. (0-0-0) Prerequisite: Acceptance in the Science Co-operative Education Program.

MBB 402-3 Molecular Genetics
Advanced problems concerning the nature and function of genetic material. (3-1-0) Prerequisite: BISC 302 and MBB 331 (or BISC 331). Students with credit for BISC 402 may not take this course for credit.

MBB 403-3 Physical Biochemistry
The physical properties of biomacromolecules and their use in determining molecular weight and conformation; modern physical methods applied to biomolecules; properties and analysis of membrane systems. (3-1-0) Prerequisite: MBB 321 (or BICH 321) and MBB 323 or CHEM 360 (or 281). Recommended: one of either BICH 412 or 413 should be taken concurrently. Students with credit for BICH 403 may not take MBB 403 for further credit.

MBB 412-4 Enzymology
Enzyme isolation and assay procedures: energy of activation; enzyme kinetics and inhibition; mechanisms of enzyme action; allosteric enzymes. (2-1-4) Prerequisite: MBB 321 (or BICH 321), CHEM 360 (or 261) and one of MBB 309, 311 or 312 (or BICH 311 or 312). Students with credit for BICH 412 may not take MBB 412 for further credit.

MBB 413-2 Physical Biochemistry Laboratory
The measurement of physical properties of macromolecules: studies with bio-membranes. (0-0-4) Prerequisite: MBB 311, 309 (or 312) and 321 (or BICH 311, 312 and 321). Corequisite: MBB 403 (or BICH 403). Students with credit for BICH 413 may not take MBB 413 for further credit.

MBB 420-3 Selected Topics in Contemporary Biochemistry
The topics in this course will vary from semester to semester, depending on faculty availability and student interest. (3-1-0) Prerequisite: will be announced before the start of the semester and will depend upon the nature of the topic offered.

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: MBB 331 (or 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, the regulation of gene expression, and the role of the 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 and the role the immune system plays in them (i.e. immune responses to cancer, immunodeficiency, hypersensitivity reactions, autoimmunity and transplantation). (3-1-0) Prerequisite: MBB 331 (or 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 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: MBB 331 (or 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 and the role the immune system plays in them (i.e. immune responses to cancer, immunodeficiency, hypersensitivity reactions, autoimmunity and transplantation). (3-1-0) Prerequisite: MBB 322 (or BICH 322) or consent of instructor. Students with credit for BICH 426 may not take MBB 426 for further credit.

MBB 432-3 Advanced Molecular Biology Techniques
Laboratory with accompanying lectures designed to give practical experience in advanced contemporary molecular biology techniques. Lab exercises will include site-directed mutagenesis, preparation and characterization of GST-fusion proteins, construction of transgenes and their expression in transgenic organisms, and the use of the yeast two-hybrid assay to study protein-protein interactions. (2-0-4) Prerequisite: MBB 308, 331 (or BISC 331).

MBB 435-3 Genomic Analysis
The analysis of entire genomes of organisms has only been possible since 1995. This new area of study will be examined in detail with emphasis on current research. (3-1-0) Prerequisite: MBB 331 (or BISC 331). Students with credit for BICH 435 may not take MBB 435 for further credit.

MBB 438-3 Human Molecular Genetics
The course will describe recent advances in human molecular genetics. Topics will include genome analysis, gene therapy, genetic testing, and studies of genetic disorders. (3-1-0) Prerequisite: MBB 331 (or BISC 331).

MBB 440-3 Selected Topics in Contemporary Molecular Biology
The topics in this course will vary from semester to semester, depending on faculty availability and student interest. (3-1-0) Prerequisite: will depend upon the nature of the topic offered. Corequisite: will depend upon the nature of the topic offered.

MBB 441-3 Bioinformatics
Lectures and hands-on instruction at the computer in the use of, and theory behind, bioinformatic software and algorithms for the analysis of macromolecular data. (2-2) Prerequisite MBB 331 (or BISC 331), and an introductory computer science course (e.g. CMPT 101, 102, 104, or 110), or equivalent.

MBB 442-3 Proteomics
Proteomics concerns the analysis of the entire complement of proteins expressed by an organism. This course will consider protein sequence alignment, sequence database scanning, classification of protein structures, prediction of protein structure and function, and evolution of protein function. (3-1-0) Prerequisite: MBB 321 (or BICH 321) and MBB 322 (or BICH 322); one introductory computer course (e.g. CMPT 101, 102, 104 or 110).

MBB 443-3 Protein Biogenesis and Degradation
A consideration of protein biogenesis (folding, assembly, and targeting to cellular compartments), modification, and degradation, and their roles in protein and cellular function. (3-1-0) Prerequisite: MBB 321 (or BICH 321) and MBB 322 (or BICH 322); or permission of the instructor.

MBB 451-0 Practicum IV
Fourth semester of work experience in the Molecular Biology and Biochemistry Co-operative Education Program. (0-0-0) Prerequisite: Acceptance in the Science Co-operative Education Program.

MBB 452-0 Practicum V
Fifth semester of work experience in the Molecular Biology and Biochemistry Co-operative Education Program. (0-0-0) Prerequisite: Acceptance in the Science Co-operative Education Program.

MBB 490-3 Directed Study in Advanced Topics of Biochemistry
Directed reading in a topic of molecular biology or biochemistry chosen in consultation with a supervisor. Before seeking approval for registration in this course, the student should already have obtained the agreement of a faculty member that he/she is willing to supervise the project, and have prepared a written proposal (of approximately one page) stating the nature of the directed reading topic. The course will include the preparation of a written term paper on the topic chosen. Prerequisite: MBB 222 (or BICH 222) and permission of the molecular biology and biochemistry department. Usually, upper level standing with at least 60 semester hours in a Biochemistry major, minor or honors program will be required. Students with credit for BICH 490 may not take MBB 490 for further credit.

MBB 491-5 Undergraduate Research
Part time laboratory research in an area of molecular biology or biochemistry for preparation of a thesis in molecular biology and biochemistry. Before seeking approval for registration in this course, the student should already have obtained the agreement of a Simon Fraser University faculty member that he/she is willing to supervise the project, and have prepared a written proposal (of approximately one page) stating the nature of the research project. The course will include the preparation of a 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: MBB 222 (or BICH 222) and permission of the molecular biology and biochemistry department. Usually, upper level standing with at least 60 semester hours in a molecular biology and biochemistry major, minor or honors program (attaining a minimum of 3.00 in both the CGPA and upper division GPA) will be required. Students with credit for BICH 491 may not take MBB 491 for further credit.

MBB 492-10 Individual Study Semester (Option A)
Full time laboratory research in an area of molecular biology or biochemistry for preparation of a thesis for the honors degree in molecular biology and biochemistry. This course is available to honors students who have already taken MBB 491 (or BICH 491-S), or who plan to break an individual studies project into two semesters (see below). 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.
PHYS 102-3 General Physics II
A general survey course for life science students. Waves and optics; electricity and 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: MATH 152, 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 Principles of Physics 12 or PHYS 100 or equivalent. This prerequisite may be waived, at the discretion of the department, as determined by the student's performance on a regularly scheduled PHYS 100 final exam. Please consult the physics advisor for further details. 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 152 or 155 must 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; or by permission of the department. Students may not count more than one PHYS 130 or 151 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 PHYS 130 or 131 for credit. Corequisite: PHYS 121 should be taken concurrently or may precede; or 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)

PHYS 197-3 Peripysical Topics II
Selected topics from sciences closely allied with physics. (3-1-0) Prerequisite: BC high school physics 11 or equivalent, and algebra 12 (or equivalent).

PHYS 211-3 Intermediate Mechanics
An intermediate mechanics course covering kinematics, dynamics, free, forced and damped oscillations, non-internal reference frames, central forces and orbits, rigid body motion. (3-1-0) Prerequisite: PHYS 121; or PHYS 101 and PHYS 102 with a grade of B or better. Students may not count both PHYS 211 and MATH 263 for credit. Corequisite: MATH 251 must precede or be taken concurrently.
PHYS 221-3 Intermediate Electricity and Magnetism
Electrostatics, magnetostatics, capacitance, inductance, DC and AC circuits, concepts of electric and magnetic fields, Maxwell's equations. (3-1-0) Prerequisite: PHYS 121 or 102. Corequisite: MATH 251. Recommended corequisite: MATH 252

PHYS 232-3 Physics Laboratory II
Experiments chosen from among mechanics, heat, optics, electricity, magnetism, properties of matter, atomic and nuclear physics. Engineering Science students will do a selected set of experiments. (0-0-3) Prerequisite: PHYS 131 or 130.

PHYS 234-3 Computers in Physics Laboratory
Introductory physics laboratory with experiments chosen from mechanics, heat, optics, electricity, magnetism, properties of matter, atomic and nuclear physics, along with lectures on the use of computers for data acquisition and data analysis in the physics laboratory. (1-0-3) Prerequisite: PHYS 233 or permission of the instructor.

PHYS 285-3 Introduction to Relativity and Quantum Mechanics
Special relativity, including relativistic kinematics and dynamics; tests of relativity; matter waves and early quantum models; wave mechanics and its application to molecular, atomic and subatomic systems. (3-1-0) Prerequisite: PHYS 121, MATH 152.

PHYS 324-3 Electromagnetics
Electromagnetics, magnetostatics, electromagnetic waves, transmission lines, waveguides, antennas and radiating systems. (3-1-0) Prerequisite: PHYS 221, MATH 252.

PHYS 326-3 Electronics and Instrumentation
Circuits, operational amplifiers, feedback, modern measurement techniques and instrumentation. (3-1-0) Prerequisite: PHYS 221. Corequisite: PHYS 331 laboratory must be taken concurrently.

PHYS 331-3 Electronics Laboratory
Experiments in electronics, including AC circuits, filters, resonance, diodes, transistors, amplifiers, feedback, oscillators, operational amplifiers, integrated circuits, analogue circuits, digital circuits. (0-0-4) Prerequisite: PHYS 234. Corequisite: PHYS 326.

PHYS 332-3 Optics Laboratory
Experiments in optics and modern physics, including diffraction, interference, spectroscopy, lasers and holography. Engineering Science students will do a selected set of experiments. (0-0-4) Prerequisite: PHYS 233 or 234. Corequisite: PHYS 335 must precede or be taken concurrently.

PHYS 335-0 Practicum I
This is the first 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: completion of 30 hours credit, with a minimum GPA of 2.75 in the physics program. Students should apply to the department at least one semester in advance. A course fee is required. This course is evaluated on a P/W basis.

PHYS 336-0 Practicum II
This is the second 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 335 followed by 12 hours of credit. 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 P/W basis.

PHYS 344-3 Thermal Physics
Heat, temperature, heat transfer, kinetic theory, laws of thermodynamics, entropy, heat engines, applications of thermodynamics to special systems, phase transitions. (3-1-0) Prerequisite: PHYS 121 and MATH 251.

PHYS 346-3 Energy and the Environment
The physical principles and limitations of renewable energy source utilization and energy conversion. A quantitative introduction to energy conversion and storage systems, including solar power and heating; wind, tidal, geothermal, hydroelectric and nuclear power, hydrogen technology, electrical and mechanical energy storage. (3-1-0) Prerequisite: CHEM 120 or 121, PHYS 102 (or 121), MATH 155 (or 152).

PHYS 355-3 Optics
Geometrical and physical optics, interference, diffraction, polarization, coherence, spectra, optical instruments. (3-1-0) Prerequisite: PHYS 221 and MATH 252.

PHYS 360-3 Semiconductor Device Physics
Structure and properties of semiconductors, semiconductor theory, theory and operation of semiconductor devices, semiconductor device technology. (3-1-0) Prerequisite: PHYS 221. Recommended: PHYS 285.

PHYS 380-3 Introduction to Subatomic Physics
Comprehensive overview of nuclear and particle physics with emphasis on concepts: the constituents of matter and the fundamental forces; properties and structure of nucleus and the nucleus; the Standard Model; experimental techniques. (3-1-0) Prerequisite: PHYS 285 or CHEM 260 or NUSC 341.

PHYS 384-3 Methods of Theoretical Physics I
Applications of mathematical methods in physics, differential equations of physics, eigenvalue problems, solutions to wave equations. (3-1-0) Prerequisite: PHYS 211 (or MATH 263), PHYS 221, MATH 252, MATH 310.

PHYS 385-3 Quantum Physics
Postulates of quantum theory, atomic models, waves and particles, Schroedinger equation, free and bound states, the hydrogen atom, atomic structure, spectra and applications. (3-1-0) Prerequisite: PHYS 211, 221, 285, MATH 252; PHYS 285 may be waived by permission of the department. Engineering science students are exempt from the PHYS 285 prerequisite. Corequisite: MATH 310 must precede or be taken concurrently.

PHYS 390-3 Introduction to Astrophysics
Characteristics of stars and their evolution, thermodynamics of stellar interior, origin of the elements, galaxies, cosmology, origin of the planets. (3-1-0) Prerequisite: PHYS 211 and either CHEM 120 or 121.

PHYS 395-3 Computational Physics
Computer based approaches to the solution of complex physical problems. A partial list of topics includes: Monte-Carlo and molecular dynamics techniques applied to thermal properties of materials; dynamical behavior of conservative and dissipative systems, including chaotic motion; methods for ground state determination and optimization, including Newton-Raphson, simulated annealing, neural nets, and genetic algorithms; the analysis of numerical data; and the use of relevant numerical libraries. (2-0-2) Prerequisite: MATH 310, PHYS 211, CMPT 101 or 102. Recommended: PHYS 344 (or PHYS 244) or equivalent.

PHYS 413-3 Advanced Mechanics
Central forces, rigid body motion, small oscillations. Lagrangian and Hamiltonian formulations of mechanics. (3-1-0) Prerequisite: PHYS 384 or 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 285, 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 335 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. Students should apply to the department at least one semester in advance. A course fee is required. This course is evaluated on a P/W basis.

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. Students should apply to the department at least one semester in advance. A course fee is required. This course is evaluated on a P/W basis.

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 P/W 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 344 or CHEM 360. Recommended: PHYS 385.

Undergraduate Courses – Physics PHYS 293
POL 221-3 Introduction to Canadian Government
An introduction to the institutional order and political structure of the Canadian state. The course will include topics such as the constitution, parliament, cabinet, judiciary, public service and federal-provincial relations. (lecture/tutorial) Prerequisite: POL 100 or 151 or permission of department.

POL 222-3 Introduction to Canadian Politics
An introduction to the social and participatory basis of Canadian politics, covering topics such as political culture, regionalism and other political divisions, political parties, elections, interest groups and new social movements. (lecture/tutorial) Prerequisite: POL 100 or 151 or permission of department.

POL 223-3 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 regionalism. This course is identical to CNS 280 and students cannot take both courses for credit. Recommended: POL 100.

POL 231-3 Introduction to Comparative Government and Politics
An introduction to political processes and structures in comparative perspective. (lecture/tutorial) Prerequisite: POL 100 or permission of department.

POL 232-3 US Politics
An examination of the American political system, including the presidency, the congress, the courts, the bureaucracy and the party system. (lecture/tutorial) Prerequisite: POL 100 or permission of the department. Students who have credit for POL 332 may not take POL 232 for further credit.

POL 241-3 Introduction to International Politics
Theory and practice of international politics, diplomacy, hot war, cold war, alliances and the role of leaders. (lecture/tutorial) Prerequisite: POL 100 or permission of department.

POL 251-3 Introduction to Canadian Public Administration
An introduction to the basic elements of public administration in the government of Canada, including the organization of the public service, planning and financial administration, personnel administration, collective bargaining and administrative regulation. (lecture/tutorial) Prerequisite: POL 100 or 151 or permission of department.

POL 252-3 Local Democracy and Governance
The political process in the urban municipality from a comparative perspective. (lecture/tutorial) Prerequisite: POL 100 or 151 or permission of department.

POL 290-0 Political Science Practicum I
First semester of work experience in the Political Science Co-operative Education program. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester. Prerequisite: 30 credit hours with a CGPA of 3.0. Transfer students must complete at least 15 credit hours at Simon Fraser University.

POL 291-0 Political Science Practicum II
Second semester of work experience in the Political Science Co-operative Education program. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester. Prerequisite: POL 290; 45 credit hours with a CGPA of 3.0.

POL 301-0 Political Science Practicum III
Third semester of work experience in the Political Science Co-operative Education program. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester. Prerequisite: POL 291, 60 credit hours, and a minimum CGPA of 3.0.

POL 312-4 History of Political Thought II
Political thought from the French revolution to the Chinese revolution. (lecture/seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 313-4 Political Ideologies
A discussion of the major political ideologies which provide support for and legitimation for regimes and movements in the contemporary world. Liberalism, Socialism, Communism, Fascism, Anarchism, participatory democracy, Third World ideologies, etc., are emphasized. (seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 314-4 Theory and Explanation in Political Science
A discussion of issues in the philosophy of the social sciences which are relevant to the study of politics and a critical evaluation of contemporary approaches to political inquiry, including empirical theory, rational choice theory and hermeneutics. (lecture/seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 315-4 Quantitative Methods in Political Science
An examination of the principal methods of empirical research in political science. This course is equivalent to SA 355. (lecture/tutorial) Prerequisite: six lower division credits in political science or permission of the department.

POL 319-4 Selected Topics in Political Theory
(lecture) Prerequisite: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

POL 322-4 Canadian Political Parties
Development of the Canadian party system. Party ideologies, organization, campaigns and elections. (lecture/seminar) Prerequisite: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

POL 327-4 Globalization and the Canadian State
In an era of globalization, what scope remains for national politics? Does globalization lead to a defect
POL 329-4 Selected Topics in Canadian Government and Politics
(lecture) Prerequisite: six lower division credits in political science or permission of the department.

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/lab) Prerequisite: six lower division credits in political science or permission of the department.

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/lab) Prerequisite: six lower division credits in political science or permission of the department.

POL 335-4 Government and Politics: People's Republic of China II
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: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

POL 338-4 Government and Politics: Selected Latin American Nations 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: six lower division credits in political science or permission of the department.

POL 339-4 Selected Topics in Comparative Government and Politics
(lecture) Prerequisite: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

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. An analysis 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: six lower division credits in political science or permission of the department.

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, peacebuilding 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: six lower division credits in political science or permission of the department.

POL 349-4 Selected Topics in International Relations
(lecture) Prerequisite: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

POL 352-4 Urban and Local Governance in Canada
A comparative study of local government in Vancouver, Winnipeg and Toronto. The non partisan tradition and interest groups. Relations with other levels of government. (seminar) Prerequisite: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

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: six lower division credits in political science or permission of the department.

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) Prerequisite: six lower division credits in political science or permission of the department.

POL 359-4 Selected Topics in Governance
(lecture) Prerequisite: six lower division credits in political science or permission of the department.

POL 381-4 Politics and Government of Japan I
The political system of Japan, including an analysis of political culture, political institutions, interest groups and both formal and informal political processes. (lecture/seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 401-0 Political Science Practicum IV
Fourth semester of work experience in the Political Science Co-operative Education Program. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester. Prerequisite: POL 301, 75 credit hours, and a minimum CGPA of 3.0.
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, compassion, private property, public interest, accountability, obedience, dissent and resistance. (seminar) Prerequisite: POL 312 or 313 (or 212) or PHIL 320.

POL 414-4 Theoretical Development
An examination of theories of the social and economic forces which generate and change the adequacy of political institutions and political skills. The ideas of B. Moore, Jr., Huntington, Apter, Friedrich and Gurr. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 415-4 The Liberal Tradition
A critical examination of the development of liberalism from classical liberalism (e.g., John Locke) to contemporary conflict between revisionist and neo-classical or libertarian currents. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.

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: eight upper division credits in political science or permission of the department.

POL 417-4 Human Rights Theories
This course introduces students 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. (seminar) Prerequisite: eight upper division credits in political science or permission of the department. Recommended: PHIL 220 or 320.

POL 418-4 Canadian International Security Relations
The course will examine the role of Canadian security policy in selected Third World countries, the preconditions for democracy, the role of military governments, possibilities of revolution, and the meaning of economic dependency influences on the political systems of developing nations. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 419-4 Comparative Developing Systems
A survey of political problems in selected Third World countries. Topics covered will include: the evolution of the global trade regime from the GATT to the WTO, regional trade agreements such as the European Union and NAFTA, the special trade problems of less developed countries and transition economies, and the growing role of civil society in international trade. (0-4-0) Prerequisite: eight upper division credit hours in political science or permission of the department.

POL 424-4 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: eight upper division credits in political science or permission of the department.

POL 428-4 Selected Topics in Canadian Government and Politics I
A seminar examination of the role of leadership in Canadian politics. Prequisite: eight upper division credits in political science or permission of the department.

POL 429-4 Selected Topics in Canadian Government and Politics II
A seminar examination of the role of leadership in Canadian politics. Prequisite: eight upper division credits in political science or permission of the department.

POL 431-4 Comparative Western European Systems
An advanced examination of the political life of Western European democratic systems, with special attention to issues of comparative and theoretical import, such as the causes and consequences of various types of party systems and the determinants of democratic stability. (seminar/lab) Prerequisite: eight upper division credits in political science or permission of the department.

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: eight upper division credits in political science or permission of the department.

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 influences on the political systems of developing nations. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 435-4 Comparative Federal 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 influences on the political systems of developing nations. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 436-4 Elections, Parties and Governments in Comparative Perspective
An analysis of comparative electoral arrangements, party systems and the impact of elections on the political process. Prequisite: eight upper division credits in political science or permission of the department.

POL 437-4 Comparative Government and Politics
A comparative analysis of countries with presidential, semi-presidential, parliamentary and bicameral systems of government. Prequisite: eight upper division credits in political science or permission of the department.

POL 438-4 Comparative Government and Politics I
A seminar examination of the role of leadership in Canadian politics. Prequisite: eight upper division credits in political science or permission of the department.

POL 439-4 Comparative Government and Politics II
A seminar examination of the role of leadership in Canadian politics. Prequisite: eight upper division credits in political science or permission of the department.

POL 440-4 Latin American Relations
A multidisciplinary study of the nature of political culture, public opinion, elections and voting behavior. (seminar/lab) Prerequisite: eight upper division credits in political science or permission of the department.

POL 441-4 Foreign Relations: Selected Political Systems
A comparison of the foreign policies of selected political systems. Subjects treated include the domestic and foreign determinants of foreign policy decisions, the mobilization and application of resources to influence international politics, and the consequences of foreign policy decisions and strategies. (seminar/lab) Prerequisite: eight upper division credits in political science or permission of the department.

POL 442-4 The Politics of International Trade
Focuses on the political economy of international trade relations. Subjects of interest may include the evolution of the global trade regime from the GATT to the WTO, regional trade agreements such as the European Union and NAFTA, the special trade problems of less developed countries and transition economies, and the growing role of civil society in international trade. (0-4-0) Prerequisite: eight upper division credit hours in political science or permission of the department.

POL 443-4 Nuclear Strategy, Arms Control and International Security
Provides an overview of the evolution of US and Soviet strategic policies since World War II. The political and doctrinal bases of national strategic debates are closely examined, as are the various obstacles to a more stable international arms control regime for nuclear weapons. (lecture/seminar/lab) Prerequisite: eight upper division credits in political science or permission of the department.

POL 444-4 Foreign Policy of the European Union
This course offers a comparative foreign policy analysis of the European Union as well as an introduction to European political co-operation. Focuses on institutions of the EU, including the Commission, Council of Ministers, European Court and European Parliament. Provides an analysis of both internal EC issues such as the supranational EU issues as trade and security relations. (seminar/lab) Prerequisite: eight upper division credits in political science or permission of the department.

POL 445-4 American Foreign Policy: Processes, Issues
Examines US foreign policy in the post World War II period. Topics to be covered will include the formation of foreign policy, 20th century American security issues, alliance relations, crisis management and international economic relations. (seminar/lab) Prerequisite: eight upper division credits in political science or permission of the department.

POL 446-4 International Relations of East Asia
An overview and analysis of international relations in East Asia. (seminar/lab) Prerequisite: eight upper division credits in political science or permission of the department.

POL 447-4 Theories of International Political Economy
An examination of the major theories of international political economy, and their application to such issues as the politics of trade, aid, monetary relations, and transnational corporations. Prerequisite: eight upper division credits in political science or permission of the department.

POL 448-4 Selected Topics in International Relations I
A seminar examination of the role of leadership in Canadian politics. Prequisite: eight upper division credits in political science or permission of the department.
POL 451-4 Public Policy Analysis
Examines the conceptual, philosophical and practical aspects of public policy analysis as it is conducted in government, universities, interest groups and policy research institutes. Specific attention is paid to the question of the role of policy research in the process of public policy making and the design of government programs and services. (Seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 454-4 Urban Public Policy Making
This course will link differing theoretical perspectives and concepts currently used in public policy studies to an understanding of public policy making in urban governance. (Seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 455-4 Issues in Economic and Social Policy
A practical analysis of the evaluation and the adjustment of public policies and programs designed and implemented to address long-standing social and economic concerns. The course will look at governmental and non-governmental actors involved in the processes of policy evaluation. (Seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 457-4 Controversies in Policy Innovation and Design
This course is intended to offer students an opportunity to reflect upon the challenges posed by the development of new technologies, the emergence of new movements and the uncertainties attendant to social and political conflicts associated with policy issues about which experts differ in significant ways. (Seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 458-4 Selected Topics in Local and Urban Governance
(Seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 459-4 Selected Topics in Governance
(Seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 481-4 Ethnic Politics and National Identity: Comparative Perspectives
Examines the impact of ethnicity on the dynamics and organization of political systems, including the impact of ethnic diversity on modes of political representation, the formation of public policy, and the quest for political stability and national identity. (Seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 483-4 Political Economy of Latin American Development
This is a survey course which introduces students to new perspectives which have been used since the 1950s 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. Prerequisite: eight upper division credits in political science or LAS 200 or permission of the department. This course (POL 483) is identical to POL 383, LAS 318, 428, SA 328 and 428, and students cannot take more than one of these courses for further credit.

POL 498-4 Directed Readings in Political Science
Directed readings in a selected field of study under the direction of a single faculty member. A paper will be required. Students registering in this course must have their program of readings approved (by the supervising instructor and the undergraduate studies committee) prior to registration. Prerequisite: permission of the department. Students may count only one readings course as credit towards their upper division political science requirements.

POL 499-5 Honors Essay
Prerequisite: permission of the department (see regulations listed in the Department of Political Science section).

Psychology PSYC

Faculty of Arts

PSYC 100-3 Introduction to Psychology I
Acquaints the student with the major issues in contemporary psychology and considers the historical antecedents. Special attention is given to questions of methodology and research design in psychology. Topics in physiological psychology, perception, learning and motivation are considered. (lecture/laboratory) Students with credit for PSYC 101 may not take PSYC 100 for further credit.

PSYC 102-3 Introduction to Psychology II
Acquaints the student with major issues in contemporary psychology and considers their historical antecedents in learning, cognition, social psychology and abnormal psychology are considered. (lecture/laboratory) Prerequisite: PSYC 100. Students with credit for PSYC 101 may not take PSYC 102 for further credit.

PSYC 106-3 Psychological Issues in Contemporary Society
Relates contemporary knowledge from psychology to current social problems. Provides relevant information from studies pertaining to problems such as attitude development, prejudice, race relations, addiction, behavior technology, and family pathology. (lecture/tutorial)

PSYC 201-4 Introduction to 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 in senior psychology topics 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 206-3 Introduction to Psychological Assessment
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). Students with credit for PSYC 306 may not take PSYC 206 for further credit.

PSYC 207-3 Introduction to the History of 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 102. Students with credit for PSYC 308 may not take PSYC 207 for further credit.

PSYC 210-4 Introduction to 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 enrol 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 study of cognitive and perceptual processes. Topics include memory, perception, attention, language, mental imagery, creativity, judgement and decision-making, and an introduction to cognitive disorders such as Alzheimer’s disease, dyslexia, aphasia and attention-deficit disorder. (lecture/laboratory) Prerequisite: PSYC 100 and 102 (or PSYC 101). Students with credit for PSYC 320 may not take PSYC 221 for further credit.

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 with credit for PSYC 340 may not take PSYC 241 for further credit.

PSYC 250-3 Introduction to Developmental 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 with credit for PSYC 350 or 351 may not take PSYC 250 for further credit.

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; prejudice, discrimination, social inclusion and exclusion; aggression; altruism, interpersonal attraction and interpersonal relationships. (lecture/tutorial) Prerequisite: PSYC 100 and 102 (or PSYC 101). Students with credit for PSYC 360 may not take PSYC 260 for further credit.

PSYC 270-3 Introduction to Theories of 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 Introduction to Biological Psychology
Surveys the major areas in biological psychology. Topics include the basics of neuroscience and nerve cell function, the behavioral and physiological effects of drugs and hormones in the nervous system, evolutionary perspectives on the brain and behavior, and the biopsychology of vision, the chemical senses, hearing, movement, biological rhythms, sex, and cognitive processes. (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
PSYC 303-4 Perception
An introduction to the study of perceptual processes with an emphasis on seeing and hearing. Topics include the perception of features, objects, motion, depth, time, visual illusions, and individual differences in perceptual ability. (lecture/laboratory) Prerequisite: PSYC 201 and one of 221 (or 320) or 335.

PSYC 307-3 History of Psychology in Western Scholarship
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 and 207.

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, 206 (or 306) and 301.

PSYC 321-3 Individual Differences in Cognitive Abilities
Surveys theoretical models and applied research on the nature of individual differences in cognitive abilities. Topics will include measurement, the biological and psychosocial origins of cognitive abilities, the relations between cognitive abilities and other behavior, and the social implications of different models of cognitive abilities. (lecture/tutorial) Prerequisite: PSYC 201 and 221 (or 320).

PSYC 325-4 Memory and Mind
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, and 221 (or 320).

PSYC 330-4 Attention
Survey the different aspects of paying attention. Topics include the effects of selective and divided attention on perceptual and cognitive function; the role of attention in human performance; attentional dysfunction and attention-deficit disorder; and the development of attentional capacity across the life span from newborns to the elderly. (lecture/laboratory) Prerequisite: PSYC 201 and 221 (or 320).

PSYC 335-3 Sensation
Examines the properties of the visual, auditory, olfactory, gustatory, and kinesthetic systems and receptor mechanisms with a strong emphasis on physiology. Topics include psychophysical measurement of sensations, cross-modal organization and computational modeling of sensory processes, and the interface between sensory and perceptual processes. (lecture/tutorial) Prerequisite: PSYC 201 and one of 280 or 303.

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 co-ordinator 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 including minimum CGPA of 3.0.

PSYC 354-3 Development of Children’s Thinking
Examines research and theory concerning the origins and development of cognition in humans. Traces the development of language and children’s thinking about the physical and social world from birth to adulthood, with a focus on infancy and childhood. Prerequisite: PSYC 201 and 250 (or 350 or 351).

PSYC 355-3 Adolescent Development
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 (or 340), and 250 (or 350 or 351).

PSYC 357-3 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 361-3 Social Cognition
Reviews theory and research on the cognitive basis of interpersonal perception and behavior, with an underlying focus on basic processes of attention, memory and inference. Topics include architecture of memory, heuristics and biases, automaticity, probabilistic reasoning, co-variation detection, causal inference, trait inference. Such processes are used to understand self-perception, emotions, goal directed behavior, impression formation, stereotyping and prejudice, and cultural differences. Prerequisite: PSYC 201 and 260 (or 360).

PSYC 362-3 Interpersonal Relations
Reviews theory and research on the psychology of interpersonal relations, with particular attention to personal relationships. Topics include theoretical perspectives on relationships; interpersonal attraction; dating, marriage, and friendship; social networks; cognitive processes and communication dynamics within relationships; and power and aggression within relationships. Prerequisite: PSYC 201 and 260 (or 360).

PSYC 365-3 Health Psychology
Explores applications of psychological principles to health and health care. The development of the field of health psychology is traced and major topics introduced. Topics include health promotion, the hospital experience, communication in medical settings, coping with serious illness, psychoneuroimmunology, and field-specific methodology. Prerequisite: PSYC 201 and 260 (or 360).

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 371-3 Intervention: Process and Outcome
Reviews the major approaches to psychological intervention in terms of theory, practice and outcome evaluation. The course will examine both the scientific and practitioner components of intervention. Prerequisite: PSYC 201 and two of 206 (or 306), 241 (or 340), or 270 (or 370). Students with credit for PSYC 375 may not take PSYC 371 for further credit.

PSYC 381-3 Behavioral Endocrinology
Examines the ways in which hormones influence the nervous system, regulating essential behaviors such as eating, drinking, sex, parenting, sleep, emotional behavior and cognitive processes. (lecture/tutorial) Prerequisite: PSYC 201 and 280.

PSYC 382-3 Cognitive Neuroscience
Examines the neurophysiological bases of cognitive and perceptual phenomena such as attention, language, thinking, imagery, vision, audition, and sensory processes. The study of human cognitive performance with measurement techniques such as ERP, PET, and MRI is also discussed. (lecture/tutorial) Prerequisite: PSYC 201 and 280.

PSYC 383-3 Psychopharmacology
A survey of how psychoactive drugs affect brain function to alter consciousness and behavior. Topics will include cellular effects of drugs that affect the central nervous system and discussions of the psychological and social effects of those drug-induced changes in the brain. Research on drug abuse and addictions and means of treating them will be covered. Historical, social and legal aspects of non-medical drug use will be discussed, as will the use of medications for the treatment of anxiety, depression, schizophrenia, dementia and other psychological disorders. (lecture/tutorial) Prerequisite: PSYC 201 and 280. Students with credit for PSYC 485 may not take PSYC 383 for further credit.

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 to 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 Evolutionary Psychology
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 386-4 Laboratory in Behavioral Neuroscience
An overview of techniques used for studying the biological basis of behavior in humans and animals. Examines the logic and limitations of specific research methods. Provides an opportunity to master a set of techniques and to conduct supervised research projects in the laboratory. (lecture/lab) Prerequisite: PSYC 201 and 280. Students with credit for PSYC 481 may not take PSYC 386 for further credit.
PSYC 387-3 Human Neuropsychology
Examines the neural processes that underlie cognitive functioning and behavior. Topics include neuroanatomy, neuropsychology, brain damage, neurological diseases (e.g., schizophrenia, Alzheimer’s, Parkinson’s), and problems in spatial ability, memory, language, mood and anxiety. Prerequisite: PSYC 201 and 280.

PSYC 388-3 Biological Rhythms and Sleep
Behavioral and physiological rhythms regulated by biological clocks, which function to synchronize the organism optimally with its environment. In this course we examine the adaptive role of clocks in animal behavior, the neural and endocrine mechanisms of daily, monthly and yearly rhythms, and the relevance of clocks, rhythms and sleep to human performance and psychopathology. We will also consider the mechanisms and functions of sleep states. (lecture/tutorial) Prerequisite: PSYC 201 and 280. Students with credit for PSYC 488 may not take PSYC 388 for further credit.

PSYC 402-4 Selected Topics in History and Theoretical 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 analyse either the historical development of modern psychology. Students will be expected to analyze either the historical development of modern psychology or theoretical issues that are relevant to their area of interest in psychology. (4-0-0) Prerequisite: PSYC 201, and one of 207 (or 308) or 307 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 410-4 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. (4-0-0) 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 411-4 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 of scientific thought as applied to modern psychology. Students will be expected to analyse either the historical development of modern psychology or theoretical issues that are relevant to their area of interest in psychology. (4-0-0) 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 415-4 Selected Topics in Measurement
An intensive exposure to selected topics in measurement theory and psychometrics, including, e.g., advanced classical test theory, modern test theory, and factor analysis. The content will vary, offering to offering. (4-0-0) Prerequisite: PSYC 301, 311 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5. Recommended: PSYC 410 and 411.

PSYC 430-4 Selected Topics in Cognition I
(4-0-0) Prerequisite: PSYC 201, 210, 221 (or 320), and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 432-4 Selected Topics in Cognition II
(4-0-0) Prerequisite: PSYC 201, 210, 221 (or 320) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 441-4 Selected Topics in Clinical Psychology
An intensive examination of a selected topic in clinical psychology, varying to include offerings such as psychopathology (adult or child), individual differences in cognitive abilities, behavioral approaches to intervention, addiction, and other special topics. (4-0-0) Prerequisite: PSYC 201, 210, 371 (or 375) and 60 hours of credit and a GPA of 3.0, or 90 hours of credit and a GPA of 2.5. Students with credit for PSYC 444 may not take PSYC 441 for further credit if similar topics are covered. See department for further information.

PSYC 442-0 Practicum III
Third 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 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 450-4 Selected Topics in Developmental Psychology I
(4-0-0) 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 451-4 Selected Topics in Developmental Psychology II
(4-0-0) 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 452-4 Selected Topics in Developmental Psychology III
(4-0-0) 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 461-4 Selected Topics in Social Cognition
(4-0-0) Prerequisite: PSYC 201, 210, 260 (or 360), 361 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 462-4 Selected Topics in Interpersonal Relations
(4-0-0) Prerequisite: PSYC 201, 210, 260 (or 360), 362 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 469-4 Selected Topics in Psycholinguistic Issues
(4-0-0) 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 480-4 Selected Topics in Biological Psychology I
(4-0-0) Prerequisite: PSYC 201, 210, 280, and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 482-4 Selected Topics in Biological Psychology II
(4-0-0) Prerequisite: PSYC 201, 210, 280 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 490-4 Honors Project
An in-depth investigation of a topic in psychology, culminating in a critical literature review and the formulation of a research proposal. (4-0-0) Prerequisite: PSYC 301 with a minimum grade of C. Prerequisite: 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 499-6 Honors Project
The research proposed in PSYC 490 is executed and the results are written up in thesis format. (6-0-0) Prerequisite: PSYC 490.

Resource and Environmental Management REM
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, 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 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 or EVSC 200, BISC 204 or GEOG 215, STAT 101 or GEOG 251 or equivalent.

REM 356-3 Institutional Arrangements for Sustainable Environmental Management
This course provides an overview of some basic legislation, agencies, and policies which currently are in use to regulate the natural environment at the international, national, 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.

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 or EVSC 200, MATH 151 or 154 or 157, MATH 152 or 155, STAT 101 or 103 or 301 or equivalent.

REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances
Students receive theory and practical experience in the control and management of hazardous substances in the environment. This includes the application of techniques used to assess toxicological, ecological and human health risks of contaminants within the current regulatory framework. (lecture) Prerequisite: CHEM 102, 115, REM 100, EVSC 200, MATH 151 or 154 or 157, STAT 101 or 103 or 301 or equivalent.

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.
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 other policy relevant research. (lecture/tutorial) Students with credit for SA 291 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 (when offered as Tourism) may not take SA 216 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 150. Students with credit SA 460 when offered as Medical Anthropology may not take SA 218 for further credit.

SA 231-4 Sociology of Families (SA)
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 peoples 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, 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, inter-cultural 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 seminars on questions 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 Canadian society 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 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 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 or sociology/anthropology (SA) course.

SA 315-4 New Information Technology and Society
Explores the new social spaces and social practices fostered by new information technology. Special attention will be paid to who is making decisions about what technologies to adopt and how, what social changes are resulting, and who benefits and who loses. A significant portion of activity in this course will involve direct engagement with new information technology. (seminar) Recommended: SA 150.

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 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 biomedicine in the West and alternative medical systems. Topics may include: cultural variation in definitions of health and illness; cultural pluralism in complex societies; medical authority and social control; the relation between health and gender, age, class, and ethnic identity. (seminar) Prerequisite: SA 101. Recommended: SA 218 is highly recommended.

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 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 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 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 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 analysed in ethnographic 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 analyse 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 focus 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 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 uses; 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 or sociology/anthropology (SA) course. Recommended: SA 250.

SA 331-4 Politics of the Family (S)
A sociological examination of the contested nature of contemporaty 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 or sociology/anthropology (SA) course.

SA 332-4 The Anthropology of Childhood (A)
A cross-cultural examination of childhood 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 relationships 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 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 problems. 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 coordinator 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. (semester) Prerequisite: SA 250.

SA 351-4 Classical Marxist Thought (SA)
A detailed study of classical Marxist social thought. (semester) Prerequisite: SA 250.

SA 352-4 Games, Sports and Cultures (A)
An anthropological examination of games and sports in cross-cultural perspective. Particular attention will be given to the social construction of games and athletic activities as well as the cultural, political and aesthetic meanings attached to these. Topics that may be examined include: the embodiment of culture in sporting activities; the impact of inter-cultural contact and globalization on games and sport; the shaping of gender, class and ethnic identities through sport involvement; appropriate methodologies for producing sport ethnographies. (semester) Prerequisite: one of SA 101, 150, 201 or consent of instructor.

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. (semester) 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. (semester) Prerequisite: SA 255 and 101 or 201.

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. (semester) 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. (semester) Prerequisite: SA 101 and 150, plus one second year sociology (S), anthropology (A) or sociology/anthropology (SA) course.

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, transnational political agencies and public policy, the internationalization of culture, the global labor market, the ‘world city’ hypothesis, ethnic resurgence and alternatives to these developments. (semester) 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 modern and consequences of world system linkages; colonialism and decolonization; patterns of social change in selected societies and regions. (semester) 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. (semester) 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. (semester) 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. (semester) Prerequisite: SA 150 and one 200 level sociology (S) or sociology and anthropology (SA) course.

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. (semester) 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. (semester) Prerequisite: SA 101 and one of SA 201, 263, 286 or 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. (semester) 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. (semester) 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. (semester) Prerequisite: SA 250 or consent of instructor. Students with credit for SA 391 may not take this course for further credit. This course is identical to LAS 392 and students cannot take both courses for 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. (semester) 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. (semester) 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 293.

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 ethnography and ethnography and the arts. (semester) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Recommended: at least two upper division courses in anthropology.

SA 403-4 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. (semester) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 416-4 Sociology of Art Forms (S)
This course may focus variously 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 role of art in modern society, popular culture, mass media, ideology in art. (semester) 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/semester) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 428-4 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/semester) Prerequisite: LAS 200 and either ECON 102 or 105 or permission of the instructor. This course is identical to SA 328, LAS 318 and LAS 428, POL 385 and 483, and students cannot take more than one of these courses for credit.

SA 435-4 Gender, Colonialism, Post-colonialism (SA)
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 363.

SA 441-0 Sociology and Anthropology Practicum IV (SA)
This is the last semester of work experience in the Co-operative 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 77 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 Arts 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 pluralities; directed change programs, (seminar) Prerequisite: SA 250 or 101 and one of SA 201, 263, 286 or 293. Recommended: SA 363.

SA 472-4 Anthropology and the Past (A)
Anthropologists frequently turn to historical documents (traveler’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: 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 students 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 SPAN
Faculty of Arts
Department of Linguistics
Language Training Institute
SPAN 102-5 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)
SPAN 103-3 Introductory Spanish II
Continuation of the work of SPAN 102; it should be taken, wherever possible, in the semester immediately following SPAN 102. (tutorial/laboratory) Prerequisite: SPAN 102 or equivalent.
SPAN 201-3 Intermediate Spanish I
Emphasis on oral and written accuracy and idiomatic expression. (lecture/tutorial) Prerequisite: SPAN 103 or equivalent.
SPAN 202-3 Intermediate Spanish II
Continues the work of SPAN 201 with emphasis on oral command and writing skills. Reading of selected texts will be introduced to expose the students to Spanish culture. (lecture/tutorial) Prerequisite: SPAN 201.
SPAN 303-3 Spanish Conversation and Composition
Conversation and composition on selected topics with emphasis on correct spelling, sentence and paragraph structures. (lecture/tutorial) Prerequisite: SPAN 202 or equivalent.
SPAN 304-3 Advanced Spanish Conversation and Composition
Continues the work of SPAN 303 with emphasis on style lemining and analysis of selected texts will serve as the basis for further practice in oral and written expression. (lecture/tutorial) Prerequisite: SPAN 303 or equivalent.
SPAN 305-3 Spanish for Business
This course will provide advanced level students and professionals with the specialized and technical vocabulary needed to function in the business world. Cultural aspects involved in dealing with business in Spanish America will also be studied. (0-3-0) Prerequisite: SPAN 202.

Statistics STAT
Faculty of Science
See also courses listed under Actuarial Mathematics (ACMA) (page 223), Mathematics and Computing Science (MACM) (page 283) and Mathematics (MATH) (page 281).

Open Workshop for STAT Courses
(some courses marked with ** below)

Statistics Workshop
STAT 101, 203, 270, 201, 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 STAT Courses
Students enrolled in courses offered by the Department of Statistics and Actuarial Science 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 Statistics and Actuarial Science which is a prerequisite.

Courses marked with an asterisk (*) are intended to be particularly accessible to students who are not specializing in Statistics.

STAT* 100-3 Chance and Data Analysis**
An introduction to chance phenomena and data analysis through simulation and examination of real world contexts including sports, investment, lotteries and environmental issues. (3-0-1) Students may not receive credit for both STAT 100 and STAT 101. Recommended: This course should not be taken by students who have 60 or more credits.

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) Students with credit for ARCH 376, BUVEC 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* 201-3 Statistics for the Life Sciences**
An introductory course in research methodology and associated statistical analysis techniques for students with training in the life sciences. (3-0-1) Prerequisite: 30 credit hours. Students with credit for STAT 101, 102, 203 (formerly 103), 270 (formerly MATH 272) or 301 may not take STAT 201 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) Students in Sociology and Anthropology are expected to take SA 255 before this course. Students with credit for ARCH 376, BUVEC 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. Recommended: a research methods course such as SA 265, CRIM 120, POL 213 or equivalent is recommended.

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 158 must precede or be taken concurrently. Students wishing an intuitive appreciation of a broad range of statistical strategies may wish to take STAT 100 or STAT 101.

STAT 285-3 Intermediate Probability and Statistics
This course is a continuation of STAT 270. Review of probability models. Procedures for statistical inference from survey results and experimental data. Statistical model building. Elementary design of experiments and regression methods. Introduction to lifetime analysis. Introduction to time series. Introduction to stochastic processes. (3-1-0) Prerequisite: STAT 270. Prerequisite or corequisite: MATH 232. This course may not be taken for credit by students who have credit for STAT 330 prior to the Fall 03-03 semester.

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 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: any course in the statistics, of at least three credits, offered at SFU. Statistics major and honors students may not use this course to satisfy the required number of semester hours of upper division statistics. They may include the course to satisfy the total number of required hours of upper division credit.

STAT 330-3 Introduction to Mathematical Statistics

STAT 336-0 Job Practicum II
This is the second semester of work experience in a co-operative education program available to statistics students. Interested students should contact their departmental advisors as early in their career as possible for proper counselling. (0-0-0) Prerequisite: students must apply and receive permission from the co-op co-ordinator at least one but preferably two semesters in advance. They will normally be required to have completed 45 hours of credit with a GPA of 2.5 before they may take this practicum course. The course will be graded on a pass/withdraw basis. A course fee is required.

STAT 337-0 Job Practicum II
This is the second semester of work experience in a co-operative education program available to statistics students. (0-0-0) Prerequisite: STAT 336 or Job Practicum I from another department. Students must apply and receive permission from the co-op co-ordinator at least one semester in advance. The course will be graded on a pass/withdraw basis. A course fee is required.

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 400-3 Data Analysis
A problem-based course emphasizing the exploratory aspects of statistical analysis with emphasis on modern computer-oriented methods. (3-1-0) Prerequisite: STAT 350.

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, probit analysis, dilution assay, frequency count analysis, ordinal-type responses, and survival data. (3-1-0) Prerequisite: STAT 302 or STAT 350.

STAT* 403-0 Intermediate Sampling and Experimental Design
A practical introduction to useful sampling techniques and intermediate level experimental designs. (3-0-2) Prerequisite: STAT 302 or 350. Students with credit for STAT 410 or 430 may not take STAT 403 for further credit. Statistics major, and honors students may not use this course to satisfy the required number of semester hours of upper division Statistics. 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 350.

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 436-0 Job Practicum III
This is the third semester of work experience in a co-operative education program available to statistics students. (0-0-0) Prerequisite: STAT 337 or Job Practicum II from another department. Students must apply and receive permission from the co-op co-ordinator at least one semester in advance. The course will be graded on a pass/withdraw basis. A course fee is required.

STAT 437-0 Job Practicum IV
This is the fourth semester of work experience in a co-operative education program available to statistics students. (0-0-0) Prerequisite: STAT 436 or Job Practicum III from another department. Students must apply and receive permission from the co-op co-ordinator at least one semester in advance. The course will be graded on a pass/withdraw basis. A course fee is required.

STAT 438-0 Job Practicum V
This is an optional fifth semester of work experience in a co-operative education program available to statistics students. (0-0-0) Prerequisite: STAT 437 or Job Practicum IV from another department. Students must apply and receive permission from the co-op co-ordinator at least one semester in advance. The course will be graded on a pass/withdraw basis. A course fee is required.

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. (3-0-1) Prerequisite: STAT 330.

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 330 and 350.

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.
Undergraduate Courses – Women’s Studies WS 305

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/seminar) Prerequisite: 60 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/seminar) 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. (lecture/seminar) Prerequisite: six credits in women’s studies, including WS 101 and/or 102. Students who have taken either WS 310 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. (lecture/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. (seminar) Prerequisite: 60 credit hours including two women’s studies courses, one of which must WS 101 or 102.

WS 401-5 Research Project
Individual or small group studies of community problems. The students will submit a proposal 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; permission of instructor; 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 this course will focus on a particular subset of feminist theories and applications. (seminar) 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. Students who have taken WS 312 may not take this course for further credit.

WS 421-0 Practicum I
First semester of work experience in the Women's Studies Co-operative Education Program. Prerequisite: 30 credit hours with a CGPA of 3.0; WS 101, 102 and two 200 division women's studies courses. Students should apply to the Faculty of Arts Co-operative Education Coordinator by the end of the third week of the semester preceding the employment semester.

WS 422-2 Practicum 2
Second semester of work experience in the Women's Studies Co-operative Education Program. Prerequisite: 45 credit hours with a CGPA of 3.0; WS 101, 102 and two 200 division women's studies courses. 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.

WS 423-3 Practicum 3
Third semester of work experience in the Women's Studies Co-operative Education Program. Prerequisite: 60 credit hours with a CGPA of 3.0; WS 101, 102 and two 200 division women's studies courses. 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.

WS 424-4 Practicum 4
Fourth semester of work experience in the Women's Studies Co-operative Education Program. Prerequisite: 90 credit hours with a CGPA of 3.0; WS 101, 102 and two 200 division women's studies courses. 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.
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, further, 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 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 or 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 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.

The committees responsible for the supervision of graduate students are the supervisory committee, graduate program committee, the faculty graduate studies committee and the senate graduate studies committee. The functions of these committees in relation to individual students are as follows.

Supervisory Committee (see 1.6.4)
The student’s supervisory committee helps the student define and develop a program of studies and reports on the student’s progress to the graduate program committee. The supervisory committee forms part of the student’s final examination committee.

Graduate Program Committee
The graduate program committee is responsible for recommending admission, reviewing the student’s progress and arranging for the supervision and examination of the student. For most graduate programs, the graduate program committee is the departmental graduate studies committee. In the Faculties of Business Administration and Education, the graduate committee is the faculty graduate studies committee.

Faculty Graduate Studies Committee
This committee makes recommendations to the senate graduate studies committee on such matters as awarding of degrees, examining committees for doctoral candidates, changes to established programs and establishment of new programs.

Senate Graduate Studies Committee
This committee has the final authority on admissions and the administration of senate regulations which concern graduate work. This committee serves as the graduate program committee for students enrolled under special arrangements.

The administrative officers of the University who are responsible for the supervision of graduate students are the assistant director, graduate studies and the dean of graduate studies. They and the chairs of graduate program committees are available to students for consultation.

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 website (www.sfu.ca/dean-gradstudies/gradhandbk) 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.

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.

For admission to post baccalaureate programs, refer to the undergraduate section of this Calendar. Before applying for admission, the student should obtain information about admission requirements and procedures. This information can be obtained from the websites of departments and faculties, or by contacting the appropriate program’s graduate secretary. Application forms are also available on the Dean of Graduates Studies website.

Applicants 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 students whose interests 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, 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) when there is significant professional experience relevant to the proposed area of study.

Students 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 capability in 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 of at least 3.0 from a recognized university, or the equivalent;
b) submitted evidence, usually 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) when there is significant professional experience relevant to the proposed area of scholarship.

Students 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 capability in 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) completion of at least 75% of the course work credits required for the relevant department’s Master’s program, with a cumulative grade point average of at least 3.5. All graduate courses, whether taken at this University of another university, shall be considered in the calculation.

and

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.

Students 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 capability in English. (See also 1.3.12.)

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 that can be shown to have internal coherence and academic merit, and in which the university has appropriate expertise and interest 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 894-5 Special Topics
To be selected by the student and supervisory committee.

SAR 895-3 Special Topics
To be selected by the graduate program committee.

SAR 897-5 Special Topics
To be selected by the student and supervisory committee.

SAR 898-3 Master’s Thesis
SAR 899-3 PhD Thesis

1.3.5.a Cohort Special Arrangements

Cohort-based special arrangements 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 departments, schools or faculties and will involve a curriculum and requirements recommended by each program’s graduate program committee and approved by the senate graduate studies committee. Students may undertake this degree program only through specific admission to the cohort program. Admission criteria, degree requirements and any other special conditions for a particular cohort special arrangements 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.

1.3.6 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 who 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

Admission as a qualifying student does not guarantee future admission to a master’s or doctoral program unless the offer of admission states that satisfying specific requirements within a specific period of time will result in automatic admission to the program. Normally a student will be admitted with qualifying status for a maximum of one year (three consecutive semesters).

1.3.7 Admission as a Non-degree Student

Normally, a non-degree student at the graduate level has at least a bachelor’s degree, or the equivalent, is admitted in order to take specified courses, but is not seeking a degree from this University. A non-degree student will not be permitted to enrol in undergraduate courses.

Application is through the graduate program committee in the department in which the student wishes to work; applicants are advised to contact the department before submitting an application (see 1.3.1). 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.

No credit will be given towards any degree offered by the University for courses taken as a non-degree student except, under unusual circumstances, on petition to the senate graduate studies committee.

1.3.8 Conditional Admission

Conditional admission may be offered to an applicant who is substantially ready to undertake a program but who has not completed all admission requirements at the time of application. An offer of conditional admission will specify the remaining requirements to be met and a limited time period within which the requirements must be met. Normally, the requirements must be fulfilled either prior to registering in the program, or within the first semester of registration.

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 to take specific graduate courses 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, from the Dean of Graduate Studies website, or from any department. Completed forms and accompanying materials must be submitted to the department before the deadline specified by the department. Applicants are advised to check with the appropriate department as to the prevailing application procedures and deadlines for the graduate program in which they are interested. Applicants are advised that deadlines for applications for awards and teaching assistantships may be earlier than the deadlines for application to a graduate program.

All decisions on graduate admissions are made by the senate graduate studies committee, on recommendation from graduate program committees. Decisions on admissions shall be final. Final approval of admission for non-degree students or exchange graduate students is by the dean of graduate studies.

1.3.11 Application to Take a Second Master’s or Doctoral Degree

Students who have a master’s or a doctoral degree (either from Simon Fraser University or another university) 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

1.4 Registration

1.4.1 Date of Entry
University regulations permit graduate students to enter programs at the beginning of any semester, unless a program requires students to start in a specific semester.

1.4.2 Registration
Registration begins two months before the start of each semester and must be completed by the Friday preceding the start of classes; see “Academic Calendar of Events” on page 7. 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 Application to go on Leave” on page 313).

1.4.3 Continuity of Registration
With the exception of students in discontinuous programs, all are required to register in every semester until all requirements for the degree have been fulfilled. This includes students registered on leave. A student who does not register is considered to have withdrawn from the University. (See 1.8.4 for regulations on student leave.)

1.4.4 Registration in Discontinuous Programs
Students who are enrolled in programs which are designed to be discontinuous are not required to register on leave during the semester or sessions in which the program does not run, nor to register during those semesters. However, if they have to miss one or more of the semesters in which they are expected to register, the normal leave regulations apply (see 1.8.4). Programs currently designated as discontinuous are MA (Liberal Studies), MEng, and MRM.

1.4.5 Part Time Study
A number of graduate programs have been approved, by the relevant graduate program committee, for part time study. They are listed below.

archaeology (MA; PhD)
biochemistry (MSc, PhD)
biological sciences (MPM; MET)

business administration (Executive MBA, MBA [MOT])
communication (MA, PhD)
economics (MA, PhD)
education (MA; MSc, MEd)
engineering Science (MEng)
English (MA, PhD)
French (MA)
history (MA)
Latin American studies (MA)
liberal studies (MA)
mathematics (MSc, PhD)
physics (MSc, PhD)
political science (MA, PhD)
publishing (MPub)
resource and environment management (MRM)
statistics and actuarial science (MSc, PhD)
special arrangements (MA; PhD)
women’s studies (MA)

The list of approved programs is subject to change. In addition, some faculties may permit co-op work terms for individual students on a case-by-case basis. Interested students should consult the co-op co-ordinator.

The application to enrol in co-op is subject to departmental approval. Each department has a specific course for the co-op work term or practicum. If the co-op work term is the only course in which the student is registered and if the student is not working on his or her thesis, projects, etc., the registration status can be ‘part-time’ or ‘full time,’ at the student’s option. Otherwise, the student would be required to register full time. The co-op registration fee is listed in the Graduate Fee Schedule and is counted as one half a fee unit toward the fee units required for the degree. If registered co-op, the only other fees payable would be the student activity fee and, if applicable, the graduation fee.

Students who choose to register ‘part-time’ while on a co-op semester should be aware that part-time registration may affect the total fees paid for their graduate program (see “Graduate Fees” on page 316).

1.5 Academic Standing

1.5.1 Normal Grading System
The following grades are used at the graduate level in the University.

A+ = 4.33 point (in use since 2002-3)
A = 4.00 points
A- = 3.67 points
B+ = 3.33 points
B = 3.00 points
B- = 2.67 points
C+ = 2.33 points (in use since 2002-3)
C = 2.00 points
F = 0 points

A student in a master’s or doctoral program must maintain a cumulative grade point average (CGPA) of 3.0 in courses taken at Simon Fraser University. A student in a diploma program must maintain a cumulative grade point average (CGPA) of 2.5 in courses taken at Simon Fraser University. Grades graded on a satisfactory/unsatisfactory basis are not included in the grade point average. When a student is working on a thesis, extended essay or project as part of the requirements for the degree, the notation 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 for a specified period determined by the course instructor. 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 of the first month of 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. 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)

With the approval of senate graduate studies committee, a department 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.

Having registered in a course on any grading basis, a student may not change to another grading basis for that course.

None of the student’s minimum course work requirement under 1.7.3 may be taken S/U. Neither an S nor a U will count in the CGPA, but the grade supervisor has been appointed.

1.5.4 CGPA Required For Continuation and Graduation

A student in a master’s or doctoral program is required to maintain a CGPA of at least 3.0. A student in a graduate diploma program is required to maintain a CGPA of at least 2.5. Failure to meet the minimum CGPA 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.

Under no circumstances will a student, whose CGPA is below 3.0, be awarded a graduate degree.

Under no circumstances will a student with a CGPA below 2.5 be awarded a graduate diploma.

1.5.5 Graduate Students Retaking a Course

A graduate student may retake a course under the following conditions.

a) when the same numbered course covers different material in different semesters (many special topics and directed readings courses are of this nature),

b) when the student wishes to improve the grade earned in the course. Permission of the graduate program committee is required.

Under a), both grades are recorded on the student's transcript, and the grade and the credit hours for both iterations of the course are used for the calculation of the CGPA and towards the credit hours required for the degree. Under b), both grades are recorded on the student’s transcript with the notation that the course was retaken to improve the grade. However, only the better grade is used in calculating the CGPA and the credit hours for the course are used only once towards the requirements for the degree.

A student must indicate at the time of registration under which of the two conditions the course is being retaken. The correctness of this indication must be certified by the chair of the graduate program committee.

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 second semester of full time equivalent enrolment after the student’s admission, although with the permission of the senate graduate studies committee, departments may define a later date. 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 at Simon Fraser University.

A senior supervisor who is planning to be off campus for more than three months 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.

A senior supervisor is not required for students in a graduate diploma program. The director of a diploma program is responsible for roles normally assigned to the senior supervisor (e.g. advising students, signing forms).

1.6.4 Supervisory Committee

A supervisory committee is not required for students in graduate diploma programs.

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 master’s degree programs that culminate in a field or comprehensive examination, 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. The supervisory committee consists of the senior supervisor and at least one other person. Normally, this recommendation shall be made during the same semester in which the senior supervisor is appointed.

For degrees designated by senate as professional degrees, the other member(s) of the committee may be other suitably qualified person(s). For other graduate degrees, at least one member of the committee (in addition to the senior supervisor) must be a faculty member or an adjunct professor or a research associate at Simon Fraser University. Other member(s) of the supervisory committee may be other suitably qualified person(s). A recommendation for a supervisory committee that includes a person who is not a faculty member at Simon Fraser University should be accompanied by a curriculum vitae of that person.

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 for information.

The supervisory committee is responsible for helping the student develop a program of study leading to a degree and for reporting to the graduate program committee at least once a year on the student’s progress towards completing the degree requirements. The supervisory committee shall be available to the student for consultation on a regular basis.

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 or any member of the supervisory 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 plans involving human subjects must receive ethics approval. Copies of the policy (R20.01), procedures and forms for this review may be obtained from the Office of Research Services or from the University web site (www.sfu.ca/policies/research/index.htm).

1.7 Residence and Course Requirements

Minimum course work requirements are defined in 1.7.1, 1.7.2 and 1.7.4. See 1.7.6 for regulations concerning courses taken at other institutions. There is a residence requirement for all doctoral programs (see 1.7.5).

1.7.1 Requirements for the Graduate Diploma

There is no residence requirement for the graduate diploma. 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

Master’s candidates must complete the University minimum requirement in one of the following ways.

a) successfully complete a minimum of 12 credit hours of graduate course work and submit a 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

Not all of these options are available for every program. 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.

1.7.3 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. Doctoral students must register for a minimum of five semesters. On leave semesters will not count toward this minimum.
1.7.4 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.

1.7.5 Doctoral Thesis
All doctoral programs require a doctoral thesis based on substantial original research.

1.7.6 Courses in Master’s and Doctoral Programs
The following rules apply to the minimum course work requirement. One half of the minimum course work of the University or departmental degree requirements must be taken at this University.

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 under the following conditions:

a) Courses must have been taken within two years of the SFU program.

b) Courses may not have been used to earn another credential and may not have been taken as part of a qualifying year.

c) Application for advance credit must be made at the time of application for admission, and must be approved by the graduate program committee and the dean of graduate studies.

1.8 Progress, Withdrawal and Leave

1.8.1 Progress Evaluation
For master’s and doctoral students, the supervisory committee shall report on the student’s progress at least once each year. 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 the maintenance of a CGPA of 3.0, as required by graduate regulation 1.5.4.

For graduate diploma students, a progress review will be initiated if the CGPA drops below 2.5.

1.8.2 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, and provide a copy to the student. That committee shall consider whether the student’s progress has been satisfactory, the graduate program 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 period 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 period 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, or if the student is in a graduate diploma program, 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. 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
It is desirable that a graduate degree or diploma 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) there will be no substantial use 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 when registering.

Students who wish to register on leave for more than three sequential semesters must submit a written explanation for all subsequent on-leave registrations.

Such applications require approval from the Dean of Graduate Studies.

1.8.5 Failure to Register
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. With the exception of designated ‘professional’ master’s programs (see 1.10.6), 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 will 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. For those seeking a degree under special arrangements, this person shall be from outside 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 Preparation of Thesis, Extended Essays and Project: Regulations and Guidelines (revised February 1997).

The candidate’s supervisory committee shall make a recommendation to the chair of the graduate program committee concerning the date, place and time of the thesis examination and the composition of the examining committee in conformity with 1.9.1.

Upon approval of the chair of the graduate program committee, this recommendation, with the thesis title and an abstract, shall be sent to the assistant director, graduate studies in the Office of the Registrar for entry into the University’s records. The examining committee shall consist of the assistant director, graduate studies at least four weeks before the examination date. At this time, the chair of the graduate program committee will notify the University community of the intended time and place of the examination.

At least two weeks before the date of the thesis examination, unbound copies of the completed thesis shall be distributed to the examining committee by the chair of the graduate program committee, and one copy shall be made generally available for inspection by interested members of faculty and students. Department rules may require earlier submission of the completed thesis.

If the date or place has been changed, 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.
1.10.5 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, MRMI, MEng, MPH) 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 Reproduction

Except as noted in 1.11.3, the student shall sign an agreement form authorizing the National Library of Canada to reproduce the thesis and to sell microfilm copies on request.

1.11.3 Postponement of Publication

The results of research of research conducted at Simon Fraser University should be available freely to the public, and it is expected that theses will be placed in the library immediately following final revisions. It is the responsibility of graduate students to ensure that this policy is communicated clearly to relevant individuals and organizations outside the university prior to the initiation of any research project.

A thesis may be withheld from circulation and from copying for a period of 12 months from the date of defense of the thesis, in order to protect confidential commercial information, patentable material, pending application, or where immediate commercial publication is anticipated. No extensions to this time limit will be permitted. At the time of the thesis defense, 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 of Canada 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.

Under exceptional circumstances, portions of a thesis may be withheld from the reference copy of the thesis that is made available to faculty members and students (see 1.9.2 and 1.9.4). This procedure must be authorized by the dean of graduate studies well before the distribution of the thesis. The dean must ensure that only the most confidential material is withheld from the thesis, and that the overall content of the thesis is not lost.

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.

1.13 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 "Graduate Fees" on page 316.

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

Graduate students are advised to seek informal resolution of problems through discussions with their supervisor, graduate program chair, department chair or faculty dean, and the dean of graduate studies.

1.16.1 Grades

May be appealed to the instructor, department chair and, in some cases, faculty dean in accordance with academic policy T 20.01.

1.16.2 Progress Evaluations

May be appealed to the senate graduate studies committee (see 1.8.2).

1.16.3 Admission

Applicants who meet or exceed minimum requirements for admission are not assured of admission to any graduate program (see 1.3.1) Normally, admission decisions may not be appealed (see 1.3.10). In exceptional circumstances, unsuccessful applicants may appeal to the committee to review university admissions. This committee will only review the fairness of admissions procedures and will not review an applicant's credentials.

1.16.4 Other Appeals

Appeals of decisions on registration, 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.
# Tuition Fee Schedule

All fees are subject to change, subject to provincial legislation and board of governors approval. The graduate tuition fee rules are currently being revised, and some changes are expected for the 2004-1 semester. A revised set of rules will be distributed to graduate students prior to the start of the 2004-1 semester.

<table>
<thead>
<tr>
<th>Fee Category</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Tuition Fee</td>
<td>For full time students</td>
<td>$1232.90</td>
</tr>
<tr>
<td>The following have their own unique fees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate Diploma in Business Administration (per credit hour)</td>
<td>$500.00</td>
<td></td>
</tr>
<tr>
<td>Graduate Diploma in Education (per credit hour)</td>
<td>$246.70</td>
<td></td>
</tr>
<tr>
<td>Off Campus MEd Program (per semester)</td>
<td>$2809.70</td>
<td></td>
</tr>
<tr>
<td>EdD Program (per semester)</td>
<td>$4334.90</td>
<td></td>
</tr>
<tr>
<td>Graduate Diploma in Urban Studies (per credit hour)</td>
<td>$211.30</td>
<td></td>
</tr>
<tr>
<td>Executive MBA Program (per semester)</td>
<td>$500.00</td>
<td></td>
</tr>
<tr>
<td>MBA Program (Management of Technology) (per credit hour)</td>
<td>$514.55</td>
<td></td>
</tr>
<tr>
<td>MBA Program (Management of Technology – Foundation courses) (per credit hour)</td>
<td>$550.00</td>
<td></td>
</tr>
<tr>
<td>MBA Program (Global Asset and Wealth Management) (per credit hour)</td>
<td>$750.00</td>
<td></td>
</tr>
<tr>
<td>MPub Program (per course)</td>
<td>$750.00</td>
<td></td>
</tr>
<tr>
<td>MEng Program (per semester)</td>
<td>$2132.90</td>
<td></td>
</tr>
<tr>
<td>Non-degree, exchange and qualifying students (basic tuition fee per credit hour)</td>
<td>$123.70*</td>
<td></td>
</tr>
<tr>
<td>Non-degree exchange and qualifying students:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>any course at 200 level and above, Faculty of Business</td>
<td>$165.00</td>
<td></td>
</tr>
<tr>
<td>any course at 200 level and above, Schools of Computing Science and Engineering Science</td>
<td>$136.10</td>
<td></td>
</tr>
</tbody>
</table>

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

- Part time fee is equal to one half of the full time fee unit for most programs. See “1.4.5 Part Time Study” on page 311.
- Co-op fee is equal to one half of the full time fee unit.
- 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 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. The minimum fee rules do not apply to students in programs where tuition is calculated on a per credit hour basis.
- 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
- MPP | first 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 (page 315) 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 (page 315) are required to pay a registration fee equal to one and a half full time fee units.

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# Student Services and Recreation-Athletics Fees

The Student Services Fee (SSF) and Recreation-Athletics Fee (RAF) are assessed to all students registered for credit courses that are offered at the Burnaby Mountain, Harbour Centre and Surrey campuses according to the table below. These fees are not assessed to students on co-operative education work terms, on leave, or in the off-campus MEd program.

<table>
<thead>
<tr>
<th>Fee Category</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>part-time students</td>
<td>SSF</td>
<td>$30.42</td>
</tr>
<tr>
<td>part-time students</td>
<td>RAF</td>
<td>$25.35</td>
</tr>
<tr>
<td>full time students</td>
<td>SSF</td>
<td>$30.42</td>
</tr>
<tr>
<td>full time students</td>
<td>RAF</td>
<td>$50.70</td>
</tr>
</tbody>
</table>

# 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. For a breakdown of the student activity fee, see “Simon Fraser Student Society” on page 15.

<table>
<thead>
<tr>
<th>Fee Category</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>students registered full time</td>
<td>SSF</td>
<td>$58.50</td>
</tr>
<tr>
<td>students registered full time</td>
<td>RAF</td>
<td>$29.26</td>
</tr>
<tr>
<td>students taking courses for credit at designated off campus locations</td>
<td>SSF</td>
<td>$58.50</td>
</tr>
<tr>
<td>students on leave</td>
<td>no fee</td>
<td></td>
</tr>
</tbody>
</table>

# Special Fees

<table>
<thead>
<tr>
<th>Fee Category</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td></td>
<td>$55.00</td>
</tr>
<tr>
<td>On Leave</td>
<td>(see page 313 Graduate General Regulations 1.8.4)</td>
<td>$154.00</td>
</tr>
<tr>
<td>Late Registration</td>
<td></td>
<td>$50.00</td>
</tr>
<tr>
<td>Reinstatement</td>
<td></td>
<td>$100.00</td>
</tr>
<tr>
<td>Late Submission</td>
<td>(see Refunds below)</td>
<td>$16.50</td>
</tr>
<tr>
<td>Replacement Library Card</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduation</td>
<td>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.</td>
<td>$36.00</td>
</tr>
</tbody>
</table>

# 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.

# Universal Transit Pass

The U-Pass fee is $92.00 per semester. The following students are exempt from this fee:

- students who are not assessed Simon Fraser Student Society fees (see “Student Activity Fee” on page 316)
- students who do not reside in the Greater Vancouver Regional District (GVRD) and who do not attend any classes offered by Simon Fraser University (Burnaby, Surrey, Harbour Centre campuses) within the GVRD
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.

Biological Sciences

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>BISC 600</td>
<td>$189</td>
</tr>
<tr>
<td>BISC 812</td>
<td>$225</td>
</tr>
</tbody>
</table>

Earth Sciences

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>BISC 600</td>
<td>$189</td>
</tr>
<tr>
<td>EASC 611</td>
<td>up to $150</td>
</tr>
<tr>
<td>EASC 613</td>
<td>up to $30</td>
</tr>
<tr>
<td>EASC 617</td>
<td>up to $50</td>
</tr>
<tr>
<td>EASC 619</td>
<td>up to $100</td>
</tr>
<tr>
<td>EASC 623</td>
<td>up to $40</td>
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<tr>
<td>EASC 812</td>
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Geography

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 612</td>
<td>$80</td>
</tr>
</tbody>
</table>

Marine Science

All MASC courses offered at the Western Canadian Universities Marine Biological Station (Bamfield) are charged at the rate of $137 per credit hour.

Resource and Environmental Management

REM 698 | $150 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 Canada 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.

See “Payment of Fees” on page 58 for a description of various payment methods.

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 Non-Degree Students

Fees and fee refunds for qualifying and special students are in accordance with the undergraduate fee schedule.

Overdue Accounts

Students in bad 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 prior to the semester in which the degree requirements are completed.

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 for Graduate Students

Graduate students are eligible for a variety of financial assistance programs including entrance or continuing scholarships, graduate fellowships, awards, bursaries and loans.

Scholarships and fellowships recognize outstanding academic achievements; awards generally acknowledge outstanding achievements or contributions to the community. Bursaries are awarded on the basis of financial need. Government student loans are awarded on the basis of financial need by the student’s province of residence. Emergency loans are available from the Academic Resources Office, to students in short term financial crisis.

Other sources of income are teaching assistantships (TAs) and research assistantships (RAs) which are available in most departments. Applications should be directed to the chair of the appropriate graduate program committee in the department of intended enrolment.

All graduate scholarship and financial assistance programs are administered by one of two units in the University. Merit based graduate scholarships and awards (cumulative grade point average of 3.50 or better) are administered by the Dean of Graduate Studies Office. Room 1100, Maggie Benston Student Services Centre, Tel: 604.291.5411, Fax: 604.291.3080.

Generally, the financial needs-based graduate scholarships, bursaries and loans, including Government student loans and emergency loans, are administered by the Financial Assistance Office, Student Academic Resources, Maggie Benston Student Services Centre, Tel: 604.291.4356. They include the Canada Student Loan Program, the Work Study Program and graduate bursaries.

Categories of Graduate Scholarships, 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 electronic version of the Graduate Awards Guide is on the World Wide Web and is located at http://tas.sfu.ca/projects/GradAwards.

Award Categories

Awards that are administered by the Dean of Graduate Studies Office:

• Simon Fraser University Entrance Scholarships (page 318)
• Awards for New and Continuing students (page 320)
• Private Awards (page 320)
• University Administered External Awards (page 324)
• Externally Administered Programs (page 325)

Awards, Bursaries and Loans that are administered by the Financial Assistance Office, Academic Resources, Registrar’s Office:

• Bursaries Administered by the University (page 326)
• Bursaries for All Students (page 326)
• Bursaries for Applied Sciences Students (page 328)
• Bursaries for Arts Students (page 328)
• Bursaries for Business Administration students (page 328)
• Bursaries for Education Students (page 328)
• Bursaries for Science Students (page 329)

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.

General Information and Regulations

The following regulations apply generally to all financial assistance administered by the University.

• Plan and apply well in advance as many scholarship deadlines occur between 4 and 12 months before the granting of the award. Application deadlines are listed for each award on the following pages. Please note that the published deadlines are approximate dates only, and are subject to change by the awarding agency.
• All scholarships and awards are given on the recommendations of the Senate Graduate Awards Adjudication Committees. 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 graduate 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 following awards are contingent upon the availability of funds. Detailed information is available from the Dean of Graduate Studies Office, MBC 1100. Completed application forms and all required documentation should be submitted to the Graduate Secretary in the applicant’s department of enrolment by the indicated deadlines, unless specified otherwise.

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 60.

Dean of Graduate Studies Convocation Medals

Application deadline: April 25

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.

The criteria for selection of special awards are quality of work, cumulative GPA, and timeliness of completion of the degree. All recommendations are to be forwarded to the Dean of Graduate Studies by April 25.

Governor General’s Gold Medal

Application deadline: April 25

Terms of reference: The Governor General’s Gold Medal will be awarded to the students who achieve the highest academic standing in his/her master’s or doctoral degree program. The two students selected will be from different faculties.

Entrance Scholarships

Arthur Andersen & Company Graduate Entrance Scholarship

Value: $5,000

Application deadline: March 15

Tenable: Any semester

Terms of reference: For a student entering a graduate program in the field of accounting.

ASI Graduate Student Awards

Value: $10,000 each

Application deadline: September 1 (by nomination)

Tenable: Fall semester

Terms of reference: Five awards 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.

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Wm. F. and Ruth Baldwin Graduate Scholarship in History
Value: $8,000
Application deadline: March 15
Tenable: Any semester
Terms of reference: The recipient is an outstanding student entering the Global Asset and Wealth Management MBA program after having spent a minimum of at least two years employed in the financial services industry in a professional capacity. Students will be nominated for these awards by the director of the program.
Graduate Entrance Scholarship in Geography
Value: $1,500
Application deadline: March 15
Tenable: Any semester
Terms of reference: The recipient is an outstanding student entering a graduate program in geography.
Bert Henry Memorial Graduate Scholarship
Value: $18,000 (subject to funding)
Application deadline: March 15
Tenable: Any semester
Terms of reference: The recipient is an outstanding student who has obtained a master’s degree and is entering any PhD program. The recipient must show high academic performance and potential for significant contribution to the chosen field of study. Tenure is for one year and may commence in any semester.
C.D. Nelson Memorial Graduate Scholarships
Value: $18,000
Application deadline: March 15
Tenable: Any semester
Terms of reference: Recipients are outstanding scholars entering any graduate program. Twelve or more awards are made. Tenure is for one year and may commence in any semester.
Master of Pest Management Graduate Entrance Scholarship
Value: $500
Application deadline: March 15
Tenable: Any semester
Terms of reference: One award for a student entering an MA or PhD program in political science.
Faculty of Science Graduate Entrance Scholarship
Value: $1,700
Application deadline: March 15 (by nomination)
Tenable: Fall semester
Terms of reference: One award for a student entering the Master of Science program in a department in the Faculty of Science at Simon Fraser University.
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 entering any PhD program at Simon Fraser University. The recipient must show potential for significant contribution to society through achievement in their chosen field. Tenure is for one year and may commence in any semester.

Financial Aid for Graduate Students – Entrance Scholarships 319
Awards for New or Continuing Students

Graduate Fellowships
Value: $6,000
Application deadline: April 15
Tenable: Any semester
Terms of reference: Recipients are full time students in any Simon Fraser University graduate program. Awards are made on the basis of academic merit; the normal minimum criterion for eligibility is a 3.5 CGPA. These are one semester awards valued at $6,000. Students may apply in an annual competition for graduate fellowships tenable in one, two or three semesters.

Faculty of Applied Sciences Dean’s Fund Graduate Fellowships
Value: $3,000
Application deadline: end of the second month of the semester preceding the semester of tenure.
Tenable: Any semester
Terms of reference: These are one semester awards available to all full time PhD students who have completed all degree requirements with the exception of the thesis. Students may receive the award only once during their doctoral program.

The following awards are contingent upon the availability of funds. Detailed information is available from the Dean of Graduate Studies Office, MBC 1100. Completed application forms and all required documentation should be submitted to the Graduate Secretary in the applicant’s department of enrolment by the indicated deadlines, unless specified otherwise.

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 to a graduate student working in areas relating to the cultivation 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.

Archaeometry Prize
Value: $200
Application deadline: April 15
Tenable: Summer
Terms of reference: A prize 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.

BCAA Environmental Studies in Transportation Award
Value: $700
Application deadline: September 30
Tenable: January
Terms of reference: One award 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: $20,000
Application deadline: May 30
Tenable: September and January
Terms of reference: One or more, two-semester awards 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 with accompanying certificate will be awarded 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 Environmental Biology 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.

Margaret Lowe Benston Memorial Graduate Bursary in Women’s Studies
Value: $1,300
Application deadline: May 30
Tenable: September
Terms of reference: One or more bursaries for graduate students in Women’s Studies. Preference will be given to students working in areas relating to women in science and technology.

Alan Boag Scholarship
Value: $2,000
Application deadline: September 30 (in even numbered years)
Tenable: January
Terms of reference: This bi-annual scholarship 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 the 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 (in odd numbered years)
Tenable: September
Terms of reference: One award bi-annually 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.

Phyllis Carter Burr Graduate Scholarship in Developmental Biology and Cell Biology
Value: $750
Application deadline: September 30
Tenable: any semester
Terms of reference: One award annually for graduate students in any department who intend to pursue an academic research career specializing in developmental biology and/or cell biology. Currently this would include students in the departments of Biological Sciences, Molecular Biology and Biochemistry in the Faculty of Science and the School of Kinesiology in the Faculty of Applied Science. Preference will be given but not restricted to, female applicants.

Cable Television Pioneer Graduate Scholarship
Value: $700
Application deadline: September 30
Tenable: January
Terms of reference: One scholarship for a graduate student in Communication specializing in communication policy.

Canadian Fishing Company Graduate Scholarship
Value: $1,500
Application deadline: September 30
Tenable: January
Terms of reference: One scholarship will be awarded to a graduate 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: One award to a graduate student in the Master of Publishing Program, demonstrating experience within the Canadian book publishing and/or periodical and/or music publishing sector.

Canron Limited Sidney Hogg Memorial Graduate Scholarship
Value: $650
Application deadline: September 30
Tenable: January
Terms of reference: One award to a graduate student in memory of the late Mr. Sidney Hogg, a Convocation founder of Simon Fraser University. This annual scholarship 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 Global Graduate Fellowship in Communications
Value: $10,500
Application deadline: September 30
Tenable: two consecutive semesters
Terms of reference: One or more scholarships awarded annually to graduate students in the School of Journalism and Communication, Simon Fraser University. Preference will be given to students from the Greater Vancouver region. Preference will be given to students in their second year of graduate study; male and female students are equally considered. Students must submit a statement of intent (no more than one page) specifying their ongoing interest in the field of communications and the experience they have acquired to date. Upon receipt of the statement, students will be required to submit a complete application consisting of a statement of purpose (two pages maximum) and two academic reference letters. Only one application per student will be accepted.
Financial Aid for Graduate Students – Private Awards

The Gordon, Monica, and Sonia Eppich Graduate Scholarship
The Kaltenegger Family Graduate Scholarship
The Pacific 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 Pylkstra 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 Pacific Metals/Leon Lotzkvar 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.
Application deadline: September 30.

Emergency Preparedness Conference Scholarship in Emergency Communications
Value: $2,000
Application deadline: September 30
Terms of reference: An award 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
Terms of reference: One or more scholarships awarded to graduate students in the first, second, or third years of the Executive Master of Business Administration program (EMBA).

Faculty of Education Field Programs Research Fellowships
Value: $2,400 (Master's) $2600 (PhD)
Application Deadline: by the end of the second month of the semester preceding the semester of tenure
Terms of Reference: A one-semester award for students who have identified the topic of “teacher inservice professional development” as their area of interest and plan to undertake a thesis in which the investigation is closely related to the work of field programs in the Faculty of Education. Students may receive the award only once during the term of their graduate program.

Samuel and Leatrice Cohen Prize in Environmental Physiology
Value: $800
Application deadline: September 30
Tenable: January
Terms of reference: One prize to recognize the best student paper resulting from graduate research in the field of environmental physiology.
The Graduate Prize in Computing Science
Value: $150
Application deadline: January 30 (by nomination)
Tenable: May
Terms of reference: One prize is awarded to the top graduate student in computing science from income earned from the Graduate Prize in Computing Science endowment fund.
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: maximum of $250 each
Application deadline: January 15, September 15
Tenable: May or January
Terms of reference: Travel grants for graduate students in the School of Criminology 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 (by nomination)
Tenable: January
Terms of reference: 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.

Dr. J.V. Christensen Graduate Scholarship
Value: $300
Application deadline: September 30
Tenable: Spring semester
Terms of reference: One award for a graduate student who is pursuing, or intends to pursue, a graduate degree in history or archaeology.

Barry Clark Memorial Graduate Scholarship in Pre-Twentieth Century English Literature
Value: $800
Application deadline: September 30
Tenable: January
Terms of reference: One award for a graduate student in English, specializing in pre-twentieth century English literature.

Coastal Zone Canada (B.C.) Association Graduate Scholarship in Coastal Studies.
Value: $750
Application deadline: May 30 (by nomination)
Tenable: September
Terms of reference: One award to provide financial support for a graduate student focussing on community-based approaches to coastal management, specific to issues within the province of BC. Student must be affiliated with the Centre for Coastal Studies.

CONECO Graduate Scholarship in Communications
Value: $12,000
Application deadline: September 30
Tenable: January and May
Terms of reference: One two-semester award for a graduate student in Communication.

Israel Chertkow Memorial Scholarship in Gerontology
Value: $150
Application deadline: September 30 (by nomination)
Tenable: January
Terms of reference: Awarded to an outstanding student engaged in research or study in gerontology.

Gordon Diewert Graduate Scholarship in Kinesiology
Value: $1,200
Application deadline: September 30
Tenable: January
Terms of reference: 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.

Doug Drummond Research Fellowship
Value: $2,500
Application Deadline: May 30
Tenable: Fall
Terms of Reference: A one-semester award for a graduate student pursuing research on subjects related to the planning and management of the environment and infrastructure of the City of Burnaby. The fellowship is granted in recognition of the work of Doug Drummond, Mayor of the City of Burnaby (1996-2002) in building effective relationships between the City of Burnaby and Simon Fraser University.

EbcO/Epic Graduate Scholarships in Expert Systems
Value: $700-$1,400 each
Application deadline: September 30 (by nomination)
Tenable: January
Terms of reference: One or more scholarships valued between $700 and $1,400 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
Dr. E. A. Fattah Graduate Scholarship in Criminology
Value: $2,000
Application deadline: September 30
Tenable: January
Terms of reference: An award 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.

Dr. Marguerite Fauquenoy Graduate Scholarship in French
Value: $500
Application deadline: September 30 or January 30
Tenable: September
Terms of reference: One award 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 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: January 30
Tenable: September
Terms of reference: One award for a graduate student in French.

Mahatma Gandhi Memorial Scholarship in Kinesiology
Value: $1,000
Application deadline: January 30
Tenable: May
Terms of reference: A scholarship 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.

BC Council of Garden Clubs
Value: $750
Application Deadline: May 30
Tenable: September
Terms of reference: A scholarship for a student in the Master of Pest Management Program whose course of studies emphasizes horticultural pest control. The recipient must be a Canadian citizen.

Glen Geen Graduate Scholarship in Marine Biology
Value: $500
Application deadline: September 30
Tenable: January
Terms of reference: One award 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: $600
Application deadline: September 30
Tenable: January
Terms of reference: The Aulinger Award in Gerontology 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.

Harrison Graduate Scholarship in Chemistry
Value: varies
Application deadline: September 30 (by nomination)
Tenable: Spring semester
Terms of Reference: Awards equal to one semester’s tuition fees will be disbursed to one or more candidates in a master’s or doctoral program in Chemistry who do not currently hold an NSERC grant or other award of equal or greater value. Candidates must be nominated for this award by the department of Chemistry Scholarship committee with the approval of the Chair of the Department.

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 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 in memory of Dr. Seaman Morley Scott will be awarded annually to a female graduate student who is a Canadian citizen who demonstrates high meritorous performance in her academic program.

International Reading Association Scholarship
Value: $700
Application deadline: January 30
Tenable: January
Terms of reference: One scholarship 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 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.

Jewish Women International Graduate Award in Gerontology
Value: $500
Application Deadline: May 30 (by nomination)
Tenable: Fall
Terms of reference: A one-semester award for a graduate student who is pursuing or intends to pursue a Master of Arts degree in Gerontology. A student will be nominated for the award by the Director of the Gerontology Program.

Billy Jones Memorial Graduate Scholarship
Value: $2,500
Application deadline: September 30 (by nomination)
Tenable: January
Terms of reference: An award 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.

Dr. Tai Whan Kim Memorial Graduate Scholarship in Languages and Linguistics
Value: $1,000
Application deadline: May 30
Tenable: September
Terms of reference: One award 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 B.C. History
Value: $500
Application deadline: January 30
Tenable: May
Terms of reference: One or more scholarships for graduate students possessing high academic standing and a special aptitude for research and wishing to undertake postgraduate work in the field of British Columbia history.

Law Foundation Graduate Scholarship in Restorative Justice
Value: $5,000
Application deadline: May 30 (by nomination)
Tenable: Fall and Spring
Terms of reference: A two-semester award for a student who is pursuing or intends to pursue a graduate degree in Criminology focusing on research conducted within the Centre for Restorative Justice. A student will be nominated for the award by the Co-directors of the Centre for Restorative Justice.

Frank A. Linville Graduate Scholarship in Sensory Science
Value: $6,000
Application deadline: May 30
Tenable: Fall
Terms of reference: One semester awards for students pursuing a graduate degree program whose research is on sensory science. 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.

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 financial support for a graduate student in biological sciences with a particular emphasis in intellectual ability, originality and ability in research.

MacMillan Bloedel MBB Graduate Scholarship
Value: $4,400 (MSc)
Application deadline: September 30
Tenable: January
Terms of reference: One or more scholarships for Master of Science students carrying out research in the Department of Molecular Biology and Biochemistry.

MacMillan Bloedel MBB Graduate Scholarship
Value: $5,000 (PhD)
Application deadline: September 30
Tenable: January
Terms of reference: One or more scholarships for Doctor of Philosophy students carrying out research in the Department of Molecular Biology and Biochemistry.

Marie Magrega Graduate Award in Gerontology
Value: $500.00
Application deadline: September 30
Tenable: any semester
Terms of reference: Established in memory of Marie Magrega by her son, Dr. Dennis Magrega, to promote
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and encourage the study of Gerontology. One award will be disbursed annually to a graduate student registered in the MA program in Gerontology. The student must be nominated by the Director of the Gerontology Program.

Management of Technology MBA Graduate Scholarships
Value: $10,000
Application deadline: by nomination
Tenable: any semester
Terms of reference: 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 Graduate Scholarship in English
Value: $10,000
Application deadline: May 30 (by nomination)
Tenable: two consecutive semesters
Terms of reference: one or more scholarships will be awarded to students in a graduate program in English.

Temple Maynard Memorial Graduate Bursary in English
Value: $2,000
Application deadline: May 30
Tenable: September
Terms of reference: One bursary for a graduate student in English.

MBB Alumni Graduate Scholarship
Value: varies
Application deadline: September 30
Tenable: any semester
Terms of reference: One award for a graduate student who is in the first nine semesters of a master’s program or in the first 15 semesters of a doctoral program and who is conducting research in molecular biology and biochemistry.

Colin McPhee Graduate Scholarship in Fine Arts
Value: $4,400 for a master’s student, $5,000 for a doctoral student
Application deadline: April 15
Tenable: September
Terms of reference: A one-semester award for a student pursuing a graduate degree in any art discipline in the School for the Contemporary Arts. A student who applies for a Graduate Fellowship will automatically be considered for this scholarship.

Alan Mekler Memorial Graduate Scholarship
Value: $1,000
Application deadline: May 30
Tenable: September
Terms of reference: One award for a graduate student in mathematics specializing in pure mathematics with preference given to students in logic.

Methanex Corporation Graduate Scholarship
Value: $5,500 per year
Application deadline: by nomination
Tenable: any semester
Terms of reference: The award is for a two year period representing the corporate sponsorship portion of an NSERC Industrial Postgraduate Scholarship (IPGS). To be eligible, the NSERC IPGS recipients must spend 20% of their time working for Methanex Corporation. The NSERC IPGS holder must be nominated for the Methanex award by the graduate program chair (in the department that the NSERC IPGS is held) to the Dean of Graduate Studies.

National Council of Jewish Women (Vancouver Section) Graduate Scholarship in Women’s Studies
Value: $700
Application deadline: September 30
Tenable: January
Terms of reference: One scholarship of approximately $700 for a graduate student in the first, second or third semester of a women’s studies.

Hemingway Nelson Architects Graduate Scholarship
Value: $1,500
Application deadline: September 30
Tenable: January
Terms of reference: One award for a graduate student carrying out research in the Department of Molecular Biology and Biochemistry.

Marshall Noble Memorial Graduate Bursary in Chemical Ecology
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: One bursary for a graduate student in the Chemical Ecology Research Group in the Faculty of Science.

NSERC Graduate Student Conference Travel Grants
Value: up to a maximum of $700
Application deadline: one month prior to proposed travel date
Tenable: any semester
Terms of reference: Applicants must be registered full-time in a master’s or doctoral program in a field supported by NSERC in the natural sciences, life sciences and engineering and who are presenting a paper or chairing a session at a national or international meeting of a professional association or equivalent group. Awards are valued up to a maximum of $700 towards the air fare and registration fees only.

Dr. M. Sheila O’Connell Graduate Scholarship in Children’s Literature
Value: $1,500
Application deadline: September 30 (by nomination)
Tenable: January
Terms of reference: One scholarship will be awarded in the spring semester to a graduate student majoring in the field of children’s literature within the Faculty of Education or the Department of English. Students will be nominated by the Faculty of Education and the Department of English.

Dr. M. Sheila O’Connell Graduate Publication Scholarship
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: For a student pursuing a graduate degree with a concentration on children’s literature within the Faculty of Education or the Department of English. The scholarship is intended to assist candidates in writing and publishing a children’s story.

Anne Peters Pinto Graduate Scholarship in Women’s Studies
Value: $1,500
Application deadline: September 30
Tenable: January
Terms of reference: One award for a graduate student in Women’s Studies.

Petro-Canada Graduate Scholarship in Earth Sciences
Value: $3,000
Application deadline: September 30
Tenable: January
Terms of reference: One scholarship to a student pursuing a graduate degree in earth sciences 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 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 or more scholarship(s) awarded annually to graduate students in the School of Communication with a particular interest in issues related to broadcasting or cable.

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 for a graduate student in the Faculty of Education in recognition of scholarly merit and the advancement of education practice.

Phillip Rutherford/Harper Collins Memorial Bookstore Internship
Value: $1,000
Application deadline: January 30
Tenable: May
Terms of reference: One or more awards for graduate students in History.

ScotiaBank Graduate Scholarship for Women Entrepreneurs
Value: $5,000
Application deadline: May 30
Tenable: September
Terms of reference: One or more scholarships for women in the field of children’s literature within the Faculty of Education or the Department of English. Students will be nominated by the Faculty of Education and the Department of English.

Fung Chan Yee Shan Memorial Scholarship in Gerontology
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: An annual scholarship for a student pursuing an MA degree in Gerontology.

Stevenson Graduate Scholarship in Political Science
Value: $1,250
Application deadline: May 30 (by nomination)
Tenable: Fall semester
Terms of reference: One award for a student pursuing a master’s or doctoral degree in Political Science. Preference given to students carrying out research in the Department of Political Science. Students will be automatically considered for this scholarship.

The Sulzer Bingham Pumps Inc. Graduate Scholarship
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: One award for a master's or doctoral degree in Political Science. Preference given to students carrying out research in the Department of Political Science. Students will be automatically considered for this scholarship.
Terms of reference: One award 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: A two-semester award for a graduate student in the Master of Business Administration Program specializing in marketing, international business or policy analysis.

**Tong Graduate Prizes in Entrepreneurship**
Value: $2,000
Application deadline: May 30
Tenable: Spring and Summer
Terms of reference: Two prizes will be awarded per calendar year to recognize and reward the accomplishments of the most outstanding teams of graduate students – one team in the Management Technology MBA Program and the other enrolled in the Executive MBA Program. Teams compete for the prize on the merits of the business plan submitted as part of their course requirements. The prize funding will be divided equally among the members of the winning teams following the course. Nominations will be made by the Associate Dean, Graduate Programs, Faculty of Business Administration.

**Ethel Barbara Tuck Graduate Scholarship in Education**
Value: $12,000
Application deadline: September 30
Tenable: Spring and Summer semesters
Terms of reference: A two-semester award for a graduate student pursuing a master's degree in education who intends to practice as a teacher specializing in remedial reading with children or youth experiencing reading difficulties.

**VanCity Environmental Graduate Scholarship**
Value: $5,000
Application deadline: May 30
Tenable: September and January
Terms of reference: A two-semester scholarship 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 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 or May
Terms of reference: One award 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 for a student pursuing a master's degree in Publishing Studies.

**Lis Welch Graduate Scholarship in Education**
Value: $2,800
Application deadline: September 30
Tenable: two consecutive semesters
Terms of reference: For a master's or PhD student in the Faculty of Education, Preference will be given to a Canadian citizen or landed immigrant.

**Garfield Weston Foundation/BC Packers Limited Graduate Fellowship in Marine Sciences**
Value: $10,000
Application deadline: May 30
Tenable: September, January and May
Terms of reference: A one-year award for a graduate student pursuing science-based educational, research and/or 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: May
Terms of reference: One scholarship awarded 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 awarded 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 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 for a graduate student in the Master of Pest Management Program specializing in crop protection, plant pathology and nematology.

### University Administered External Awards

**Imperial Order of the Daughters of the Empire War Memorial Doctoral Scholarships**
Value: $12,000; $15,000
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).
Eligibility: Canadian citizens; must have done or be doing postgraduate work.
Value: $12,000 for study in Canada, $15000 for study within the Commonwealth. Note: A candidate must apply in the province of the university from which he/she has graduated. Further information is available from the Office of the Dean of Graduate Studies.

**Mackenzie King Open Scholarships**
Value: $8,000
Application deadline: February 1
Terms of reference: One award will be offered for study in any field at any university.
Eligibility: Graduates of any Canadian university.
Value: $8,000.
Deadline: February 1 to Dean of Graduate Studies

**Mackenzie King Travelling Scholarships**
Value: $11,500
Application deadline: February 1
Terms of reference: 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.
Deadline: February 1 to Dean of Graduate Studies.

**Natural Sciences and Engineering Research Council Awards**
Value: varies (see below)
Application deadline: October 15
Tenable: annual
Terms of reference: One scholarship awarded to students for the first and second years of postgraduate study either at the master's or doctoral level (MA, MSc, PhD).
NSERC PGSA
Value: $17,300 year
Deadline: October 15
Tenable: annual
Terms of reference: Available to students for the first and second years of postgraduate study. Two prizes will be awarded per calendar year.
NSERC PGSB
Value: $19,100 year
Deadline: October 15
Tenable: annual
Terms of reference: Tenable during the third and fourth or fourth and fifth year of doctoral study. All prizes are available from the Office of the Dean of Graduate Studies.

**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. Further information is available from the Office of the Dean of Graduate Studies.

**Michael Smith Foundation for Health Research Trainee Award Programs**
Value: $20,000 per year stipend
Research/travel allowance: $2,500 per year
Application deadline: varies
Tenable: Two years maximum for a master's award, non-renewable; five years maximum for a doctoral award, or combination of master's and doctoral awards.
Terms of reference: Open to highly qualified individuals at the master’s, and doctoral levels who
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wish to pursue a career in an area of health research in BC and whose research fits one of the following: biomedical research, clinical research, research respecting health systems and health services, research on societal, cultural and environmental influences on health and the health of populations. Candidates must be either a Canadian citizen or permanent resident of Canada at the time the award is taken up.

(2) Postdoctoral Fellowship Award
Value: $35,000 to $45,000
Research/travel allowance: $4,000 per year
Application deadline: varies
Tenable: Initially for two years, with the possibility of an additional one year extension.
Terms of reference: To enable highly qualified post graduates to prepare for careers in health research as independent investigators in biomedical research, clinical research, research respecting health systems and health services, research on societal, cultural and environmental influences on health and the health of populations.

Information and application forms are available through the Office of the Dean of Graduate Studies, MBC 1100. Applications, guidelines and information regarding eligibility are also available for download from the MSFRH website located at www.msfrh.org

Social Sciences and Humanities Research Council Awards
Value: $17,700
Application deadline: October 15
Tenable: Any semester
Terms of reference: SSHRC offers doctoral fellowships in the humanities and social sciences. 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. The deadline for applications to the appropriate SFU department is approximately October 15. Website: www.sshrc.ca Further information is available from the Office of the Dean of Graduate Studies.

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.

Applications can be obtained from the Office of the Dean of Graduate Studies.

Awards Administered by the International Council for Canadian Studies
Value: varies
Application deadline: October
Terms of reference: 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-ciec.ca

BC Medical Services Foundation Predoctoral Fellowships
Value: $17,000
Application deadline: April 26
Tenable: three consecutive semesters
Terms of reference: For outstanding new research scientists in the first or second year of doctoral studies in any discipline in the health sciences (gerontology, kinesiology, psychology, education).

BC Medical Services Foundation Summer Fellowships
Value: $5,000
Application deadline: January 11
Tenable: Summer semester
Terms of reference: Fifteen awards for outstanding graduate students in the health sciences (gerontology, kinesiology, psychology, education) to conduct summer research in any discipline in the health sciences.

Canadian Federation of University Women Fellowships
A candidate for any of the following awards must be a Canadian citizen or must have held a permanent 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 Value: $10,000
Deadline: November 15.
Tenable: one year
Terms of reference: One fellowship of $10,000 is awarded annually to a pre-doctoral woman scholar in any field of study (master's degree or equivalent) at least one year into doctoral program; may be studying abroad.

Professional Fellowship
Value: $5,000
Deadline: November 15.
Tenable: one year
Terms of reference: 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
Value: $1,000
Deadline: November 15.
Terms of reference: Three grants of $1,000 each are to assist in refreshment, special 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
Value: $1,000
Deadline: November 15.
Terms of reference: This award of $1,000 is open to any woman scholar who holds a bachelor's degree from a Canadian university 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
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, 57, Qual Wilson, CH 1201, Geneva, Switzerland.

Commonwealth Scholarship Plan
Value: varies
Application deadline: October
Tenable: two years
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.

J. Armand Bombardier Internationalist Fellowships (formerly Celenese Canada Internationalist Fellowships)
Value: $10,000
Application deadline: March 1
Tenable: one academic year
Terms of reference: Fellowships to Canadians and permanent residents of Canada who wish to pursue studies, conduct research, or work abroad to develop their international awareness. A key objective is to further Canada's participation in the world economy. Targeted at outstanding university graduates of proven academic merit in any discipline and demonstrated personal suitability. Applicants must hold at least one university degree (no longer than five years from the date of application), or are currently in the final year of a degree program. Fellowships are non-renewable. Information and application forms are available through the Office of the Dean of Graduate Studies, MBC 1100. For full information about these awards, visit the J. Armand Bombardier Internationalist Fellowships website at www.cbie.ca/canstu.

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
Terms of reference: Annual scholarship, ranging from $2,000 to $4,000 from the American Society for Offshore Mechanics & Arctic Engineering (ASME).
For graduate students at Simon Fraser University, University of British Columbia, University of Victoria, University of Saskatchewan, University of Regina and University of Manitoba, with preference to applicants doing thesis work that applies to offshore mechanics, arctic or pipeline engineering.

Queen Elizabeth II British Columbia Centennial Scholarship Value: $20,000
Application deadline: March 31
Tenable: Any semester
Terms of reference: The purpose of this 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 a) who has attended any British Columbia public university for a minimum of 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 Office of Corporate Relations, 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.

Soroptimist Foundation of Canada
Value: $5,000
Application deadline: January 31

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. Eligibility: registered in a graduate program or accepted for the final year of a four year undergraduate program. Must be Canadian citizens or permanent residents. For further information contact the Dean of Graduate Studies Office.

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. Application forms are available from the Office of the Dean of Graduate Studies.

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. 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: $3,600
Awarded: Fall, Spring, Summer

Terms of reference: Undergraduate and graduate students. The awards are based on financial need and satisfactory academic standing.

Laure (Pat) Band and Richard W. Band Bursary for First Nations Students
Program code: GEBO-540
Value: $400
Awarded: Fall, Spring, Summer

Terms of reference: The bursary is granted in any semester based on financial need and community service to a student who is a member of the Squamish, Fort Langley, or Cheam First Nations and who have demonstrated volunteer involvement in service to the university or the community at large. The bursary may be granted to graduate or undergraduate students in all disciplines and fields of study. The successful student will have completed a minimum of 30 credits and will have achieved a minimum cumulative GPA of 2.33. The application should include a discussion of the student’s volunteer involvement in community activities and the impact on the student’s status in the Squamish, Fort Langley or Cheam First Nations.

Birks Family Foundation Bursary
Program code: GPBO-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, 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
Program code: GEBO-586
Value: $600
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 honour 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 Kosk.

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.

Father Della-Torre Bursary
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.

Graduate Emergency Bursaries
Program code: GUBO-401
Value: $100
Awarded: Fall, Spring, Summer

Terms of reference: Bursaries are available to graduate students who have critical financial need.

Hamber Foundation Bursary
Program code: GPBO-559
Value: $1000
Awarded: Fall

Terms of reference: Women students with satisfactory academic standing and need for financial assistance.

Bayline and Sharon Johnson Bursary
Program code: GEBO-523
Value: $1100
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 Matusick Family Studies Bursary
Program code: GEBO-708
Value: $450
Awarded: Spring
Terms of reference: Of 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.

Minerva Foundation Bursaries
Program code: GPBO-606
Value: $1000
Awarded: Fall
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to women who are full-time graduate students in any faculty with preference given to single mothers.

Jo-Ann Mychaluk Bursary
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: $300
Awarded: Spring
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: GEBO-737
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: 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 of discipline. The recipient will be a single parent with preference given to entering students.

Olimath Club Bursary
Program code: GEBO-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 Olimath Club is an organization of senior (60 years) students. Office of the Registrar Bursary for Physically Challenged 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-822
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.

Mrs. Rosalie Segal Endowment Fund for Students With Special Needs
Program code: GEBO-604
Value: $500
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’ Co-ordinator.

Simon Fraser University 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.

Simon Fraser University Disabled Graduate Student Award
Program code: GUBO-850
Value: $2000
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.

TSSU Member Child Care Bursary
Program code: GUBO-550
Value: variable
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.

University Women’s Club of Vancouver Bursary
Program code: GPBO-575
Value: $985
Awarded: Spring
Terms of reference: A female student in any faculty enrolled in any program of study leading to a degree. The basis of the award is demonstration of financial need and satisfactory academic standing.

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: $1000
Awarded: Spring
Terms of reference: Undergraduate and Graduate students registered full time 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.

Olga and Richard Murray Bursary in Applied Sciences
Program code: GEBO-725
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: To a graduate student specializing in quality of life issues in 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.

Dr. Tom Richardson Memorial Graduate Entrance Bursary
Program code: GEBO-726
Value: $1400
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: The bursary assistance program is limited to full-time students studying in Health Sciences. The funds are directed to students who have completed at least two years of post-secondary education and can demonstrate financial need. Areas of study include any of the following: Pre-Med program, Kinesiology, Biomedical Engineering, and Gerontology.

Bursaries for Arts Students
Adaline May Clark Bursary
Program code: GEBO-589
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.

Charles Drugan & Rose Anne Doonan Bursary in Labour History
Program code: GEBO-542
Value: $250
Awarded: Fall, Spring, Summer
Terms of reference: The bursary will be granted to a graduate or undergraduate student pursuing research in Labour History in the Faculty of Arts. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance.

Aird Dundas Flavelle Memorial Bursary
Program code: GEBO-659
Value: $1200
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.

Ancie and Arthur Fouks Bursary in Publishing Studies
Program code: GEBO-526
Value: $1000
Awarded: Fall
Terms of reference: One or more bursaries will be awarded annually in the Fall semester to a student enrolled in a degree program in Publishing Studies. Awards may also be given to graduate students undertaking a Master Program in Publishing Studies. Student must have a minimum of 85 credit hours. The successful applicant should have financial need; a satisfactory academic standing and a demonstrable intent to pursue a career in the publishing industry. Applicants must submit to the Publishing Studies Program Committee a resume, including education and work history, and at least one short sample of professional, academic or business writing or portfolio piece to be considered for the award.

Keith Gilbert Loughlin Bursary in Gerontology
Program code: GEBO-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.

MATCH International Centre Bursaries in Honour of Rosemary Brown
Program code: GPBO-607
Value: $625
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to full-time undergraduate or graduate students in the Department of Women's Studies.

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.

L. R. (Bunny) Wright Memorial Bursary
Program code: GEBO-537
Value: $300
Awarded: Fall, Spring, Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance, to a student(s) of the Graduate Liberal Studies program.

Bursaries for Business Administration Students
Faculty of Business Administration Alumni Bursaries
Program code: GEBO-531
Value: $500
Awarded: Summer
Terms of reference: Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Faculty of Business Administration.

Aird Dundas Flavelle Memorial Bursary
Program code: GEBO-659
Value: $1200
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.

J. Rose Memorial Bursary
Program code: GUBO-400
Value: $1500
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/Jeann Beaty Memorial Bursary in Education
Program code: GEBO-519
Value: $700
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.

Faculty of Education Alumni Bursary
Program code: GEBO-533
Value: $500
Awarded: Summer
Terms of reference: Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Faculty of Education.

Hildegard and Cornelius Renner Graduate Bursary in Education
Program code: gebo-517
Value: $800
Awarded: Fall, Spring, 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: GEB0-594  
Value: $1000  
Awarded: Fall, Spring, Summer  
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 programs 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: GPBO-667  
Value: $1000  
Awarded: Spring  
Terms of reference: Undergraduate and Graduate students registered full time 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.

**Urea Formaldehyde Foam Insulation Action Association Bursary**  
Program code: GEB0-607  
Value: $250  
Awarded: Fall, Spring  
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: The bursary assistance program is limited to full-time students studying in Health Sciences. The funds are directed to students who have completed at least two years of post-secondary education and can demonstrate financial need. Areas of study include any of the following: Pre-Med program, Kinesiology, Biomedical Engineering, and Gerontology.

**Vancouver Horticulture Society Bursary**  
Program code: GEB0-590  
Value: $700  
Awarded: Fall, Spring  
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.

**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 60 days.
- Students must have a demonstrated financial need and source of repayment.
- Undergraduate students must be registered in a minimum of nine credit hours of normal graded courses in the semester of application. Challenge, audit, and credit free courses will not be considered.
- Graduate students must be registered for residence credit in an approved full-time program.
- Students must apply on the SFU Emergency Loan application form to 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.

**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 a 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 who have more than 8 months (34 weeks) of previous post-secondary study but less than 32 months (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 the Canada Study Grant funding. A detailed booklet describing the program in full is available at Financial Assistance or www.bcbsap.bc.ca.

**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% or 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 $4,675 in BCSAP each semester. The maximum for students with dependent children is $7,395 a semester. You can apply for BCSAP for either one semester or two semesters at one time (e.g. fall only, spring only, fall and spring).

A student in need of a Canada Student Loan/BC Student Assistance must first apply on-line at www.bcbsap.bc.ca. Alternatively, paper application packages are available from any post-secondary institution or 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 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 designated Canada Post outlet for submission to the National Student Loan Service Centre for negotiation.

If the student is also eligible for BC Student Assistance, the loan certificate and/or grant cheques (BC/Millennium Scholarship cheques) will be mailed to the student from the Student Services Branch, usually at the midpoint of the period of study for which assistance was awarded, and the student will then take the loan certificate to a designated Canada Post outlet for submission to the BC Student Loan Service Bureau for negotiation. Students are advised to keep in constant touch with the bank, or service providers 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 and the appropriate agencies are aware of their full time status. Students should contact their lending institution (bank, credit card provider) 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 the 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. These forms may be obtained from Financial Assistance or the lending institution. For appeals, reassessments or other concerns, please contact Financial Assistance.

**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 student 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
Federal grant programs are available to students with permanent disabilities. For Canada Study Grant for Students with Permanent Disabilities, check with the Disabilities Services Officer in MBC 1250, or call 604.291.3112. For Canada Study Grant for High-Need Students with Permanent Disabilities, contact Financial Assistance in MBC 3200 or call 604.291.4356 for further information.

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.

The Loan Remission Program
If you have a BC Student Loan negotiated prior to August 1, 2000 (Guaranteed or Risk Sharing), the Loan Remission Program may assist in the reduction of your BC Student Loan debt. If you have a BC Student Loan negotiated after August 1, 2000 (Direct Lend), this loan may be included when calculating your total debt, but will not be eligible for loan remission. You will not be eligible for consideration under the Loan Remission Program if you have Direct Lend BC Student Loans only. For further information and eligibility on the Loan Remission Program, contact: Loan Remission and Management Unit, Student Services Branch, Ministry of Advanced Education or visit the Student Services Branch website at www.bcsap.bc.ca (debt management tools).

Ministry of Advanced Education
Mailing address: PO Box 9173 Stn Prov Govt, Victoria, BC, V8W 9H7.
In Victoria call 250.387.6100; in the Lower Mainland call 604.660.2610; in North America call toll-free 1.800.561.1818, TTY 250.952.6832, Fax 250.356.9455 or toll-free fax in North America 1.888.262.2112, www.bcsap.bc.ca

International Students

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. SFU's school code is 008444. A Student Aid Report (SAR) is then issued to the student. SFU does not receive the SAR electronically because we are a foreign school. If you do not receive the original eight page SAR, you will need to contact FAFSA to request one. To apply for Stafford Loans, the student must submit the signed SAR to Financial Assistance, with a promissory note and school certification, obtained from a state guarantee agency. New, first time borrowers must also complete an entrance interview at www.mapping-your-future.org.
Financial Assistance calculates the student's costs, completes the school section of the application, and then 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 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. Bursaries are awarded on the basis of financial need, but only as supplemental funding, not as core funding needed to meet immigration requirements. 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.

Work-Study Program
The SFU Work-Study program provides part time on-campus jobs for full time students. To participate in this program, students must have a minimum CGPA of 2.0, and be a registered full time student (minimum of 9.0 credit hours for undergraduate students, or be registered as a full time graduate student). Funding is limited and selection is based on the student's level of need. Apply to Financial Assistance approximately six weeks prior to the start of the semester. Application forms are available at Financial Assistance in MBC 3200 and on our website www.reg.sfu.ca/fa.

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 fiassist@sfu.ca
Faculty of Applied Sciences

9861 Applied Sciences Building, 604.291.4724 Tel, 604.291.5802 Fax, http://fas.sfu.ca

Dean
B.S. Lewis BA (Hamilton), MA, PhD (Iowa)

Associate Deans
R.D. Cameron BA.Sc, PhD (Br Col)
W.S. Parkhouse BPE (Alta), MPE, PhD (Br Col)

Director, Diversity and Recruitment
H. Matsui MSc (London School of Economics)

Graduate Degrees Offered
Master of Applied Science
Master of Applied Science (Information Technology)*
Master of Applied Science (Interactive Arts)*
Master of Arts
Master of Engineering
Master of Resource Management
Master of Science

Doctor of Philosophy
“*For information about these programs, see “Simon Fraser University Surrey” on page 19.

General Regulations
For admission requirements, registration, residence requirements and time limit for completion of degrees, see “Graduate General Regulations” on page 309.

School of Communication

6141 Robert C. Brown Hall, 604.291.3595 Tel, 604.291.4024 Fax, www.sfu.ca/communication

Director
M. Laba BA (York, Can), MA, PhD (Ntl)

Graduate Program Chair
A.C.M. Beale BA, MA, PhD (McG)

Faculty and Areas of Research
For a complete list of faculty, see “School of Communication” on page 125.

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. Baika – 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
Z. Druck – documentary media; visual technologies; cultural institutions; critical social and cultural theory; discourse analysis
A. Feenberg – contemporary philosophy of technology study; democratizing technology; online education; critical social theory
R.S. Gruneau – popular culture, media; communications and cultural theory
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.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; relationship between communication, development and democracy; political communication and opinion research; cultural movements and cultural rights
W.D. Richards – communication/social networks, network theory; network analysis strategies and methods, network analysis software
R.K. Smith – new media technology and society; surveillance and the information society; education and technology policy issues; innovation management
B.D. Truax – acoustic and electroacoustic communication; audio aspects of media and advertising; electroacoustic and computer music
Y. Zhao – political economy of international communication; development and democracy; media and telecommunication industries in China

Adjunct Professors
S. Brahman – telematics; networking computing; disaster management and emergency communications; telelearning; telehealth; teleworking; J.A.D. Holbrook – measurement and quantitative analysis of innovation and S&T activities; regional systems of innovation; Innovation and S&T policy analysis
M. Lipsett – science, technology and innovation metrics; management of technology; policy development and analysis
R. Onufrijchuk – communication design for media: history and current principles, practices, theories and criticism; organizational communication; communication technologies, play, imagination and the human predicament.

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.

- theoretical foundations in communication studies
- social sciences, or in socially oriented information systems, or biological sciences. However, qualified students will be accepted only if the communication graduate studies committee finds a suitable senior 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 along with the application fee.
- a 3-5 page succinct statement of interests and goals, together with an account of relevant academic and personal background.

• 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 biological sciences, and in the communication discipline.

Students will be accepted only if the communication graduate studies committee finds a suitable senior 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 along with the application fee.
- a 3-5 page succinct statement of interests and goals, together with an account of relevant academic and personal background.
Group 1 contains survey courses that define and map the field in addition to exposing students to faculty interests and research programs. Group 2 contains courses in research methods and methodology that help students with research projects in the field. Group 3 contains courses in various research areas that are available in the school. In Group 4 courses students to do field work or work and study in a professional setting. In Group 5 courses students carry out research and/or reading under the direct supervision of a faculty member. Group 6 refers to the course designations for work on theses, projects, extended essays, or dissertations in process, for colloquia where students present such work, and for comprehensive examinations.

Course Requirements
At least four graduate courses (normally completed before beginning a thesis, a project, or two extended essays) which must include the following, unless otherwise stipulated as a condition for admission:

- one course from group 1
- one course from group 2
- two additional courses, at least one of which is selected from within the school. No more than one may be taken with the same instructor, except by permission of the graduate studies committee.

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 891, 892

Group 5 Courses: Directed Readings and Studies
CMNS 850, 851, 880

Group 6 Courses: Colloquia, Theses and Comprehensives
CMNS 860, 895, 898, 899

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-op program is made through the school’s co-op co-ordinator and the Co-operative Education office.

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, see "Graduate General Regulations" on page 309. In addition to satisfying general admission requirements, applicants are asked to provide

- an application form 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 semester. The annual deadline for applications is January 15. The committee will announce its decisions to applicants before the last week of April.

Degree Requirements
All doctoral candidates complete course work, take a comprehensive exam, and submit a dissertation which demonstrates an ability to make an original contribution to the communication field. Candidates normally satisfy the following requirements.

Course Work
Students must complete course work consisting of a minimum of nine graduate level courses for those entering with a bachelor’s degree (including CMNS 860) or five graduate courses for those who have completed a master’s degree. The graduate studies committee may require additional courses depending on the student’s background and dissertation project. These courses are normally completed before taking the comprehensive examinations, or beginning a dissertation, and will include the following:

- two courses from group 1
- one course from group 2
- a minimum of two additional five credit courses for students entering with a master’s degree, at least one of which is to be selected from within the school and may include other courses from groups 1 and 2.
- A minimum of five additional courses will be required of PhD program students 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 with graduate studies committee permission.
- 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 891, 892

Group 5 Courses: Directed Readings and Studies
CMNS 850, 851, 880

Group 6 Courses: Colloquia, Theses and Comprehensives
CMNS 860, 895, 898, 899
The Comprehensive Examination
With the consent of their supervisory committee, students may apply to take the comprehensive examination following completion of required course work and normally no later than the third year of study. Upon passing, the student will be admitted to full degree candidacy. The examination may be retaken once.

To prepare for the comprehensive exam, the student shall select at least three fields of interest related to communication. At least one field shall focus on either the theory, methodology, or history of communication. The student shall submit a short definition paper, including bibliography, on each of the fields selected in preparation for both a written and oral examination. Specific guidelines for these examinations are available from the departmental graduate secretary.

An Original Dissertation
PhD students complete a doctoral dissertation that demonstrates an ability to make an original contribution to the field of communication.

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 and 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.

Students have the right to discuss their programs and status with communication graduate studies at any stage, to ask for a review of any recommendation or grade, and to appeal any committee, supervisor or faculty decision.

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-semester graduate 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 857-858-5 Selected Topics in Communication Studies
Specialized graduate course offering on a topic related to the current research of school faculty or visiting professor. (0-0-5)

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, of finished chapters for critical review by faculty and students. MA students must complete this course once before proceeding to a thesis defense. 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 898-0 MA Thesis
CMNS 899-0 PhD Thesis

School of Computing Science
Director
Z.N. Li BSc (China UST), MSc, PhD (Wis)
Graduate Program Director
P. Hell BSc (Prague), MSc (McM), PhD (Montr)

Faculty and Areas of Research
For a complete list of faculty, see “School of Computing Science” on page 127.

M.S. Atkins – medical image display and analysis, medical image compression and denoising, human-computer interfaces for medical radiology workstations
P. Berenbrink – probabilistic methods, randomized algorithms, analysis of dynamic processes, ad hoc networks, load balancing, routing and scheduling
B.K. Bhattacharya – computational geometry, computer graphics, motion planning, operations research, pattern recognition, VLSI embedded systems
F.W. Burton – functional programming, parallel computing
T.W. Calvert – information processing in man and machines, biomedical applications, graphics
R.D. Cameron – internet protocols, programming languages and systems, software engineering
V. Dahl – logic programming, computational linguistics, bioinformatics, deductive knowledge bases, information extraction
J.P. Delgrande – knowledge representation, nonmonotonic reasoning, belief revision, reasoning with preferences, logic in computer science, reasoning about action
M.S. Drew – multimedia, computer vision, computer graphics, color
M. Ester – database systems, data mining, text mining, bioinformatics
B.V. Funt – computer vision, colour image analysis
U. Glässer – software systems engineering; mathematical foundations, requirements specification and reverse engineering, and modeling languages and formal description techniques, distributed communication architectures and embedded control systems, languages for telecommunication applications
O. Gu – network communications, parallel/distributed computing, algorithms and computation, machine learning, computational biology
A. Gupta – constructive combinatorics, parallel complexity theory
R.F. Hadley – computational approaches to cognitive science, connectionist models of mental processes, cognitive architecture
L.J. Hafer – constrained optimization, mixed-integer linear programming, scheduling
R. Harrop – medical applications, automata theory, logic
W.S. Havens – artificial intelligence, constraint programming, intelligent systems
P. Hell – computational combinatorics, algorithm graph theory
R.F. Hobson – VLSI embedded systems, advanced digital circuits, parallel computer architecture, processor design
Degrees Offered
The school offers programs leading to the MSc and PhD in computing science. It provides 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 MSc program admission, 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.

For admission to the PhD program, a student must satisfy the University admission requirements stated in Graduate General Regulations 1.3 (page 309) 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>
<th>Area II – Computing Systems</th>
<th>Area III – Knowledge and Information Systems</th>
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<tbody>
<tr>
<td>algorithms and complexity</td>
<td>operating systems and networks</td>
<td>artificial intelligence and robotics</td>
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<tr>
<td>formal logic and language semantics</td>
<td>computer design and organization</td>
<td>database and information retrieval systems</td>
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<tr>
<td>discrete mathematics operations research</td>
<td>programming languages and compilers</td>
<td>numerical and symbolic computing</td>
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<td>software methodology and engineering</td>
<td>computer graphics and interfaces</td>
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<td>The course requirements for the MSc and PhD</td>
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<td>degrees each have a distribution requirement</td>
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<td>to ensure breadth across the major areas defined</td>
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<td>of courses and sub-areas selected from each of</td>
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<td>the three major areas. At its discretion, the graduate</td>
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<td>breadth evaluation committee may accept requests</td>
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<td>to define sub-areas other than those in table 1 to</td>
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<td>satisfy MSc or PhD breadth requirements.</td>
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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 others (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 remainder of the supervisory committee.

Graduate General Regulations 1.6 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 defense 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
Thesis MSc students must complete a total of 30 credit hours of graduate work (five courses) and a thesis which is equivalent to 15 credit hours of work. Four of the five courses must be taken in computing science. At least one course must be chosen from each of the main Areas I, II and III from Table 1, and two courses must be at the 700 level. Courses must also show breadth in four sub-areas. Project MSc students must complete 30 credit hours of graduate work (eight graduate courses), and a project which is equivalent to six credit hours of work. At least six of the eight courses must be taken in the School of Computing Science. The courses must include at least one 700 level course in each of the Area I, II and III from Table 1. Courses must also show breadth in two sub-areas in each main area. Any 700 level course used to satisfy the MSc breadth requirement might be waived and replaced by an 800 level course. In such cases, the student must produce convincing evidence to the graduate program committee that they have taken a comparable course or has comparable training in industry.

A student may take one relevant course outside the School of Computing Science. This course is subject to approval by the student’s senior supervisor and the graduate breadth committee.

Depth Requirement
Thesis MSc students are required to demonstrate depth of knowledge in their research area through a thesis seminar and defense based on their independent work. Students should consult with members of their supervisory committee, and formulate and submit a written thesis proposal for approval. This should not be done any later than the third semester.
Faculty of Applied Sciences – School of Computing Science

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 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 combinatorial 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 level. 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, non monotonic 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 programs which emulate the reasoning abilities of 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 831-3 Functional Programming**
This course will cover functional programming including introduction to a functional programming language, program transformation and verification, implementations 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 concurrence control; distributed snapshot taking, distributed fail-safe 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 database design and database 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 two separate entities: 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 multimedia, virtual reality, cyberspace). Recommended: CMPT 363 or equivalent (instructor discretion).

**CMPT 878-3 Scientific Visualization**
This course presents advanced topics in the field of scientific visualization. Topics may include: 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, multiple 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
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
D.I. Kim – spread-spectrum communications, wireless communications, and packet radio networks
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 technology, sensors and actuators design, integrated circuit design, (application of micromachining for biomedicine and biotechnology) microelectronic processing, process and device simulation
S. Payandeh – robot mechanics and control, modeling and control of grasping and manipulation, interpretation of contact forces and tactile images, kinematic geometry of mechanisms
A.H. Rawicz – reliability physics and engineering, physical transducers, technology, nonlinear optics, biomed engineering, assistive devices, photonic diagnostic tools
M. Saif – estimation and control theory, model based fault diagnosis, large scale systems, optimization, and applications of the above to engineering systems
S.P. 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 control, signal processing, digital communications

Associate Members
For areas of research, refer to the department listed.
P.N.S. Bawa, Kinesiology
R.F. Frindt, Physics
J.A. Hoffer, Kinesiology
*ermitus

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 are electronics; communications and signal processing; intelligent systems; and control theory. 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 CGPA 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. All students must take ENSC 820. Students must also specialize in an area of study and take the required course or courses(s) as follows. Students specializing in communications must take ENSC 805 and 810. Those specializing in electronics must take one of ENSC 851, 852 or 853. Those specializing in intelligent systems or control theory must take ENSC 805, 810, 851, 852 or 853.

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 project completion, the student makes 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 submits the project report and presents 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. “Graduate Fees” on page 316.

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. In consultation with the senior supervisor, the courses will normally be selected from the list below, except that ENSC 820 may not be used towards the course requirement of the MASc degree. 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.

Research Seminar
All MASc students are required to register for ENSC 800 in the fall and spring semesters. In addition to attending the course, students are encouraged to give one or two talks during the course of their MASc program.

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 313.

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 supervisory committee.

See “Graduate General Regulations” on page 309 for other PhD program admission requirements.

Residence Requirement
Students will conform to the residence requirement as outlined in General Regulations 1.7.3 (page 312).

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 has been given.

Degree Requirements
Course Work
The minimum requirement is 18 credit hours beyond the one of the MASc degree. Six of these hours will be for prescribed courses in the option in which the student is enrolled; alternatives can be substituted with the 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, except that ENSC 820-3 may not be used towards the course requirement of the PhD degree. Additional courses may be required to correct deficiencies in the student's background.

Research Seminar
All PhD students are required to register for ENSC 800 in the fall and spring semester. In addition, PhD students are required to present at least one research seminar per year in ENSC 800.

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 times 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 (page 314). Students conform to residence requirements as defined in 1.7.3 of the Graduate General Regulations (page 312). The senior supervisor will be an engineering science faculty member approved by the school'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 (see above). 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 (page 312).

Research Seminar
PhD students present at least one research seminar per year as 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

- Communication theory
- ATM network performance evaluation
- Optical telecommunication 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 circuits
- CMOS compatible micromachining
- Embedded VLSI systems
- Low power, low noise, high frequency circuits
- Optoelectronic devices
- Photonics and laser applications in engineering
- Reliability engineering
- Sensor – principles and applications
- VLSI circuits for telecommunications

Intelligent Systems and Control Group

- Design optimization algorithms
- Robotics intelligent design
- Intelligent control of robotic systems
- Intelligent manufacturing systems
- Model-based fault diagnostics in control systems
- Multivariable control systems
- Nonlinear control systems
- Numerical modelling of heat transfer
- Robotic synthesis

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.
- 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
- The application of theories in probability, random variables and stochastic processes in the analysis and modelling of engineering systems. topics include: a review of probability and random variables; random deviation generation; convergence of random sequences; random processes; auto correlation and power spectral-density; linear systems with stochastic inputs; mean-square calculus; AR and ARMA models; Markov chains; elementary queuing theory; an introduction to estimation theory. Areas of application include digital communications, 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 sequences estimation). Sub topics of the equalization section include pulse shaping and eye diagrams. The emphasis may vary slightly in different offerings. Prerequisite: ENSC 802 or permission of instructor.

ENSC 810-3 Statistical Signal Processing
- Processes techniques for continuous and discrete signals with initially unknown or time-varying characteristics. Parameters estimation; Bayes, MAP, maximum likelihood, least squares the Cramer-Rao bound. Linear estimation, prediction, power spectrum estimation, lattice filters. Adaptive filtering by LMS and recursive least squares. Kalman filtering. Eigenmethods for spectral estimation. Implementation issues; fast and numerical methods of computation are considered throughout. Prerequisite: ENSC 802 and 429 or their equivalents.
- ENSC 815-3 Multirate Signal Processing
- An advanced digital signal processing course. Topics include: sample rate conversion; multirate and polyphase representations and implementations; multirate filter banks and the discrete wavelet transform; modulated filter banks. Applications are drawn from areas such as transmultiplexing, echo suppression, signal compression and modulation. Prerequisite: ENSC 429 or equivalent.
- 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 organized, and handing over the completed project to a customer or another team. A writing workshop emphasizes techniques for writing proposals, and writing and controlling documentation. Note that ENSC 820 will not count towards the course work requirement of students enrolled in the MASc and PhD programs. Prerequisite: permission of instructor.
- ENSC 832-3 Mobile and Personal Communications
- Modern wireless 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: ENSC 429 or 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 behavior 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.

ENSC 835-3 High-Speed Networks

Techniques needed to understand and analyse modern data communications networks. Basic architecture of packet networks and their network elements (switches, routers, bridges), and the protocols used to enable transmission of packets through the network. Techniques for collection, characterization, and modeling of traffic in packet networks. Aspects of traffic management, such as various call admission control and congestion control algorithms in high-speed packet networks and the influence of traffic on network performance. Prerequisite: ENSC 427 or permission of the instructor.

ENSC 850-3 Semiconductor Device Theory

Detailed treatment at the graduate level of semiconductor fundamentals and theory. Electronic properties of the various types of semiconductors; their applications in the design and fabrication of active and passive semiconductor devices, packaging techniques and reliability of integrated circuits.

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 followers; design 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 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, semiconductor and customized integrated circuits. CAD tools. Students are required to complete a project.

ENSC 854-3 Integrated Microsystems and Actuators

Microelectronic transducer principles, classification, fabrication, and applications 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 be required to complete a microfabrication project in the microfabrication lab at ENSC. Prerequisite: ENSC 370, 453, 495 or permission of instructor.

ENSC 855-3 Modern Semiconductor Devices

The course will present 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 parameter, charge recombination, operating principles of modern semiconductor devices such as SiGe or III-V HBTs, MESFETs/HEMTs, photodetectors, quantum well lasers.

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 semiconductors, growth by MBE, MOCVD, characterization of epilayer properties, layers, characterization of epitaxial layers, lithography: optical and electron beam, Schottky and ohmic contact formation, plasma processing techniques such as RIE and PECVD.

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 studies. The main topics are: CMOS technology, cell library design, memory design (SRAM, DRAM, ROM, PLA), arithmetic unit design, and embedded processor design. Parallelism, pipelining, and clocking are also discussed. (3-0-0) Prerequisite: ENSC 450 or equivalent, or permission of the instructor.

ENSC 861-3 Source Coding in Digital Communication Systems

This course presents basics of information theory and source coding with applications to speech/audio, images/video and multimedia. The course first covers the topics of entropy, information, channel capacity and rate-distortion theory. Various techniques used in source coding, such as entropy coding, scalar and vector quantization, prediction, transforms, analysis by synthesis, and model based coding are then discussed. Prerequisite: ENSC 802 or equivalent.

ENSC 883-3 Optimal Control Theory

Review of finite dimensional linear systems represented in state space formulation. Bellman's principle of optimality and dynamic programming with applications to control of discrete and continuous time systems. Introduction to variational calculus, Pontryagin's maximum principle, Hamilton-Jacoby-Bellman Equation, and variational treatment of control problems. Several optimal control problems such as optimal linear quadratic regulator (LQR), optimal tracking and suboptimal output controllers will be discussed. Prerequisite: ENSC 483 or 801.

ENSC 887-3 Computational Robotics

A main goal of computational robotics is to automatically synthesize robot motions to achieve a given task. This course discusses geometric and algorithmic issues that arise in such an endeavour. For example: how can a robot plan its own collision-free motions? How does it grasp a given object? How do we account for uncertainty? The course employs a broad range of tools from computational geometry, mechanics, algorithms and control. The material covers applications in designing devices for automation and in computer animation. The course involves a substantial project which exposes students to practical and implementation issues involved in building automatic motion planning capabilities for robotic systems. Prerequisite: ENSC 438 and a basic course in data structures and algorithms, or permission of the instructor.

ENSC 888-3 Finite-Element Methods in Engineering

Overview of FEM and its use in industry mathematical foundations of FEM; Galerkin method; finite element interpretation of physical problems in one, two and three dimensions; numerical techniques for storing and solving sparse matrices; checking for convergence, error estimation; pre- and post-processing; automatic mesh generation.

ENSC 889-3 3-D Object Representation and Solid Modelling


ENSC 890-3 Advanced Robotics: Mechanics and Control

Robotic applications are extensively involved in various fields such as manufacturing and health care with new, efficient tools and methods having been developed for modelling and co-ordinating such devices. The main focus of this course is to introduce 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 will introduce individuals in modelling and co-ordination of a robotic device. Prerequisite: introductory course in robotics (ENSC 488) 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 750-3 Computer Architecture

CMPT 815-3 Algorithms of Optimization

CMPT 840-3 Special Topics II

CMPT 842-3 Artificial Intelligence

CMPT 843-3 Digital Systems

CMPT 847-3 Expert Systems

BUEC 820-4 Analysis of Dynamic Processes
School of Kinesiology
K9625 Shrum Science Centre, 604.291.3573 Tel, 604.291.3040 Fax, http://fas.sfu.ca/kin
Director
J. Dickinson BA (Birm), PhD (Nott)
Graduate Program Chair
C.L. MacKenzie BSc, MSc, PhD (Wat)
Faculty and Areas of Research
For a complete list of faculty, see “School of Kinesiology” on page 309.
E.A. Accili – ion channels, signal transduction, pacemaker mechanisms of the heart
P.N.S. Bawa – neuroscience
A.P. Blaber – environmental and aerospace physiology
J. Dickinson – motor learning and human factors
D.T. Figueiredo – regulation of carbohydrate metabolism
D. Goodman – motor control and learning
J.A. Hoffer – neural control of movement and neural prostheses
C. Krieger – physiology and pathophysiology of motor control
S.A. Lear – cardiac rehabilitation
C.L. MacKenzie – motor control, human skills
R.O. 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. Robinovich – biomechanics, falls and fall-related injuries in the elderly
D. Robinson – ergonomics and human factors
I. Rossberg-Gempton – social, cultural, and psychological factors of health promotion
M.P. Rosin – environmental carcinogenesis
R.A. Strath – optometry, contact lenses in the work environment
G.F. Takeda – cardiologic biology
A.V. Vieira – biochemistry and cell biology of vitamin and hormone research
M.D. White – environmental physiology
Adjunct Professors
J.M. Berry – environmental carcinogenesis
D.O. Cheyne – psychophysiology of movement; magnetoencephalography
B.D. Fisher – models of perceptual-motor behavior and human-computer interaction
A.J. Lomax – 3D technology for endoscopic surgery and human/machine interaction in laparoscopic surgery
G.I. Moraru – human underwater penetration, technological and physiological aspects
P. Pretorius – physiology of aging
T. Smith – occupational health and safety
L. Zhang – oral carcinogenesis
Admission
For admission requirements, see “1.3 Admission” on page 309. At least 24 hours of appropriate undergraduate science courses are required.
MSc Program
Although the minimal requirements for the MSc are 15 credit hours of graduate courses and a thesis, most supervisory committees require more than the minimum. At least six of these hours must be kinesiology graduate courses. Courses will be chosen by the candidates’ supervisory committee after consultation with the candidate. See “Graduate General Regulations” on page 309.
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, see “Graduate General Regulations” on page 309.
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 School of Kinesiology faculty members, including the senior supervisor and the 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 exam is received. The oral exam is held by the comprehensive exam 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 exam are pass, defer or fail. A student who fails the oral exam may take it again only once. A deferral results in specific conditions of remedial work or re-testing as determined by the examining committee. A deferred evaluation will not be converted to a pass unless the 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 defence by at least one year.
Completed Dissertation
The completed dissertation is judged by the candidate’s examining committee. If the dissertation defence 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 (page 309).
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 806-808-3 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...
adaption to training. Prerequisite: KIN 407, 410 and 430, or equivalent.

KIN 812-3 Molecular and Cellular Cardiology
This course involves biochemical 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 cardio-vascular 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 833-3 Kinanthropometry and Human Development
To provide detailed insights into stratagems 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 Adaptive Control of Body Mechanics
Adaptive control of body mechanics by modifying voluntary muscle activity and reflex feedback will be examined in the context of interaction between humans and their mechanical environment. Experimental approaches and analysis methods will be presented in the laboratory. (2-1-0) Prerequisite: KIN 416.

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 neuroendocrine 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.

KIN 886-0 MSc Thesis
KIN 889-0 PhD Dissertation
Co-operative Education

This program places students in a government or private resource or environmental management agency to gain professional experience in applied problem solving. This optional program can lead to work that is directly applicable to REM 699.

Centres and Institutes

Centre for Tourism Policy and Research

The school plays a leading role in the operation of Simon Fraser University’s Centre for Tourism Policy and Research. The centre undertakes research, offers professional development seminars and workshops, and conducts planning and marketing research projects for public and private sector tourism organizations.

Co-operative Resource Management Institute

REM faculty play an active role in this institute, a unit on the Burnaby Mountain campus that houses natural resources 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 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 and from new opportunities for multidisciplinary, collaborative research programs.

Admission Requirements

Refer to the Graduate General Regulations (page 309) for admission requirements. Contact the School of Resource and Environmental Management directly for an application package (reminfo@sfu.ca). 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 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

Students must complete seven required courses (see below), six graduate elective courses and a research project (REM 699). A minimum of 69 credit hours is required to complete the degree, consisting of 43 required credit hours and 26 elective credit hours. In exceptional cases, if a student provides evidence of advanced education that is equivalent to one of the required courses, a waiver may be granted for that course, thereby reducing the required courses to six.

Prerequisite Courses

All students must be familiar with the material covered in an undergraduate course in parametric and nonparametric statistics.

Required Courses


Elective Courses

To fulfill the six elective course requirements, students generally choose those that support and complement their particular research interests. Students may, in consultation with their senior supervisor, select REM courses and/or courses from other departments.

Doctoral Program

Admission

To qualify for admission, an applicant must satisfy all university admission requirements as outlined in the graduate general regulations. Applicants 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

All applicants must submit the following with their application:

• all university transcripts
• a short curriculum vitae providing evidence of awards, academic performance, publications and relevant research and work experience
• a 500-1,000 word statement of interest describing how this program fits into the applicant’s research and career objectives
• three letters of reference (using the form provided in the application package) from respected academics/researchers who have first-hand knowledge of the applicant’s research capabilities and academic training
• results from the GRE Test and
• official results of the TOEFL and TWE or IELTS exams (for applicants whose first language is not English and whose previous education has been conducted in another language)

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 310.

Transfer from the Master’s Program to the PhD Program

An MRM student who shows exceptional ability may apply to transfer to the PhD program only if the student has the ability to carry out innovative, independent and original PhD level research in that field, and has obtained high academic standing in previous university work. All university regulations governing transfers must be met. Transfers are only permitted when the student has been in the master’s program for two but not more than four semesters.

Transfer applications must be approved by the student’s supervisory committee, the REM graduate studies committee, and the senate graduate studies committee. Transfer students will be eligible to earn only the PhD degree.
**Degree Requirements**

**Courses**
- All REM PhD students must complete 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
- REM 698-3 Field Resource Management Workshop
- and two elective graduate courses

The selection of elective courses must be approved by the student's supervisory committee. All courses in the school can be taken for credit toward a PhD degree except REM 601 and directed studies courses.

Elective courses, which are meant to support the student's preparation for comprehensive examinations and/or dissertation research, may be taken outside REM, if approved by the student's supervisory committee.

The student's supervisory committee may recommend that the student complete courses in addition to the three required and two electives in order to strengthen the student's background in areas directly related to the student's thesis research.

Students who transferred from the REM master's program into the REM PhD program may obtain a course waiver for REM 801, 802, and 698 if they have received credit for these courses within five years of their commencement of the PhD program. Students cannot obtain course waivers for the two elective courses. If a student receives a course waiver, the student is not required to replace the course for which the waiver was received with another course.

Students who have completed the REM master's program and are accepted into the REM PhD program within a period of five years after completing the REM master's program, must substitute other suitable graduate level courses for any of the REM PhD program required courses (listed above) that they have taken as part of the REM master's program. These course substitutions must be approved by the student's supervisory committee.

**Comprehensive Examinations**

To complete the PhD degree the student must pass the REM PhD comprehensive examination that examines the candidate's knowledge and abilities in disciplinary areas that are different from but related to the student's thesis research. The comprehensive examination includes three disciplinary areas, i.e.,

- environmental sciences
- policy and planning in resource and environmental management
- natural resource and environmental economics

To complete the comprehensive examination, the student must prepare three written field statements. The field statements are then evaluated by the comprehensive examination committee in accordance with the policies and procedures of the School of Resource and Environmental Management.

If the candidate fails the comprehensive exam, and this assessment is approved by the graduate studies committee, the student will be required to withdraw from the PhD program.

Detailed information about the comprehensive examination procedures, dates, and deadlines are provided in the PhD Handbook of the School of Resource and Environmental Management.

**Thesis Proposal**

PhD candidates must submit a written thesis proposal by the end of the seventh semester of full time program enrolment. In conjunction with the supervisory committee, students develop a detailed written research proposal which must be defended before this committee. This thesis proposal is intended to demonstrate that the candidate's research abilities are adequate for PhD level research and to determine that the proposed research is feasible and has merit. The student must pass the thesis proposal defence to remain in the program.

**Thesis**

A written thesis based on the candidate's original research in resource and environmental science and management is the final PhD program requirement and must include aspects of at least two disciplinary areas (such as ecology and policy, or toxicology and law). The topic must be approved as noted above and the student's progress will be evaluated annually in accordance with the graduate general regulations. When the thesis is essentially complete, the student must first present it to a departmental colloquium prior to proceeding to the formal thesis defence. This presentation shall form the basis of the supervisory committee's recommendation about defence readiness. All PhD candidates must then pass the formal thesis defence, which is conducted in accordance with University regulations. All other PhD general requirements are as outlined in the graduate general regulations.

**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 (page 309).

**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

**Graduate Courses**

- REM 601-5 The Social Science of Natural Resources Management
  - An introduction to the relevance of social science perspectives, data and analytical tools in resource management, especially as these complement, supplement or critique perspectives from natural science or economics. 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 Applied Environmental Toxicology and Environmental Management of Contaminants
  - A study of the environmental behavior and toxic effects of chemical substances in the environment and the application of methodologies for their assessment and 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 analysing 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 Ecological Economics
  - Introduction to economic concepts for management of the environment and specific natural resources. Key issues are definitions of sustainability, the substitution capability between human-made and natural capital, and the appropriate application of economics to sustainable development analysis and policies.

- 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 quantitative 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 analysis.

- 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 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 and Environmental Management Systems
Evaluation and application of current methodologies for social, economic, and biophysical impact assessment and the ISO 14001 standard for environmental management systems.

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 and Materials Management and Policy
Management strategies and policies to achieve sustainable flows of energy and materials in the economy. Eco-efficiency strategies reduce these flows while resource substitution strategies seek more environmentally benign flows. Applies expertise from economics, ecology, thermodynamics, engineering, geology and behavioral sciences.

REM 651-5 Project Evaluation and Non-market Valuation Methods
This course extends environmental and ecological economics concepts to the field of project appraisal and non-market valuation. Includes the methods and limitations of standard cost-benefit analysis (CBA), as well as new techniques in the valuation of non-market environmental resources and ways to incorporate considerations such as the depletion of natural resources in project work. The course concludes with treatment of a number of alternatives to CBA, including multi-attribute techniques and the precautionary principle. 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. This is primarily a field course in which water and environmental management systems in British Columbia are compared with those in the states of Washington, Oregon, and California.

REM 658-5 Energy and Materials Sustainability Modelling
Theory, background, and practical experience in the use of a range of techniques for policy modelling of energy and materials flows in society with the aim of demonstrating how more environmentally and socially sustainable trajectories can be achieved. Techniques include: simulation modelling, optimization modelling, econometric and other forms of parameter estimation, input-output modelling, game playing models, and integrated systems models. 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 management. 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 693-3 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 Research Approaches for REM PhD Students
This course is designed for all REM PhD students, although considerable course material may be of interest and value to other REM students. The course will emphasize preparing PhD students for their breadth comprehensive exams by discussing and evaluating various viewpoints in published debates related to the three topic areas of comprehensive exams: resource and environmental economics, policy and planning and environmental science. The course will also cover planning and carrying out the PhD research, as well as effectively communicating research results.

REM 899-0 PhD Thesis
Faculty of Arts

Department of Archaeology

Chair
D.V. Burley, MA (New Br), PhD (S Fraser)

Graduate Program Chair
D.E. Nelson BSc (Sask), PhD (McM), 604.291.3673

Areas of Research
See “Department of Archaeology” on page 142 for a complete list of faculty.

D.V. Burley – historical archaeology, cultural resource management, theory, northwest North America, South Pacific

R.L. Carlson – archaeology and ethnology North America, particularly Northwest Coast, Southwest, material culture, and early peopling of the New World, museology, primitive art

A.C. D’Andrea – paleoethnobotany, bioarchaeology, early agriculture, ethnoarchaeology, subsistence, East Asia, Africa

J.C. Driver – zooarchaeology, cultural ecology, Western Canada, American Southwest

K.R. Fladmark – northwest North America, geoarchaeology, paleoindian, Quaternary studies, Canadian prehistory, native cultures of North America

B.M.F. Galdikas – primate behavior, orangutan research and conservation

B.D. Hayden – lithics, ethnoarchaeology, Northwest Interior, Southeast Asia, hunter/gatherers, cultural ecology, method and theory

P.M. Hobler – Northwest Coast, Southwestern field techniques, historic components at Native sites

R.W. Jamieson – historical archaeology, Spanish colonialism, domestic architecture, material culture, ethnohistory, Andean South America

D. Lepofsky – Northwest Pacific, Oceania, cultural ecology, paleoethnobotany, households, prehistoric land use

J.D. Nance – statistical archaeology, southeast North America, method and theory

D.E. Nelson – archaeological methods, stable isotope analysis, radiocarbon dating by accelerator mass spectrometry

G.P. Nicholas** – northeast North America and Plateau, hunter/gatherers, cultural ecology, indigenous peoples and archaeology, wetlands, Quaternary studies

R. Shuter Jr. – paleoanthropology of East and Southeast Asia and Japan, prehistory Oceania, paleoindian New World

M.F. Skinner – paleoanthropology, paleoethnobotany, paleoecology

D. Yang – physical anthropology, ancient DNA, DNA diagnosis of diseases from ancient remains, molecular forensic anthropology, molecular archaeology, North America, East Asia, Europe

E.C. Yellowhorn** – plains and fur trade archaeology, oral history, traditional knowledge, ethno-science, archaeoastronomy, indigenous archaeology

Associate Members
For areas of research, refer to the department listed:

J.M. D’Auria, Chemistry

D.J. Huntley, Physics

R.W. Mathewes, Biological Sciences

*Joint appointment with First Nations studies

**Joint appointment with sociology and anthropology

Areas of Study
The department offers specialization in archaeometry, art, ceramic analysis, cultural resource management, ethnoarchaeology, forensic anthropology, geoarchaeology, historical archaeology, lithic analysis, palaeoanthropology, palaeoethnobotany, skeletal biology 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 gaining knowledge and expertise in particular areas of research interest.

Depending on enrollments, individual or group courses can be arranged in addition to regularly scheduled courses.

Degree Requirements
A distinction is made between program enrolment formal advancement to degree candidacy. A candidate is a student who successfully completes advancement to candidacy requirements (defined below). Normally, advancement happens once the SFU residency 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. Students are expected to complete all MA program requirements in a maximum of nine semesters of full-time registration.

Course Requirements
Students complete a minimum of three graduate courses including ARCH 871 and 876, and a thesis. Students may be required to take additional courses and must take ARCH 872/873 each semester it is offered. ARCH 873 credit does not constitute part of the normal MA requirement. Grading for ARCH 872 and 873 will be satisfactory/unsatisfactory (S/U). Course requirements, thesis prospectus and colloquium presentation should be completed by full-time attendance students by the end of the second semester.

Advancement to Candidacy
Advancement to candidacy requirements follow:

• completion of two of the minimum three graduate courses.

• preparation of thesis prospectus. The prospectus discusses the proposed research and general background relevant to the research and is submitted to the supervisory committee and approved before step 3 is undertaken.

• after approval of the thesis prospectus, and after consultation between the student and his/her supervisory committee, the student will present a colloquium, the topic of which shall be the substance of the prospectus.

The colloquium is not to be considered a defence of the prospectus, per se, but is a means whereby the student may benefit from the collective expertise of the department.

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. The thesis should be focussed on problem-oriented research, involving the conceptualization of a problem, and the collection, analysis and interpretation of data. It should not normally exceed 100 pages of text. Students are expected to complete the MA thesis in a maximum of six semesters of full-time registration.

PhD Program
This program consists of these sequential steps: course requirements, comprehensive exam, thesis
prospectus, colloquium presentation, advancement to candidacy, thesis completion and defence.

Course Requirements
Course requirements are determined in consultation with the supervisory committee. In addition to the comprehensive exam and thesis, normal course requirements consist of a minimum of three graduate courses including ARCH 871 and 876. 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 ARCH 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 three regional or topical areas. Grading is on a pass/fail basis but the examination or parts thereof may be repeated once, at the department’s discretion.

Advancement to Candidacy
Formal advancement to candidacy shall take place when the following have been completed.
• completion of two of the minimum three graduate courses and successful performance in the comprehensive exam
• preparation of thesis prospectus. The purpose of the prospectus shall be to discuss the proposed research and general background relevant to the research. The prospectus is expected to be submitted to the supervisory committee and approved before step 3 is taken.
• after approval of the thesis prospectus, and after consultation between the student and his/her supervisory committee, the student will present a colloquium, the topic of which shall be the substance of the prospectus.

The colloquium is not considered a defence of the prospectus, but a means whereby students may benefit from the department’s collective expertise.

Thesis
After the above, students advance to candidacy and complete the thesis. The defence topic should be the thesis itself and related matters. The thesis should represent original, problem-oriented research which makes a significant contribution to knowledge.

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 field work or reading, he/she will be required to attain the necessary language proficiency.

Graduate Courses
ARCH 871-5 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 876-5 Research Design Seminar focusing on the development of thesis research design and data analysis.
ARCH 882-5 Directed Readings in Prehistory Directed readings under the supervision of a faculty member in the prehistory of any selected region of the world.
ARCH 883-3 Directed Readings Intensive readings under the supervision of a faculty member in an area of interest related to the student’s program.

ARCH 884-3 Special Topics
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 885-5 Special Topics
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 886-5 Directed Laboratory/Library/Field Research
Directed laboratory, library or field research under the supervision of a faculty member in an area of interest related to the student's program.

ARCH 888-0 MA Thesis
ARCH 899-0 PhD Thesis

School for the Contemporary Arts
Room 600 SCA, 604.291.3363 Tel, 604.291.5907 Fax, www.sfu.ca/scia, mfa@grad@sfu.ca

Director
M.S. Gottfrt BA (Cida), MA (McG)

Graduate Program Chair
A. Clay BFA (Nova Scotia Art & Des), MFA (Br Col)

Faculty and Areas of Research
S.A. Ali – choreography, text based dance theatre, interdisciplinary performance
C.V.A. Browne – documentary and innovative film production, poetry, fiction, screenplay, poetics, interdisciplinary performance
A. Clay – drawing, painting, text work, installation, contemporary feminist and critical theories
H. Daniel – performance and new technologies
H. Dawkins – social history of 19th century visual art, women's history, feminist, psychoanalytic and cultural theory
M. Diamond – acting, directing, dramaturgy, creative writing
A. Eigenfeldt – music for dance, MIDI systems, digital signal processing
M. Eit – ballet, modern dance, body therapies, choreography, dance education, dance history
J. Garay – choreography, performance, costume design
M.S. Grit – electroacoustic music, film-sound design and scoring
R. Groeneboer – film direction, editing and script writing, film production
P. Gruben – directing, scriptwriting, editing, dramatic feature films
G. Harris – lighting and scenic design
B. Hegland – lighting design, stage design, theatre technology, theatre architecture
D.D. Kugler – directing, dramaturgy
J. Levitt* – film production and theory, independent film making, feminist film criticism, ideological studies, third world film, comedy, directing, women’s studies
J.A. Macfarlane – lighting design for the stage, theatre technology
D.K. MacIntyre – music composition, interdisciplinary composition and performance, collaboration
C. Prophet – choreography and performance

J. Radul – performance, video, photography, sound and text, contemporary theory
A. Smith – drumming, jazz, popular music and accompaniment
G. Snider – sculpture, installation, public art, contemporary art theory
P. Stella – acting, directing, playmaking, dramaturgy
B.D. Truax* – acoustic communication, electroacoustic music and computer music (composition and software development), world soundscape studies
O. Underhill – composition, conducting, contemporary ensembles, music theatre, interdisciplinary collaboration, 20th century theory
C. Welsby – avant garde film and video making, photography and time-based gallery installations
J. Yoon – installation, photography, multimedia image and text, contemporary theoretical issues concerning representation and cultural politics

*Joint appointment with communication
**Joint appointment with women’s studies

MFA Program
The program, leading to a master of fine arts in interdisciplinary studies, provides 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 music, dance, theatre, film, or visual art undergraduate courses, or substantial experience in these fields outside the university. For consideration by the admissions committee, applicants submit a work portfolio of audio or video tapes, scores, slides, films, plays or academic papers. Performing artists may be asked to audition.

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. Normally, 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
plus three of
FPA 883-5 Studio in Fine and Performing Arts I
FPA 885-5 Studio in Fine and Performing Arts II
Faculty of Arts – School of Criminology

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

Centre for Restorative Justice
See “Centre for Restorative Justice” on page 403.

Criminology Research Centre
See “Criminology Research Centre” on page 402.

Feminist Institute for Studies on Law and Society
See page 402.

Institute for Studies in Criminal Justice Policy
See page 402.

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 309 and also see “1.3.8 Conditional Admission” on page 310.

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) and one of
- Research Methods II (CRIM 861)
- Research Methods III (CRIM 862)
- Research Methods IV (CRIM 863)

School of Criminology

2630 Diamond Building, 604.291.4762/3213 Tel, 604.291.4140 Fax, crimgrad@sfu.ca, www.sfu.ca/criminology

Director
R.M. Gordon BA (La Trobe), MA (S Fraser), PhD (Br Col)

Graduate Program Director
P.J. Brantingham AB, JD (Col), DipCriminol (Camb)

Faculty and Areas of Research
See “School of Criminology” on page 154 for a complete list of faculty.

G.S. Anderson – forensic, medical and veterinary entomology
E.C. Boyanowski – community standards and the law, environment, emotion and behaviour, media and crime, group behavior, police, gangs and juvies
N.T. Boyd – critical analysis of Canadian criminal law, homicide, Canadian narcotics legislation, legal control of pornography
P.J. Brantingham – environmental and historical criminology
P.L. Brantingham – environmental criminology, crime prevention through environmental design, criminal justice planning, policy evaluation
J. Brockman – self regulation, crimes and misconduct in the professions, white collar and corporate crime, financial crimes, criminal procedure and evidence, the use of social science research as evidence in court, feminist jurisprudence, methodology and perspectives, women in the professions
B. Burch – penology, corrections, sociology of law, social control, reproduction and law, state theory, electronic monitoring of offenders
W. Chan – critical criminology, feminist jurisprudence, homicides between partners, representations of women and violence, technology and social theory
D.E. Chun – feminist legal theory, crimes of authorities; family, law and social policy; historical sociology of crime, law and social welfare; media representations of women in law; policing violence against women
R.R. Corrado – comparative juvenile justice, terrorism, evaluation research, administration of justice in Canada
E. Elliott – social philosophy of punishment and abolitionism, critical analysis of the prison, women in prison, fear of crime
K. Faith – feminist theory, gender/race/class relations and crime, media imagery of female criminals, philosophical/historical criminology, female incarceration, medieval to 20th century witch hunts, political economy and social problems
W.G. Glackman – research methodology, multivariate statistical techniques, forensic psychology, perceptions of crime
R.M. Gordon – adult guardianship/protection law, abuse and neglect of the elderly, health law including mental health law, young offenders and youth justice, gangs and related groups, restorative justice
C.T. Griffiths – corrections, Native American criminality, deviancy and involvement in the criminal justice system, delivery of criminal justice services in the North, cross cultural studies in juvenile justice
M.A. Jackson – criminal justice administration and planning, judicial attitudes and sentencing behaviour, corrections (including alternatives to incarceration), law enforcement management, psychiatric decision-making, elderly, native, and female offenders, restorative justice
D. Lacombe – sociology of law and deviance, gender relations, political sociology
J. Lowman – prostitution, prostitution law and law enforcement, sociology of punishment, critical theory, research ethics
D. MacAllister – criminal law, criminal procedure and evidence, civil liberties, sentencing theory, restorative justice, policing and police powers, criminal justice accountability, wrongful conviction, legal responses to terrorism, mental health law, jurisprudence
N.A. Madu – correctional counseling, ethical dimensions and issues for helping professionals, rights of persons with developmental disabilities, effective communication and wellness, Zen and the art of helping, application and process of therapeutic theory, multiple dimensions of human potential
R.J. Menzies – assessment of dangerousness, sociology of law, critical criminality, psychiatry and law, dangerousness and violence, clinical and judicial decision-making, history of crime and mental health, research methods
J.A. Osborne – criminal law and procedure, human rights and civil liberties, administration of criminal justice, juvenile justice
T.S. Palys – research methodology, evaluation and assessment, decision-making, philosophy of science/sociology of knowledge
S.N. Verdun-Jones – criminal law, procedure and evidence, comparative criminal law and procedure, jurisprudence, sociology of law, interdisciplinary criminal justice research, history of criminal justice

Associate Members
For areas of research, refer to the department listed.

S. Duguid, Humanities
J. Whatley, Continuing Studies
C. Yerbury, Continuing Studies

Degrees Offered
The school’s graduate programs lead to MA and PhD degrees.
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 review procedure described in *Graduate General Regulation 1.8.2.*

**PhD Program**

**Admission**

The minimum university requirements for doctoral program admission are provided in the *Graduate General Regulations 1.3-3* (page 309). 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 in the program. Those so admitted will 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 master’s program admission.

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 outcome as soon as possible thereafter.

**Note:** Those with two consecutive degrees from SFU’s School of Criminology 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)
- theories of crime I (3 credit hours)
- seminar (3 credit hours)
- at least eighteen (18) credit hours selected from additional curriculum offerings
- achieve satisfactory completion and oral defence 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* (page 314).

**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* (page 313).

**Graduate Courses**

**CRIM 800-3 Theories of Crime**

A comprehensive overview of theories and the development of theoretical knowledge in criminology. This seminar will familiarize students with competing levels of understanding vis-à-vis crime and deviance phenomena. The course will emphasize the integration of historical and contemporary theory, theory construction and testing, and the impact of factors such as ideology, politics and social structure on the emergence of criminological thought.

**CRIM 801-3 Theories of Crime I**

Introductory 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; or 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 topic areas 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 themes: 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 860-3 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 covered will comprise 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,
Department of Economics

3602 Diamond Building, 604.291.3562/3508 Tel, 604.291.5944 Fax, www.sfu.ca/economics

Chair
G. Dow BA (Amherst), MPP, PhD (Mich)

Graduate Program Chair
G. Myers BA (Guelph), MA, PhD (McM)

Faculty and Areas of Research
See “Department of Economics” on page 158 for a complete list of faculty.

D.W. Allen – microeconomic theory, industrial organization

D. Andolfatto – dynamic general equilibrium theory, macroeconomics, labor markets, monetary theory

J. Ariful – macroeconomics, monetary theory, learning and adaptation in economics

L.A. Boland – economic theory and methodology

P. Curry – microeconomic theory, law and economics

J.W. Dean – international finance, developing and transition economies

D.J. DeVore – development, immigration, demography economics

G. Dow – microeconomic theory, theory of organization

S.T. Easton – international trade, economic history

J. Friesen – labor economics

A. Gantner – microeconomics, experimental economics

R.G. Harris – international economics, economic theory

T.M. Heaps – natural resources, regional, mathematical economics

R.A. Jones – monetary theory, macroeconomics, finance

K. Kasu – macroeconomics, international economics

P.E. Kennedy – econometrics, economic education

A. Kessler – contract theory, public economics, labor

B. Krauth – macroeconomics, econometrics

C. Lübsmann – contract theory, industrial organization

S. Mougin – public finance, microeconomic theory

G.M. Myers – public and urban economics

N.D. Ouellet – natural resources, environmental economics

K. Pendakur – labor economics, public finance

C.G. Reed – economic history, applied microeconomics

M. Rekkas – economic policy, political economics, industrial organization

A. Robson – game theory, biological evolution of economic preference

N. Schmitt – international trade, theory, industrial organization

R.W. Schwindt – industrial organization, international trade, public policy toward business

Z.A. Spindler – public choice

*joint appointment with business administration, home department is economics

MA Program

Admission Requirements
See “1.3 Admission” on page 309 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 four options. Under each, ECON 798 and 835 are required in addition to other work, unless a grade acceptable to the graduate program committee has been obtained in equivalent courses. 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

Elective Course Work

The remaining courses beyond those designated as core work will be ECON graduate courses or, with permission of the graduate program chair, courses in graduate business administration and other subjects.

Research and Oral Examination

Under the thesis, extended essay or project option, research papers must meet the standards set out in the Graduate General Regulations (page 309). An oral examination is required covering the topics and guideline readings presented in particular, and program in general, as outlined in the Graduate Regulations.

Final Examination

Under the course option, there will be a final examination (ECON 997) on core subjects, which normally will occur during the final examination period of the students’ third semester in the program.

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 co-op after satisfactory completion of ECON 802, 807 (or 808), 835 and 836 or equivalent.

PhD Program

Admission Requirements
See “1.3.4 Admission to a Doctoral Program” on page 310. 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 comprehensive exams consist of separate examinations in micro and macroeconomic theory and usually encompass 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 second semester.
behavior for the allocation of resources. Prerequisite: ECON 331. Offered once a year.

ECON 803-4 Microeconomic Theory II
The course subsequent to ECON 802 which covers advanced Microeconomic theory on a dynamic and general equilibrium basis. Prerequisite: ECON 802. Offered once a year.

ECON 804-4 Advanced Topics in Microeconomic Theory
The course following ECON 802 and 803 which covers such topics as equilibrium theory, axiomatic analysis, stability analysis, income distribution, dynamic micro models, and models of non-market economics. Prerequisite: ECON 802 and 803 or equivalent.

ECON 807-4 Macroeconomic Theory and Policy
An examination of basic macroeconomic theory, empirical macroeconomic data and models, macroeconomic analysis, and application to economic developments and policy issues. Prerequisite: ECON 798 or equivalent. Offered once a year.

ECON 808-4 Macroeconomic Theory
An analysis of current theories of aggregate economic behavior. Topics covered in this course may include long-run growth, dynamic general equilibrium models, and business cycle analysis. Prerequisite: ECON 798 and 403 (or equivalent). Students who have taken ECON 805 cannot take ECON 808 for further credit. Offered once a year.

ECON 809-4 Advanced 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 fiat 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 ECON 809 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. Prerequisite: ECON 815-4 Portfolio Theory.

ECON 815-4 Portfolio Theory
A study of optimum portfolio selections and diversification of financial assets including cash vis-a-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. This is the same course as BUS 815.

ECON 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. This is the same course as BUS 817.

ECON 818-4 Advanced Topics in Business Finance
Extensions of advanced topics beyond those covered in BUEC 815 and 817. Prerequisite: BUEC 815, 817. This is the same course as BUS 818.

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 802.

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 828-4 Experimental Economics
The course will deal with experimental methodology and design. A number of topics will be covered in the three main areas of experimental economics: markets, games and strategic interaction, and individual decision-making. Students will be expected to design and conduct their own experiments under the supervision of the instructor. (3-1-0)

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 832-4 Computational Methods in Economics
The main part of the course will focus on dynamic economic models and current computational programming. Applications may include growth, business cycles, monetary and fiscal policy, and optimal contracts. The second part of the course will focus on models of learning and bounded rationality. Genetic and stochastic approximation algorithms will be studied. Applications may include the stability of rational expectations equilibria, the evolution of institutions and social conventions, and models of robust control and Knightian uncertainty. (3-1-0)

Prerequisite: ECON 802, 807 or 808, or with the approval of the instructor.

ECON 835-4 Quantitative Methods
An introduction to econometric theory. Application of econometric methods to both time series and cross-section data. Prerequisite: BUEC 333 and ECON 331. 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 837-4 Econometric Theory
The theory of the general linear model and the implications of basic econometric problems such as multicollinearity, autocorrelated residuals, endogeneity, 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 838-4 Topics in Econometrics
The content of this course will depend on the interests of the students. Surveys of current literature and independent study will form the basis of the course. Prerequisite: ECON 837.

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 831.

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
An examination of the determinants and consequences of population growth. Population projections, Fertility and mortality differentials, the impact of the business cycle on fertility and migration. The theory of the optimum population under static and dynamic conditions. Neo-Malthusianism. The economics of high fertility in densely populated and underdeveloped areas.

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 versus private market initiatives (bargaining and green goods) under a variety of assumptions about the economic system.

ECON 861-4 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 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.

ECON 865-4 Regional Economics 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.

ECON 867-4 Regional Development Problems
An applied course in regional economics. 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 351.

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 prior to 1870
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 since 1870
The development of economic thought since 1870 will be examined with special emphasis on the evolution of marginal utility theory, general 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.
Faculty of Arts – Department of English

MA Program

Admission
In addition to requirements in the Graduate General Regulations (page 309), the department requires evidence of academic writing ability in the form of at least two substantial literary essays which are scholarly in format and approach. The papers may be undergraduate essays previously prepared, or ones specially written for this purpose. Applicants intending to specialize in writing and rhetoric may wish to submit a portfolio of representative writings, which should include at least one academic paper.

Programs
This program develops scholars with a critical and comprehensive awareness of English studies. Students concentrating in writing and rhetoric will normally have a substantial background in English studies, but may come from a variety of backgrounds. While offering specialization in one of various areas of strength in the department, the program requires students 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. Option B requires six courses and an MA final paper which is then defended in an oral examination. 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 who are teaching assistants will complete 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 study is permitted (though regulations require that MA students complete work within 12 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 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 310.

Examinations
While the general regulations set the minimum CGPA 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 1.8.3 of the Graduate General Regulations (page 313) may be required.

Option A students take four courses, write a thesis of about 100 pages, and defend it in an oral examination. Thesis option students submit a thesis proposal and defend it in an oral examination. The thesis is expected to contribute at all stages of the program.

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. Required graduate course. The senior supervisor in consultation with the graduate program committee will advise students in their choice of courses.

Field Exams and Thesis Oral
Students must complete 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 defense.

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.

Thesis Oral
The thesis oral ensures coverage in the thesis area. Upon successful completion of field exams, the student submits a reading list by September 15, on the background readings for the thesis area, to the senior supervisor. The supervisory committee for the thesis oral, consisting of the senior supervisor and one other supervisor, responds to the proposed reading list by October 1. The final list is approved by the graduate program committee.

The oral examination on the thesis area and background material will take place by December 15. The oral exam will be approximately two hours. The oral will be graded pass/fail. In exceptional cases a distinction will be recognized.

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 translated in that language. A dictionary is permitted.

The Department of French and the Latin American Studies Program offer courses to help students meet language requirements. For German or Russian courses, consult the Office of the Dean of Arts. For further information and regulations, see Graduate General Regulations (page 309).

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 at least one 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 exam period, 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 change 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, transcendentalism, pre-Raphaelism, modernism and post-modernism are examples of possible topics.

ENGL 804-5 Studies in Canadian Literature
In addition to particular movements and periods in literatures 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 808-5 Theoretical Approaches to print Culture, 1700-1900
An introduction to the history and variety of theoretical approaches to studies of print culture 1700-1900. Students enrolled in the Print Culture 1700-1900 program are required to take this course.

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 graduating 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 2-hour workshops for new teaching assistants which will focus on the teaching of writing in literature courses.

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 Paper or Project

Department of French
Chair
M.C. Fauquenoy LèsL, DrDrcdy (Paris), Chev Palmes Acad France, FRScAn
Graduate Program Chair
G. Poirier BA (Laval), MA, PhD (McG)
Faculty and Areas of Research
See "Department of French" on page 162 for a complete list of faculty.

R. Canac-Marquis – transformational syntax, morpho-syntax, formal semantics, anaphora, second language acquisition
R. Davison – 18th century French literature, correspondence and pedagogy, women writers, emigré writers
M.C. Fauquenoy – French linguistics, sociolinguistics, Creole French dialects
C. Guilbault – experimental phonetics, applied linguistics, dialectology, speech perception
G. Poirier – Renaissance – 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 (sound system, morphology, syntax, lexicon), 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**: Periods and genres; French Medieval literature, Renaissance literature, travel accounts, 18th century literature, poetry and novel of the 19th century, 20th century fiction, poetry and drama, Québécois and Western Canadian French literatures. Critical approaches: literature and society; women writers, history of literature, cultural studies, discourse analysis, interdisciplinary approaches to literature, teaching of literature.

**MA Program**

**Conditions of Admission**

Candidates for admission must satisfy the general admission requirements for graduate studies as shown in *Graduate General Regulations* 1.3.2 (page 300) and 1.3.8 (page 310).

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 satisfactory completion of one or two semesters as a qualifying student (*Graduate General Regulation* 1.3.5 page 310).

Upon admission, each student will be assigned a temporary supervisor.

The program’s degree requirements may be completed ‘with thesis,’ ‘with project’ or ‘without thesis.’ In either case, the student works under a supervisory committee’s direction (*Graduate General Regulation* 1.6 page 312) 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 or MA with project 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, project 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**

Students may be required to complete additional courses to remedy deficiencies or to ensure suitable preparation for the thesis or project research that is proposed.

The MA program has the following minimum requirements.

**MA with Thesis**

Students in the MA with Thesis option must successfully complete a minimum of 15 credit hours of graduate course work from their chosen concentration, either in linguistics or in literature. Within the 15 hours, with the approval of the senior supervisor, students may take up to five credit hours outside the Department of French. In addition, students 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 (page 313) and 1.10 (page 314).

**MA without Thesis**

Students selecting this option are required to complete a minimum of 30 credit hours of graduate course work. With the approval of the senior supervisor, up to 10 credit hours may be completed by taking courses outside the Department of French. In addition, students must take a field examination based on three completed courses. 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**

Course selection must be made in consultation with the student’s senior supervisor.

**Linguistics and Literature**

**FREN 803-5** Research Methods in French Linguistics and/or French Literature

**Linguistics**

FREN 804-5 Topics in the Structure of French I

FREN 805-5 Topics in the Structure of French II

FREN 806-5 Topics in the Acquisition of French

FREN 810-5 Pragmatics and the Structure of French

FREN 811-5 Topics in the Varieties of French

FREN 812-5 Approaches to the Linguistic Analysis of French

FREN 816-5 Sociolinguistic Approaches to French Studies

**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

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

**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**

If English is the home department, both of ENGL 810-5 Graduate Professional Development Seminar Part I and ENGL 811-5 Graduate Professional Development Seminar Part II

**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 (page 313) and 1.10 (page 314).

**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 examination based on three completed courses. Field exam preparation is undertaken on the advice of the supervisory committee.

**Graduate Courses**

FREN 803-5 Research Methods in French Linguistics and/or French Literature

The study of research methods and tools used in French linguistics and/or French literature. Planning a long term research project. (0-2-0)

FREN 804-5 Topics in the Structure of French I

Explores a selection of classic problems of the structure of French (phonology, morphology, syntax, lexicology or semantics) applying a variety of theoretical viewpoints, from a diachronic or synchronic perspective. (0-2-0)

FREN 805-5 Topics in the Structure of French II

Explores, from a variety of diachronic or synchronic theoretical viewpoints, a selection of classic problems of the structure of French not covered in FREN 804. (0-2-0)

FREN 806-5 Topics in the Acquisition of French

New trends and theoretical developments in the acquisition of French as a second language. Study of the contribution of linguistic theory to the teaching and learning of French. (0-2-0)
FREN 810-5 Pragmatics and the Structure of French
Explores a selection of themes in the pragmatics of French, for example paralinguistic features of French, phonostylistics, contrastive structures (French/English). A variety of practical applications may be envisaged: pedagogy, translation, stylistic analysis, etc. (0-2-0)

FREN 811-5 Topics in the Varieties of French
An in-depth study of one of the many varieties of French (in France and in the world) from linguistic and/or sociolinguistic viewpoints, i.e. popular French, Canadian French, French-based Creoles.

FREN 812-5 Approaches to the Linguistic Analysis of French
Studies the contributions made by a selection of French language specialists to the evolution of various aspects of linguistic theory.

FREN 816-5 Sociolinguistic Approaches to French Studies
Explores the relationships between language, society and identity in France and/or in the French-speaking world. The study, from an integrative point of view, of social markers in speech, conversational rules, objective versus subjective norms, attitudes towards language variation and their implications among French speakers. French bilingualism, language planning and the place of French in the world.

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 897-0 MA Project
FREN 898-0 MA Thesis
FREN 999-0 Field Examination

Department of Geography
7123 Robert C. Brown Hall, 604.291.3321 Tel, 604.291.5841 Fax, www.sfu.ca/geography
Chair
R.A. Clapp BA (Yale), MA, PhD (Calif)
Graduate Program Chair
N.K. Blomley BSc, PhD (Brist)
Faculty and Areas of Research
See “Department of Geography” on page 165 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. Brahman – third world development, economic geography, Latin America
R.A. Clapp – economic geography, resource conservation, forest policy
S. Dragicevic – geographic information science, spatial analysis and modelling
A.M. Gill – tourism and community planning, resources management
M.V. Hayes – social geography, population health
R. Hayter – regional development, manufacturing, BC’s forest economy, Japan
E.J. Hickin – fluvial geomorphology
I. Hutchinson – quaternary environments, coastal studies
J. Hydman – feminist, political and cultural geography
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
W.L. Quinton – hydrology of cold regions, runoff processes
A.C.B. Roberts – cultural, historical, pale environments, remote sensing, photogrammetry
M.L. Roseland – regional planning and sustainable communities
M.G. Schmidt – soil science, forest ecology
N.C. Schuurman – geographic information science, spatial data and integration
I. Winton – cultural-historical geography
Associate Member
W.G. Gill, Geography

Areas of Research
The Department of Geography offers MA, MSc and PhD degrees in the Faculties of Arts and Science. Students interested in pursuing an MSc degree in physical geography should see the Department of Geography entry in the Faculty of Science section (page 393).

Emphasis is placed on the application of theoretical frameworks to the analysis of social, economic and physical landscapes, with particular reference to western North America.

MA Program
Admission
Normally, MA candidates should have an undergraduate grade point average of 3.25 to enter the program. Admission for MA students is in the fall semester. Applications for fall admission should be completed by February 1 of that year. Admission to the MA program requires a command of both quantitative techniques and qualitative methodologies. Candidates lacking these must remedy the deficiency by taking courses equivalent to GEOG 521 and 501. The MA candidate, once admitted, works under the guidance of a faculty advisor, pending the choice of a supervisory committee. The supervisory committee, which normally consists of two faculty members, one of whom may be from outside the department, will be chosen by the beginning of the second semester.

Degree Requirements
All candidates for the MA degree are expected to complete the degree requirements (30 credit hours) in six semesters.

The MA program requires the submission of a thesis (18 credit hours). The remaining 12 credit hours will be comprised of required and elective courses. The recommended maximum length of a master’s thesis is 120 pages (including bibliography and end notes, but excluding appendices). The thesis normally involves the conceptualization of a problem and the collection, analysis and interpretation of empirical data.

Normally, MA students will present their proposed research at a one day conference (Research Day) to be held annually in the spring semester. A written proposal should be submitted to the student’s supervisory committee, defended in colloquium and approved by the end of the second semester.

The completed thesis will be judged by the candidate’s examining committee at an oral defence.

Course Requirements
GEOG 600 and 601 are seminars on graduate studies in geography which are offered each fall and spring semester. Grading is on a satisfactory/unsatisfactory basis. Attendance is compulsory in order to obtain a satisfactory grade.

GEOG 604 is a required course for MA students and is offered every year. With the advisor’s consent, the student can request that this requirement be replaced by another course.

One of GEOG 620 and 640, Special Topics courses, will normally be offered each year depending on students’ research interests.

All other courses are offered less frequently, dependent on student demand and faculty availability.

Master of Science Program
The department offers a program leading to the MSc degree in the Faculty of Science. See the Geography entry in the Faculty of Science section (page 393).

PhD Program
For admission requirements, see “Graduate General Regulations” on page 309. Applicants must have completed the MA or MSc requirements at Simon Fraser University or equivalent. Students admitted to the PhD program without an appropriate 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. The supervisory committee, normally consisting of three faculty members, one of whom may be from outside the department, will be chosen by the beginning of the second semester.

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. After consultation with the
supervisory committee, however, students can elect, or may be required to take courses in order to acquire knowledge and skills, including language skills, relevant to their research.

Qualifying Examination
Written and oral qualifying examinations, designed to establish the student’s competence to proceed with doctoral thesis research, will normally be undertaken at the end of the second semester of residence and no later than the end of the third semester. Students who fail the written or oral exam may retake each exam, after a one semester lapse. Both parts of the qualifying examination must be successfully completed by the end of the fourth semester of residence. The qualifying examination committee consists of the members of the supervisory committee (the senior supervisor acts as chair), plus an examiner external to the supervisory committee.

Written exams comprise four papers jointly agreed by the qualifying examination committee. The oral must be held within three weeks of the completion of the written examination. The student is examined primarily in the areas of the topics covered by the written examinations, but questions may range over the entire discipline.

Thesis
Candidates successfully completing qualifying examinations will present a thesis proposal at a departmental colloquium no later than the end of the fifth semester of residence. The supervisory committee must approve the written proposal prior to the start of substantive research. The completed thesis will be judged by the candidate’s examining committee at an oral defence. If the thesis defence is failed, the candidate is ineligible for further degree candidacy in the degree program.

For further information and regulations see “Graduate General Regulations” on page 309.

Geography Graduate Courses
GEOG 600-0 Introduction to Graduate Studies: Fall Semester
Introduction to graduate studies in the Department of Geography at Simon Fraser University, covering formal requirements and practical considerations.

GEOG 601-0 Introduction to Graduate Studies: Spring Semester
Completion of GEOG 600, with an emphasis on the preparation and presentation of the research proposal.

GEOG 604-5 Research Design and Analytical Techniques in Human Geography
Qualitative and quantitative techniques relevant to human geographic research.

GEOG 605-4 Geographic Ideas and Methodology
Contemporary and historical modes of analysis in human geography.

GEOG 606-5 Research Design and Analytical Techniques in Physical Geography
Research design, data collection and quantitative methods in physical geography.

GEOG 611-4 Hydrology
Conceptual and methodological bases of current hydrologic research.

GEOG 612-4 Glacial Geomorphology
Glacial landform-process models; field study of glacial landforms and sediments.

GEOG 613-4 Fluvial Geomorphology
An examination of current conceptual and methodological issues in fluvial geomorphology based on analyses of the primary research literature.

GEOG 614-4 Climatology
Recent theoretical developments in physical climatology.

GEOG 615-4 Quaternary Environments
Recent developments in paleoecology and the study of Quaternary environments.

GEOG 617-4 Soil Science
Soil physics, soil chemistry, soil biology and/or forest soils.

GEOG 620-4 Selected Topics: Economy, Environment and Development
Geographic perspectives on selected topics in economy and environment in Canadian and international contexts.

GEOG 622-4 Theories and Practices of Development
Conditions in the Third World: a review of theories and geographical solutions.

GEOG 626-4 Multinational Corporations and Regional Development
The influence of the policies and structures of multinational corporations on regional economic change.

GEOG 640-4 Selected Topics: Social and Urban Geography
Geographic perspectives on society and the city in Canadian and international contexts.

GEOG 641-4 Morphogenesis and the Built Environment
Evolution of built environments in urban contexts: morphological change and societal processes.

GEOG 644-4 Regional Development and Planning
Regional development in theory and practice with particular reference to resource based hinterland regions.

GEOG 645-4 Resource Management
Economic, social and political aspects of conservation and resource management.

GEOG 646-4 Cultural Geography
Relationships between cultural geography and related fields, particularly social theory and current philosophy.

GEOG 651-4 Advanced Spatial Analysis and Modeling
Perspectives on the description, analysis and prediction of geographical processes using spatial modeling and decision-making in a GIS environment.

GEOG 653-4 Theoretical and Applied Remote Sensing
Theory and applications of analytical processing procedures used with multispectral remote sensing data.

GEOG 655-4 Advanced Principles of Geographic Information Science
Examines data, data structures and computational methods that underlie GIS description and analysis. Illustrates the social science and science links between computers and geography.

GEOG 656-4 Aerial Reconnaissance for Remote Sensing
Theoretical and practical training in the acquisition of airborne multispectral remote sensing data.

GEOG 664-4 Geography, Development Theory, and Latin America
Geographic aspects of theories of development as they have been applied in Latin America.

GEOG 681-4 Law and the Geographies of Power
Case studies of the inter-relations between the social and political construction of law and space.

GEOG 685-4 Resources, Environment and Food Production
A global survey of the geographical context of food production.

GEOG 691-4 Directed Readings
Students may only take this course once during their program.

GEOG 697-0 MSc Thesis
GEOG 698-0 MA Thesis
GEOG 699-0 PhD Thesis

Graduate Diploma in Urban Studies
This is an interdisciplinary program that provides an opportunity to study the city and its functions from several perspectives. The program is aimed at those with a background in the urban professions as well as those who would simply like to learn more about cities. The graduate diploma in urban studies (GDUS) provides a strong foundation in various urban-related disciplines and emphasizes the application of these disciplines to real-world problems and situations.

The GDUS is offered at the University’s Harbour Centre campus, located in the core of British Columbia’s principal urban, national and international centre. The program draws particularly on Vancouver’s experience but also encompasses study of cities in other places and from other times.

Admission
Applicants are normally required to hold an undergraduate degree in one of the urban studies base disciplines (economics, geography, political science, sociology and anthropology). Applications from students with other degrees or with equivalent professional training and experience will also be considered. Admissions decisions will be based on undergraduate grades (normally, a GPA of 3.0 is required), a one page statement of student interest in the program, and letters of reference.

Application
Candidates must submit the following documentation when applying for the program.

- official copy of transcript of undergraduate grades (mailed directly from the granting institution)
- two confidential letters of reference (mailed directly from the referees)
- TOEFL and TWE test scores may be required for applicants whose first language is not English

Financial Assistance
Limited student financial assistance is available.

Diploma Requirements
To qualify for the graduate diploma in urban studies, students must complete a total of 24 credit hours drawn from courses URB 605–698 (see “Urban Studies Graduate Courses” below). Up to two other graduate courses may be substituted for those courses. URB 605 and 698 are required courses.

Urban Studies Graduate Courses
URB 605-2 Introduction to Urban Studies
This course provides an introduction to the field of urban studies at the professional graduate level. The course studies the nature and function of cities from a variety of geographical, social, political and economic aspects. The focus is on Canadian cities but attention
will be given to the historical context and to cities in other parts of the contemporary world. (0-2-0)

URB 610-4 Urban Design: Integrating Theory and Practice

This course is an examination of urban design as a discipline that involves the environmental, aesthetic, social, economic, geographic, ecological, historical, political, and cultural aspects of the built environment. The importance of creative design, the interrelationship between the spatial organization of a city, its efficient delivery of services, the social, cultural and economic considerations of the public realm, as well as the process of change in our pluralistic society will all be considered. (0-4-0)

URB 620-4 Urban Communities and Cultures

This course is an introduction to the anthropological and sociological study of complex urban societies in comparative perspective. It includes study of anthropological and sociological approaches to urbanization, the nature of the city as a social system, and urban communities and cultures. (0-4-0)

URB 630-4 Urban Development, Planning and Policy

The focus of this course is the evolving relationship between state interventions into the city, and dynamics of urban development. The class emphasizes the historical context to urban planning and policy, with particular reference to the Canadian city. (0-4-0)

URB 640-4 Urban Regions and Urban Change

The aim of this course is to develop a perspective on the study of urbanization by applying systematic approaches to specific regional and case contexts. Major theoretical and conceptual themes will be reviewed. Some emphasis will be placed upon the Canadian experience in order to develop a common ground among members of the course and some emphasis will be also placed upon the United States and Western Europe because of the dominance of those collective urban experiences and literatures. However, members of the course will be expected to develop an interest in a particular region, assemble a personal bibliography and report to the class on their enquiries. The list of references given to the class may be perused for selected items to initiate this personal work. Emphasis will be placed upon individual and/or participatory research. (0-4-0)

URB 650-4 Urban Governance

This course is intended to confront students with many of the current administrative, policy, inter-governmental and political challenges of local/urban-city-regional government in the 21st century. It will enable students to critically evaluate the various facets of urban governance and metropolitan governance through an assessment of differing city-regional forms and responsibilities. The primary emphasis is on: social, economic and political sustainability; ethnic, gender and ecological re-definitions of the city; urban fiscal constraints and possibilities; urban governance and local democracy; intergovernmental challenges; urban responses to and re-definitions of re-globalization; case studies of agenda setting and other policy cycle stages. The primary seminar focus is on urban Canada but comparative cases will be drawn from the United States, the EU, Asia and other jurisdictions. (0-4-0)

URB 660-4 Economy, Land Use and Transportation in Cities

This course is an introduction to urban economics and the economic functions and spatial structure of cities. Cities have high population densities and complex economies based on frequent contacts between people and firms. The course concentrates on why and how cities grow and the influence of public policy on the economies of cities. This course includes examination of the relationships between urban transportation and land use and their influence on such phenomena as urban sprawl. (0-4-0)

URB 690-4 The City in Art, Culture and Politics

The city has long been a subject of, and site for, cultural reflection. This course recognizes that cultural and political ideas are not context-free. The course focuses on modern and postmodern thought and their relation to the evolving city. (0-4-0)

URB 695-4 Selected Topics in Urban Studies

This course provides an opportunity for students to study one or more urban studies topics that lie beyond the scope of the other courses. This course will normally provide a more research-intensive experience than other graduate urban studies courses. (0-4-0)

URB 698-2 Seminar in Urban Studies

This course provides an introduction of material studied in other urban studies courses and allows intensive study of a few special topics. Students will normally take this course in their last semester of study. (0-2-0)

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 (WoNt)

Faculty and Areas of Research
H. Chaudhury – design for dementia, place-based reminiscence, long term care and self in dementia G.M. Gutman – seniors’ housing, long term care, dementia, health promotion and aging, program evaluation B. Mitchell – families and aging, intergenerational relations, youth transitions, quantitative methods, health promotion and social policy N. O’Rourke – geriatric depression, normal memory function and mental health, personality and well-being, widowhood, informal care of persons with dementia A.W. Wister – social demography, health and lifestyle promotion, environment and aging, program evaluation, design and statistical methods

Advisors
A.V. Wister BA, MA, PhD (WoNt)

Courses (0-2-0)

GERO 803-4 Analytical Techniques for Gerontological Study

GERO 801-4 Health Policy and Applied Issues in Gerontology

GERO 302-3 Health Promotion and Aging*

GERO 401-3 Aging and the Built Environment

GERO 404-3 Health and Illness in Later Life and one of

GERO 302-3 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 complete seven courses: two core courses, two required courses from the chosen concentration, and three electives. They also complete a project. Under special circumstances, students may complete a thesis in lieu of the project, and take one less elective course. (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 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
Elective Courses

Students may fulfill elective 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 802-4 Development and Evaluation of Health Promotion Programs for the Elderly

GERO 830-4 Human Factors, Technology and Safety

GERO 840-4 Special Topics in Gerontology

GERO 889-4 Directed Studies

GERO 898-0 MA Project

GERO 899-0 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 (page 309).

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 GER 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 (page 309).

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 behavioral research problems in gerontology.

GERO 810-4 Community Based Housing for Older People

This course presents an in-depth examination of theory, research and policy related to planning, designing, developing and managing institutional living environments 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 822-4 Families, Communities and Health

Critically evaluates and synthesizes key theory, research and health promotion policy related to the intersection of aging families, communities and health. The principal theoretical perspectives will include: life course theory; social, human and cultural capital; ecological models; political economy; and community empowerment approaches.

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 840-4 Special Topics in Gerontology

This course offers an opportunity to offer a specialized course in an area germane to the program but on a topic that is outside of the regular courses.

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 898-0 MA Project

A project must be written under committee supervision for formal examination as part of the program requirements for students in the project stream.

GERO 899-0 MA Thesis

A thesis must be written under committee supervision for formal examination as part of the program requirements for students in the thesis stream.

Health Promotion/Population Health and Aging

GERO 820-4 Principles and Practices of Health Promotion

GERO 822-4 Families, Communities and Health

Conditions of Admission

MA candidates must satisfy the following minimum requirements, totalling 30 credit hours.

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 312 for supervisory committee information. All MA degree candidates must satisfy the following minimum requirements, totalling 30 credit hours.

Department of History

Graduate Program Chair

D. MacLean BA (NY State), MA, PhD (McG)

Faculty and Areas of Research

See "Department of History” on page 168 for a complete list of faculty.

W.L. Cleveland – Middle East

J.S. Craig – early modern England

A.S. Dawson – Latin America

P.E. Dutton – ancient and Medieval

C.I. Dyck – modern Britain

J. Eyferth – modern Chinese

M.D. Fellman – United States

K. Ferguson – 20th century United States

D.P. Gagan – hospitals, health care, social classes

A. Gerolymatos – Greece and Balkans

H.J.M. Johnston – Canada

T. Kuhn – Middle East

M. Leier – Canada, labor

J.I. Little – Canada, French Canada

D. MacLean – Middle East, Islam, India

J. Matsumura – East Asia

P. Raibmon – modern France

R. Panchasi – modern Europe

P. Rainmon – First Nations history

D.A. Ross – Africa

N. Roth – modern Germany

A. Seager – Canada, labor

M.L. Stewart – Europe, social, women’s studies

J.O. 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 and PhD students will be in the fall semester only. Applications for fall should be completed by February 15. Applicants must submit a sample of their written work.
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 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 basis. It should present a coherent thesis topic and place within the framework of existing area work. Each project option student writes 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 who have 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 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 made up of the supervisory committee and the graduate program committee chair. 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, 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 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.

All doctoral students are expected to take at least one graduate seminar course for credit in their first year. 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 coursework. 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 312 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 at the beginning 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
Early modern European 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
deep politics 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
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 309 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 this requirements.

Graduate Courses

HIST 814 is a compulsory MA seminar offered each fall 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
HIST 812-5 Special Topics in 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
Although most students will focus on the 20th century, recognizing the importance of understanding colonialism and the origins of the nation-state. Particular emphasis on contemporary Latin America cultural, socioeconomic, and political dimensions in humanities, exploring the interrelationships between associated with both the social sciences and the study and research leading to a master of arts degree. This program offers an interdisciplinary course of *emeritus* Latin American History and Culture trans-national investment. macroeconomics; the labor markets, the informal economy and poverty; agrarian structures and environmental sustainability; and policies; development theories and strategies; development and human rights; global versus local influences in national political processes.

**Admission Requirements**
Admissions are conducted biennially. Applicants must satisfy the Latin American studies graduate program committee that they are well prepared academically to undertake Latin American studies graduate work. See page 309 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.

MA program acceptance 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 have 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 by 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 845-6 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 (page 310).

**Graduate Courses**
**LAS 800-5 Approaches to Latin American Studies** An annual 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**

360 Faculty of Arts – Latin American Studies Program

**Latin American Studies Program**

5053 Academic Quadrangle, 604.291.3518 Tel, 604.291.5799 Fax, www.sfu.ca/las

**Graduate Program Director**
J.A.C. Brohman BA (Car), MA, PhD (Calif)

**Faculty and Areas of Research**
M. Escudero – Spanish literature, 17th century colonial literature, Latin American modern theatre
A. Hira – economic development and policy, international relations, political economy and political science
G. Otero – economic and political sociology, Mexico, North America

**Associated Faculty**
R.E. Boyer* J.A.C. Brohman, Geography
A. Ciria* R. Clapp, Geography
M. Gates, Sociology and Anthropology
J. Garcia* R. Jamieson, Archaeology
R. Newton* P. Wagner* 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 are conducted biennially. Applicants must satisfy the Latin American studies graduate program committee that they are well prepared academically to undertake Latin American studies graduate work. See page 309 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.

MA program acceptance 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 have 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 by 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 845-6 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 (page 310).

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**LAS 800-5 Approaches to Latin American Studies**
An annual 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

**Acting Director**
S. Duguid A8 (III), MA, PhD (S Fraser)

**Graduate Program Chair**
J. Sturrock BA, MA (Oxf), PhD (Br Col)

**Steering Committee**
H. Adam, Simons Chair
J.L. Berggren, Mathematics
S. Duguid, Humanities
M. Fellman, History
H. Gay, History
R.L. Koepke, Liberal Studies
J. Martin, Education
K. Mezei, English

**Advisor**
J. Koczwarski, 2109 Harbour Centre, 604.291.5159 Fax, www.sfu.ca/gls, glsp@sfu.ca

This program, which leads to a master of arts, liberal studies, is designed for adults returning to part time study. The program, which is affiliated with the Department of Humanities, is offered at the 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. The interdisciplinary seminars provide the opportunity for wide reading, careful reflection, and intense discussion. They are taught by SFU 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. In addition to the normal graduate admission requirements, applicants must demonstrate readiness through reference letters, written work samples, and normally an interview. Exceptionally, the graduate program committee may recommend admission to those who do not meet normal requirements but who, by reason of prior experience, strong credentials and demonstrated competence, are particularly suited.

Degree Requirements

Students complete six seminar courses and choose one of the three options listed below:

• submit two extended essays for oral examination
• submit one project for oral examination
• 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 (LS 800 and 801) and normally are completed in the first two semesters. The remaining courses may be selected from those offered within the program. Note: students choosing the third option will complete eight courses. 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 two graduate courses in other departments 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 (page 314). One of the two additional courses (see above) must be LS 898 and 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, emphasizes a community of inquiry and discussion over independent research and entails several special expectations within the graduate study general regulations.

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 graduate program committee chair. 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, it has been approved for part-time study.

Liberal Studies Courses

LS courses are intensive seminars. Core courses LS 800 and 801 develop a common readings base. The other six seminar courses may vary in approach and content each time they are offered, and will address a central tension in our intellectual lives, trace some of its sources, and consider its impact on our experience of the present. All courses are cross-disciplinary and may draw on faculty from across the University.

Graduate 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 on whom 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 conflict 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 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 chair 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 P. 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


Chair
P. McFetridge, BA, MA, PhD (S Fraser)

Graduate Program Chair
(to be announced)

Faculty and Areas of Research

See “Department of Linguistics” on page 174 for a complete faculty list.

C. Burgess – accent and fluency perception, speaking rate effects, and second language acquisition research design.

D.B. Gerds – syntax

C.-H. Han – syntax, semantics, computational linguistics

N. Hedberg – syntax, semantics, pragmatics, cognitive science

T. Heft – computer assisted language learning and computational linguistics

A. Kochetov – phonological markedness universals and their grounding in speech production and perception.

P. McFetridge – computational linguistics

Z. McRobbie – experimental phonetics, phonology, Finno-Ugric linguistics, sociolinguistics

J.D. Mellow – second language acquisition and teaching, First Nations languages

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

For areas of research, refer to the department listed.

M. Boelicher Ignace, First Nations Studies, Sociology and Anthropology

F. Popowich, Computing Science

W. Turnbull, Psychology

J.W. Walls, Humanities

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
co-operation with other departments under the special arrangements provisions of the Graduate General Regulations 1.3.4. (page 310).

Time Required for the Program
Although University regulations allow a five year time limit for MA degree completion and eight years for the PhD, (including the MA degree work), 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 309.

MA Program
Admission
Students must demonstrate adequate linguistics preparation. It is not possible for those having little or no academic linguistics preparation to gain clear program admission or admission as a qualifying student. See "1.3.5 Admission Under Special Arrangements" on page 310 and "1.3 Admissions" on page 309 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 degree of competence in at least one language other than English.

PhD Program
Admission
Students must demonstrate a substantial linguistics background. Direct PhD program admission without an MA in linguistics, or equivalent is normally not possible. For general admission requirements, see "1.3. Admission" on page 309.

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 a PhD thesis in accordance with regulations. The written proposal must be approved by the supervisory committee prior to the start of substantive research.

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 808-4 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 869-4 Directed Research
LING 897-4 Research Seminar
LING 898-0 MA Thesis
LING 899-0 PhD Thesis

J.H. Tietz — metaphysics, history of modern philosophy, history of 19th century German philosophy
E. Tiffany — ethical theory, philosophical psychology, philosophy of mind and language
D. Zimmerman — ethics, social and political philosophy, philosophy of mind, medical ethics

Application Procedures
Please contact the department for an application packet, deadline and other information.

MA Program
Admission
See "1.3.3 Admission to a Master’s Program" on page 309 for university admission requirements. In addition, the applicant must have either a 3.33 cumulative GPA or a 3.5 GPA in third and fourth year philosophy courses. Honors degrees, where available, are preferred. The department pays close attention to letters of reference and writing samples. A student whose undergraduate work does not satisfy the above conditions may be required to complete additional undergraduate courses as part of the program, or to register as a qualifying student before consideration for admission.

Degree Requirements
These requirements apply to all MA candidates.

• the completion of six courses, one of which may be a 900 or 400 level undergraduate course, provided a grade of A- or better is achieved in it and permission of the graduate studies committee is granted.
• demonstrated competence in such foreign languages as the graduate studies committee requires for the proposed research.
• demonstrated competence in formal logic at the level of PHIL 210, or higher when relevant to his or her research.

There are three ways to complete a Master’s degree in the Department of Philosophy:

Non-Thesis Option
This is the recommended degree for most students applying for philosophy PhD program admission after completing an MA. The program broadens and deepens philosophical education and allows the student to develop the necessary materials for a successful PhD program application. The non-thesis option has the following specific requirements.

Distribution Requirements
The candidate completes at least one course in each area of philosophy: value theory; metaphysics and epistemology; history of philosophy. Taken together with upper division undergraduate courses taken previously or in addition to the MA requirement, a total of three courses in each area are required.

Extra Course Work
There is one additional course required.

Cumulative Grade Point Average
A CGPA of 3.5 is required.

PHIL 899
In this course, that is completed under the direction of the senior supervisor, a paper from a previously completed graduate course is revised and revised to a standard suitable in form and content for submission to a professional journal. The resulting paper normally shall not exceed 30 pages.

Final Examination
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 the paper and the student’s performance at the examination.
Specialized Thesis Option
This option is intended for those who have a particular project and supervisor in mind when they enter the program, and especially those with interdisciplinary interests. It has the following specific requirements:
• The student normally enters the program with a well-defined project and a permanent (as opposed to interim) supervisor.
• The program and a course of study is approved by the graduate studies committee.
• Up to three of the required courses may be from outside the Department of Philosophy.
• A thesis, normally no more than 100 pages in length, giving evidence of independent critical ability is submitted and successfully defended.

Degree Requirements
• Course Requirements
Eleven courses are required, including up to two 300 or 400 level courses, provided the grade is A- or better and approval is granted by the graduate studies committee.

Distribution Requirements
The candidate must complete at least two courses in each of the following philosophy areas: value theory; metaphysics and epistemology; history of philosophy.

Substitute Courses
Up to four graduate courses taken here or at another institution prior to enrolling in the PhD program may, with the approval of the graduate studies committee, count toward course and distribution requirements.

Area Examinations
Three area examinations are required. Each area must fall within a different one of the following four categories: metaphysics and epistemology; value theory; logic/formal studies; and history of philosophy. Each examination is based on a reading list whose mastery shall not take more than one semester. Please see the department for further details.

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 must either have or acquire competence in formal logic up to standard metathey for first order logic, or higher when considered relevant to their research.

Dissertation Prospectus
The final step before advancement to candidacy (or ABD status) is the presentation and approval by the supervisory committee of a dissertation prospectus, consisting of a critical literature survey, an extended abstract, and an outline of the proposed dissertation. The candidate presents the proposed plan of study to the department at an open colloquium.

Preliminary Dissertation Examination
After completing at least one dissertation chapter, but well before completion, the student must pass the preliminary dissertation examination. The purpose of the examination is to determine whether the quality of the dissertation, as it is progressing, is satisfactory and to any necessary suggest improvements. A preliminary dissertation examination is an oral examination carried out by an examining committee, consisting of the student’s supervisory committee plus at least one other member of the department, along with any relevant extra-departmental faculty. It is based upon at least one completed chapter, a dissertation outline and any other material the student wishes to submit. There is no limit to the number of times a student may attempt to pass this examination.

Dissertation
PhD students write and defend a dissertation embodying original philosophical research.

Graduate Courses
In addition to courses offered at SFU, graduate students may also satisfy their course requirements by taking courses offered at the University of British Columbia, after consultation with their supervisor.

Metaphysics and Epistemology
PHIL 802-5 Selected Topics in Epistemology
PHIL 803-5 Selected Topics in Metaphysics
PHIL 804-5 Selected Topics in Philosophy of Science
PHIL 805-5 Selected Topics in Philosophy of Mind
PHIL 806-5 Selected Topics in Philosophy of Language

Logic and Formal Studies
PHIL 812-5 Selected Topics in Logic I
PHIL 813-5 Selected Topics in Logic II
PHIL 814-5 Selected Topics in Philosophy of Mathematics
PHIL 815-5 Selected Topics in Formal Studies

Value Theory
PHIL 822-5 Selected Topics Normative Ethics
PHIL 823-5 Selected Topics Meta-ethics
PHIL 824-5 Selected Topics Moral Psychology
PHIL 825-5 Selected Topics in Social and Political Philosophy
PHIL 826-5 Selected Topics in Aesthetics

History
PHIL 852-5 Selected Topics in Ancient Philosophy
PHIL 853-5 Selected Topics in Medieval Philosophy
PHIL 854-5 Selected Topics in 17th and 18th Century Philosophy
PHIL 855-5 Selected Topics in 19th and 20th Century Philosophy

Directed Studies
PHIL 861-5 Directed Studies: Selected Topics I

PHIL 862-5 Directed Studies: Selected Topics II
PHIL 863-5 Directed Studies: Selected Topics III
PHIL 864-5 Directed Studies: Selected Topics IV
PHIL 865-5 Directed Studies: Selected Topics V
PHIL 898-0 MA Thesis
PHIL 899-0 Non-Thesis Project Completion
PHIL 998-0 PhD Thesis

Department of Political Science
6070 Academic Quadrangle, 604.291.5487 Tel, 604.291.5364 Fax, www.sfu.ca/politics/graduate/index.html
Chair
L.J. Erickson BA, PhD (Alta)
Graduate Program Chair
P. Meyer BA (Wellesley), MA, PhD (Col)

Faculty and Areas of Research
See “Department of Political Science” on page 178 for a complete list of faculty.

J. Busumtwi-Sam – international organization and law, conflict management, political economy
L.J. Cohen – comparative politics and government – Soviet Union and Eastern Europe
D. Cohn – Canadian politics, research methods and health policy
M. Griften 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
A. Hira – international political economy, Latin American studies
M. Howell – 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.J. MacLean – comparative development; political economy; African political economy
S. McBride – political economy, Canadian politics, globalization
P. Meyer – East Asian international relations, Russian foreign policy, comparative foreign policy
A. Moens – international relations, comparative politics, US politics
D.A. Ross – international security and conflict studies, Canadian foreign and defence policies
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

Fields of Study
The major fields of study are
Canadian government and politics
comparative government and politics
international relations
Within these three major fields of study there are three distinct thematic emphases of: public policy, political economy and governance.
Admission
For general requirements see “1.3 Admission” on page 309. In addition, the department requires written statements of the student’s current interests and proposed areas of research. Applications for graduate work will be considered with reference to the manner in which the proposed area of the candidate’s research coincides with faculty teaching and research interests. 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.

In accordance with Graduate General Regulation 1.6.4, each student will be assigned a supervisory committee.

The essay or project option requires 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 complete five courses: POL 801 or 802 plus four additional courses from at least two of the department’s three fields of study. A research project, to a maximum of 12,500 words (plus bibliography), must have substantial original content. Each extended essay is expected to elaborate upon course work research and is not to exceed 12,500 words (plus bibliography). Extended essays and research projects are defended in an oral defence.

To be admitted to the thesis stream, students must submit to the thesis supervisory 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 selected bibliography. The thesis proposal must be approved by the thesis supervisory committee.

Students in the thesis stream complete four courses: POL 801 or 802 plus three additional courses from at least two of the three fields of study offered by the department. Students also must write a thesis, normally 17,500 to 25,000 words in length (plus bibliography) and defend it in an oral defence.

For field exam stream admission, 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 and a timetable for field exam completion. The field exam proposal is be approved by the supervisory committee. To fulfill the requirements, students complete POL 801 or 802 plus five additional courses from at least two of the three fields of study. Students also pass two written field exams: one in their major and one in their minor field of study. The supervisory committee serves 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. Students who fail one field examination, and one only, may retake the failed field examination.

PhD Program
The department offers specialized research resources in Canadian government and politics, comparative politics, and international relations with a thematic 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 (page 309 of the Graduate General Regulations 1.3.3), a completed political science MA is required, normally with a minimum 3.67 GPA. A written statement of current research interests, three reference letters from qualified referees, and a sample of 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 consideration. Background deficiencies must be met by taking appropriate courses in addition to normal PhD work. Admission applications are reviewed once a year by the department graduate studies committee. The program starts in September.

Supervisory Committee
In accordance with Graduate General Regulation 1.6.4, upon program admission, the departmental graduate studies committee assigns a senior supervisor.

Program Requirements
The PhD program consists of 20 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 successfully complete 20 credit hours of graduate course work. All courses are approved by the supervisory committee and reflect areas of specialization within the fields of political economy, public policy and governance as identified in the student’s letter of intent. Students complete POL 801 or 802 or equivalent. All courses must be completed prior to completion of any other program component.

Language Requirement
Students must demonstrate a reading ability in a language other than English that is acceptable to the supervisory committee. Those studying subjects related to Canadian politics must demonstrate an ability to read French, determined by successful completion of a time limited exam consisting of a dictionary aided translation of a political science literature passage written in the language selected.

Comprehensive Examinations
Upon course work completion and prior to thesis research, students successfully complete a comprehensive exam in two of the three department 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 which will serve as comprehensive exam 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 at least one member from the student’s supervisory committee and at least two faculty members from the field of study being examined. At least one faculty member on the committee is not the student’s supervisory committee. The comprehensive exam committee is chaired by the department graduate studies chair. Students receive a grade of pass with distinction, pass or unsatisfactory from the comprehensive exam committee following completion of the written and oral component of each field. Students with failing grades may once retake that exam after a period of remedial study of no less than three months.

Thesis
Candidates successfully completing both comprehensive examinations are required to complete POL 890 which culminates with the student’s presentation as a seminar to the department outlining his/her draft research proposal. After the seminar, and in consultation with his/her supervisory committee, the candidate will prepare a final proposal for graduate studies committee approval. This proposal must receive the approval of the student’s supervisory committee prior to being forwarded to the graduate studies committee. The research proposal will state the thesis title, topic, general intent, methodology and bibliography and will be accompanied by a detailed research plan and timetable for the completion of each thesis chapter. The thesis proposal normally should not exceed 2000 words 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 defence established in accordance with the Graduate General Regulations 1.9 (page 313) and 1.10 (page 314).

Performance Evaluation
In accordance with Graduate General Regulation 1.8 (page 313) the student’s progress is reviewed periodically by the graduate studies committee. At least once a year, the 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 (page 315) establishes an eight year time limit for PhD completion, the department expects the PhD program will be completed within four to five years.

Graduate Courses
POL 801-5 Theoretical Perspectives in Political Science
POL 802-5 Political Research: Design and Analysis
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
POL 838-5 Government and Politics of Industrialized Countries
POL 839-5 Government and Politics of Developing Countries
POL 841-5 International Relations
POL 842-5 International Law and Organization
POL 843-5 Canadian Foreign Policy
POL 844-5 International Political Economy
POL 845-5 Foreign Policy Analysis
POL 846-5 International Security Studies
POL 851-5 Public Policy Analysis
POL 852-5 Urban Government and Politics
POL 853-5 Public Administration
POL 855-5 Science, Technology and Public Policy
POL 856-5 Issues in Social and Economic Policy
Department of Psychology

5246 Robert C. Brown Hall, 604.291.3354 Tel, 604.291.3427 Fax, www.sfu.ca/psychology

Chair
D.J. Weeks BA (Windsor), MSc (McM), PhD (Auburn)

Graduate Program Chair
N.V. Watson BA, MA (Wcnt), PhD (Br Col)

Faculty and Areas of Research
See “Department of Psychology” on page 180 for a complete list of faculty.

B.K. Alexander – psychology of addiction, history of psychology, temperament mentalty
K. Bartholomew – adult attachment, abuse in intimate relationships, male same-sex relationships
B.L. Beyenrust – drugs and behavior, brain and behavior, sensation (olfaction), critical appraisal of occult and pseudo-scientific claims
A.R. Blackman – human experimental, perception, driving, risk taking
M.L. Bowman – clinical neuropsychology, health psychology, stress and coping, individual differences
J. Carpendale – social cognitive development, moral development and cognitive development
D. Connolly – psychology and law, children and the law, children’s autobiographical memory, eyewitness memory
D.N. Cox – behavior therapy, health psychology, sport psychology, psychology and law
S.D. Hart – psychology and law, psychopathy, mentally disordered offenders, violence, wife assault, psychological assessment, personality 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 – history of women in psychology and development of visual attention and perception, risk
N.V. Watson – sexual differentiation of the nervous system and the behaviour of human and non-human animals. Hormones and behaviour, apoptosis and neuronal growth, reproductive behaviour, serotonin psychopharmacology, human neuropsychology, neuroethology, psychobiology
D.J. Weeks – attention, perceptual-motor behavior, stimulus-response translation, cerebral specialization in Down syndrome, human-machine interaction

Overview of Graduate Training
The department offers graduate programs culminating in MA and PhD degrees in either experimental or clinical psychology. The department is organized around five areas of concentration: cognitive and biological psychology, developmental psychology, law and forensic psychology, social psychology, and theory and methods. All graduate students work on research topics within one of these general topics. In the experimental program, training is research-intensive and intended to produce PhD level researchers. The clinical PhD program offers area specialization certificates in child clinical, forensic clinical, and clinical neuropsychology. Area specializations are noted on transcripts. A combined LLB/PhD program is also offered and administered jointly with the University of BC.

Supervisory Committees
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, see “Graduate General Regulations” on page 309.

Application as Special Student
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, see “Graduate General Regulations” on page 309.

PhD Dissertation
Before starting dissertation research, 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, see “Graduate General Regulations” on page 309.

Supervisory Committees
For the MA thesis, students establish a supervisory committee before the end of their first 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 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 member must act as advisor to measurement and design aspects of the dissertation research.

Applicants, admitted only in the fall semester, must submit all supporting documentation in one complete package (completed application form, statement of purpose, two copies of official transcripts of all post-secondary courses, three academic reference letters, and the S5 application fee). Graduate Record Examinations (general sections) and TOEFL scores can be submitted separately. Experimental program applicants submit GRE general sections only. Clinical program applicants submit both GRE general sections and the GRE subject test in psychology. 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. SFU/University of BC program in law and forensic psychology applicants should refer to that description (page 366).

Application as Special Student
Admission requirements for special students are outlined in the Graduate General Regulations (see “1.3.5 Admission Under Special Arrangements” on page 310). 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.

SAFETY CAREER

Faculty of Arts – Department of Psychology 365
Program in Experimental Psychology

This program provides specialized training in cognitive and biological psychology, developmental psychology, law and forensic psychology, social psychology, and theory and methods.

Degree Requirements

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.

Experimental Area Requirements

Cognitive and Biological Area

area course 1
area course 2
area course 3
area course 4

Additional Requirements

PSYC 915-1.5 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 (I) (area course 2)
PSYC 944-5 Seminar in Psychopathology (area course 3)
PSYC 950-5 Seminar in Developmental Psychology (II) (area course 4)

Additional Requirements

PSYC 950-5 Seminar in Developmental Psychology (III)*
PSYC 819-3 Ethics and Professional Issues
PSYC 914-1.5 Research Seminar

As well, students must complete an additional PSYC 950 in each year past year four.

"to be taken in year four

Law and Forensic Psychology 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
PSYC 892-3 Research/Policy Practicum in Law and Psychology
PSYC 916-1.5 Research Seminar

Social 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 960 in each year past year four.

Theory and Methods Area

area course 1
area course 2
area course 3
area course 4

Additional Requirement

PSYC 918-1.5 Research Seminar

*area courses are determined for each student individually and may include courses both from within and outside the department.

As well, students will typically be required to take more than four area courses.

Program in Clinical Psychology

This PhD program, accredited by the Canadian Psychological Association and the American Psychological Association, is based on clinical training and provides specialized training in the same areas as the experimental program. It offers specialization in child clinical psychology, clinical forensic psychology, and clinical neuropsychology with notation on transcripts.

Degree Requirements

MA students must complete satisfactorily: PSYC 744, 770, 820/821, 822/823, 824, 880 (Practicum), 910, 911, 898 and two area courses. PhD students must complete two PSYC 715 courses, PSYC 819, one breadth course, and a minimum of two area courses. At least two courses must be advanced topics courses in assessment or intervention.

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 are required to enroll in PSYC 825 (ongoing clinical training) every semester prior to internship (PSYC 886) except when formally exempt.

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.

Students must successfully defend their dissertation proposals before applying for internship.

Clinical Specialization 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 835-3 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 Psychology
PSYC 916-1.5 Research Seminar

Cognitive and Biological Area: Clinical Neuropsychology Stream

PSYC 886-3 Advanced Topics in Assessment
PSYC 880-3 Practicum
PSYC 980-3 Seminar in Biological Psychology*

UBC Neuroanatomy 516

*when offered as both cognitive neuroscience, and neurocognitive disorders

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 operated 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. 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 UBC'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 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 supporting documentation in one complete package (completed application form, statement of purpose, one copy of official transcripts of all post secondary work, three academic letters of reference, and the application fee). GRES (general) and LSAT scores can be submitted separately. The PhD option application fee is $75. The fee for LLB/PhD option applicants whose transcripts are exclusively from BC post secondary institutions is $110. Applicants, any all or whose transcripts are from institutions outside BC, submit $130. Students indicate to which psychology program in law and forensic psychology they wish to apply, and with which faculty member they prefer. Clinical forensic stream admission is approved by the 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

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
Faculty of Arts – Public Policy Program 367

Public Policy Program

All programs are available as full-time and part-time. The Master of Public Policy (MPP) is a two-year full-time program. The Master of Public Policy (MPP) is an interdisciplinary program that offers the skills, insights and analytical frameworks that public sector and non-profit policy analysts and managers need to pursue their careers. It focuses on the political and economic contexts of public policy analysis and offers specialized study in many policy areas. Designed to develop the strategic and global perspective required of tomorrow's senior policy analysts and managers, the program uses a cohort model. Students take courses in the same sequence which encourages student interaction and co-operation. An individual research project undertaken in MPP 808 and 809 (advanced policy analysis) is an integral part.

MPP Program

This full-time two year cohort program, leading to a master of public policy, consists of fourteen courses plus a summer internship. Courses are sequenced in the fall and spring semesters. The maximum course load is four courses per semester.

Admission Requirements

To be considered for admission, applicants must have a bachelor's degree from a recognized university, normally in an arts or social sciences discipline. Those admitted with other credentials, or those with arts degrees who, in the judgement of the program director are without adequate foundation in the social sciences, will receive conditional admission. Applicants who are seeking admission to MA and PhD degrees. The seminars will provide directions for future research, critical discussion of pending designs, aid in resolving problems in ongoing studies, and alternative interpretations of results of completed projects. The research seminar courses are graded on a satisfactory/unsatisfactory basis.

PSYC 920-3 Seminar in Learning
PSYC 925-3 Seminar in Cognitive Processes
PSYC 930-3 Seminar in Perception
PSYC 935-3 Seminar in Sensation
PSYC 940-3 Seminar in Motivation-Emotion
PSYC 944-3 Seminar in Psychopathology
PSYC 950-3 Seminar in Developmental Psychology
PSYC 960-3 Seminar in Social Psychology
PSYC 965-3 Seminar in Psycholinguistics
PSYC 970-3 Seminar in Personality
PSYC 980-3 Seminar in Biological Psychology
PSYC 985-3 Seminar in Animal Behavior
PSYC 990-3 Seminar in Law and Psychology

PSYC 997-3 Directed Studies
PSYC 999-0 PhD Comprehensive Examination

Public Policy Program

Harbour Centre, 604.291.3442 Tel, www.sfu.ca/mpp, mpp@sfu.ca

Director
N.D. Olewiler BA (Col), MA (S Fraser), PhD (Br Col)
Senior Policy Fellow
D. McArthur BSc (Sask), MA (Tor), MA (Oxf)
Assistant Professor
E.C. Kennedy Stewart BA (Acadia), MA (S Fraser), PhD (LSE)

Steering Committee
L. Dobuzynskis, Political Science
I. Gева-May, Education
M. Howlett, Public Policy
D. McArthur, Public Policy
C.A. Murray, Communication
N.D. Olewiler, Economics
J.G. Richards, Business Administration
K.G. Stewart, Public Policy
A.R. Vining, Business Administration

This program offers the skills, insights and analytical frameworks that public sector and non-profit policy analysts and managers need to prepare for their careers. It focuses on the political and economic contexts of public policy analysis and offers specialized study in many policy areas. Designed to develop the strategic and global perspective required of tomorrow's senior policy analysts and managers, the program uses a cohort model. Students take courses in the same sequence which encourages student interaction and co-operation. An individual research project undertaken in MPP 808 and 809 (advanced policy analysis) is an integral part.

MPP Program

This full-time two year cohort program, leading to a master of public policy, consists of fourteen courses plus a summer internship. Courses are sequenced in the fall and spring semesters. The maximum course load is four courses per semester.

Admission Requirements

To be considered for admission, applicants must have a bachelor's degree from a recognized university, normally in an arts or social sciences discipline. Those admitted with other credentials, or those with arts degrees who, in the judgement of the program director are without adequate foundation in the social sciences, will receive conditional admission.
Application Requirements
The following application documentation is required.

• A Simon Fraser University graduate application form, which is available from the Public Policy Program office or can be downloaded from www.sfu.ca/mpp.
• The applicant's official undergraduate transcript showing all grades (mailed directly from the granting institution).
• Three confidential letters of reference (mailed directly from referees), at least two of which are from university faculty members. This requirement may be waived for mid-career applicants with professional experience. In this case, letters from employers may be used. Reference forms are available from the office or from www.sfu.ca/mpp.
• A one-page essay that explains why the applicant wishes to pursue the MPP degree.
• A student whose first language is not English and whose undergraduate degrees were from institutions where English is not the language of instruction are required to submit TOEFL and Test of Written English scores.
• GRE score for non-Canadian degree applicants.

Program Requirements
The candidate must complete a total of nine core MPP courses, a summer internship, plus five additional elective courses that must be approved by the Public Policy Program director.

Year One
Students complete the following seven core courses.

MPP 801-3 Economic Foundations of Policy Analysis I (0-3-0)
MPP 802-3 Economic Foundations of Policy Analysis II (0-3-0)
MPP 803-3 Political Foundations of Policy Analysis I (0-3-0)
MPP 804-3 Political Foundations of Policy Analysis II (0-3-0)
MPP 805-3 Research Techniques and Quantitative Methods I (0-3-0)
MPP 806-3 Research Techniques and Quantitative Methods II (0-3-0)
MPP 807-3 Introduction to Policy Analysis (0-3-0)

In the summer semester, the internship course MPP 850 is completed.

Year Two
Students complete the following two core courses.

MPP 808-3 Advanced Policy Analysis I (0-3-0)
MPP 809-3 Advanced Policy Analysis II (0-3-0)

In addition, five elective courses are required. The program director, in consultation with the student, selects appropriate graduate courses that are offered by affiliated programs and departments. To satisfy these elective requirements, and when appropriate, students may choose from the following MPP courses.

MPP 810-3 Issues in Public Policy I (0-3-0)
MPP 811-3 Issues in Public Policy II (0-3-0)
MPP 812-3 Selected Topics in Public Policy I (0-3-0)
MPP 813-3 Selected Topics in Public Policy II (0-3-0)
MPP 825-3 MPP Directed Readings I (0-3-0)
MPP 826-3 MPP Directed Readings II (0-3-0)

Graduate Courses

MPP 801-3 Economic Foundations of Policy Analysis I
An examination of the basic operation of a market economy and introduction to key economic concepts and techniques. (0-3-0)

MPP 802-3 Economic Foundations of Policy Analysis II
Application of economic concepts and techniques to a variety of public policy issues. (0-3-0)

MPP 803-3 Political Foundations of Policy Analysis I
The first of a two-semester sequence that examines the basic structures and processes of government in Canada and their context in the evolving Canadian political economy. It also introduces students to key actors in the policy process and examines the structure and behavior. Examples of relevant actors include federal, provincial and local state structures and agencies, and a variety of societal actors such as pressure groups, social movements, think tanks and other associations. (0-3-0)

MPP 804-3 Political Foundations of Policy Analysis II
Building upon MPP 803, this course provides a detailed examination of the policy process – the stages through which public policies are developed. The course outlines the nature of the policy cycle and examines the formal and informal institutions and rules that affect policy actors in their deliberations and decisions. Specific attention is paid to the nature of policy communities and policy networks in Canada and their impact upon policy content and policy change. (0-3-0)

MPP 805-3 Research Techniques and Quantitative Methods I
Research techniques will include survey design, implementation and analysis, statistical inference, and qualitative methods of analysis. (0-3-0)

MPP 806-3 Research Techniques and Quantitative Methods II
Application of statistical quantitative methods for policy analysis, including analysis of variance, and regression techniques. (0-3-0)

MPP 807-3 Introduction to Policy Analysis
An introduction to techniques of public policy analysis, evaluation, and simulation techniques. Group projects on current public policy issues will constitute a major portion of this course. (0-3-0)

MPP 808-3 Advanced Policy Analysis I
Advanced policy analysis techniques, public affairs, communication, and client interaction are covered and applied by students to individual projects on current public policy issues. This course will constitute the project component of the program. (0-3-0)

MPP 809-3 Advanced Policy Analysis II
Advanced policy analysis techniques are covered and applied by students to individual projects on current public policy issues. This course will constitute the project component of the program. Students are required to present and defend their projects in this course. (0-3-0)

MPP 810-3 Issues in Public Policy I
This course provides an opportunity to cover topics appropriate to the program but not covered extensively in the core courses. (0-3-0)

MPP 812-3 Selected Topics in Public Policy I
This course provides an opportunity to cover topics appropriate to the program but not covered extensively in the core courses. (0-3-0)

MPP 813-3 Selected Topics in Public Policy II
Specialized study in topics germane to the field of public policy. (0-3-0)

MPP 825-3 MPP Directed Readings I (0-3-0)

MPP 826-3 MPP Directed Readings II (0-3-0)

MPP 850-0 MPP Internship
Students who do not have prior work experience in public policy are placed in a public or private organization connected to public policy. 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 a work report that will be an appraisal of the student's work experience. (0-3-0)

Publishing Program

161 Harbour Centre, 604.291.5242 Tel, 604.291.5239 Fax, www.harboufr.sfu.ca/ccsp/ccsp.html

Director
R.M. Lorimer BA, MA (Manit), PhD (Tor)
Professor
R.M. Lorimer BA, MA (Manit), PhD (Tor) – publishing policy
Assistant Professor
V. Frith BA, MA, PhD (Tor) – editing, history of the book
Sessional Instructor
J. Maxwell BA (Br Col), MPP (S Fraser) – technology, new media
Senior Lecturer
R. Woodward BA (Miami, Ohio), MA (Oregon) – design and production
Associate Members
A.C.M. Beale, Communication – history of communication
T. Bose, English – editing production, editing Shakespeare
R.M. Cee, 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
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

J.O. Stubbs, History – newspaper history
J. Zaslove, English – literacy and literature reception

Adjunct Professors
R. Barnes, MA (Camb) – economics, marketing consultant
R. Bringhamur, BA (Indiana), MFA (Br Col) – Author
J.J. Douglas, LLB (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
The following courses are valuable background as a foundation for the publishing industry. They may gain those skills by successfully completing the following courses or their equivalents.

- CMNS 371-4 The Structure of the Publishing Industry
- BUS 254-3 Managerial Accounting I
- BUS 251-3 Financial Accounting I

Should candidates be found not to have the required skills, they may be granted admission if the student can demonstrate the equivalent. Internships generally last four months.

This program leads to a master of publishing degree (MPub) and is designed for those in, or intending to enter, the publishing industry. It is composed of a set of core courses, an internship, and a project report, and encompasses a 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

Enrolling students are expected to have a minimum knowledge of publishing which will be assessed through an evaluation of documents and experience, and in some cases, interviews and examinations. Should candidates be found not to have the knowledge, understanding and skills necessary, 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.

**Graduate Courses**

**PUB 600-4 Topics in Publishing Management**

An analysis of management issues essential to the daily operation of publishing firms. Emphasis will be placed on the distinctive nature of publishing as a cultural/ information industry, the applicability of theory and practice in marketing and accounting and the legal underpinnings of publishing. (3-0-2) Prerequisite: admittance to the program.

**PUB 601-4 Editorial Theory and Practice**

The theoretical component of this course focuses on theories of composition and rhetoric. The practical component focuses on the various types of editing that take place in publishing. Students are examined on both the theory and their attained competence in editing. (3-0-2) Prerequisite: admittance to the program.

**PUB 602-4 Design and Production Control in Publishing**

Students 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 create a business plan including cost projections, 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 produces two reports: a work report which is an appraisal of the student’s work, and a project report which will be an investigation and analysis of a particular problem or case. The latter serves as a project record and interpretation.

The supervisory committee and director assesses the student’s project on the conduct of the project, work quality, and quality of reports. There is no oral exam. However, a project report will be submitted (see “1.10.6 Examination of Projects Submitted in Partial Fulfillment of Degree Requirements” on page 315).

**Department of Sociology and Anthropology**

R. Hancox, Dip (Regent St. Polytechnic, London), PDM, Neiman Fellow (Harv), Professional Fellow A. MacDougall – president, Raincoast Books
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
M. Sosteric, BA, MA (Regina), PhD (Alta) – assistant professor, Athabasca University
P. Whitney, BA (Sask), MLS (Br Col) – chief librarian, Burnaby Public Library

**Advisor**

Ms. J Ray BA (S Fraser), 157 Harbour Centre, 515 West Hastings Street, Vancouver, BC, V6B 5K3, 604.291.5242, jray@sfu.ca

Ms. J Ray BA (S Fraser), 157 Harbour Centre, 515 West Hastings Street, Vancouver, BC, V6B 5K3, 604.291.5242, jray@sfu.ca

Internships generally last four months. Typically in industry, public institutions or government.

A key component of this program is an internship and project report. The curriculum is designed to provide the student with 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.

**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, market, 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 mockups are produced and a final presentation made to an industry panel. (0-0-3)
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 post colonial perspectives)
- sociology of sexuality and moral panic, and social problems and deviance
- sociology of agriculture, and science, technology and society

MA Program 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 supervisory committee recommendations and department graduate program committee approval to transfer to the thesis option. Except under extenuating circumstances, students may transfer only once into 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 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.

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 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 and will be examined by the student’s supervisory committee and a qualified external examiner.

Extended essays and research project reports 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 and will be examined by the student’s supervisory committee and a qualified external examiner. Extended essays and research project reports will be evaluated and placed in the library.

PhD Program Requirements

Students complete four one-semester courses, two of which must be SA 850 or 870 and SA 857.

If 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 so 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.

Extended essays or research project reports 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 and will be examined by the student’s supervisory committee and a qualified external examiner. Extended essays and research project reports will be evaluated and placed in the library.

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 a knowledge of French or foreign languages is desirable for advanced degree studies, the department does not have prescribed language requirements. However, where a language other than English is necessary for field work or reading, necessary proficiency will be required.

Co-operative Education
This program enables students to gain work experience that complements their academic studies. MA students in good standing with a minimum 3.0 GPA may apply to co-op after satisfactory completion of SA 850 or 870, and SA 857 plus one (thesis option) or two (extended essay or research project option) of the following: SA 853, 854, 871, 872, 886, or equivalent. Recommendation of the supervisory committee and the approval of the departmental graduate program committee is required. Students may take the traditional co-op program of two separate work semesters, or the co-op internship of three consecutive work semesters. Arrangements for the work semesters are made through the Faculty of Arts Co-op Co-ordinator at least one semester in advance. See page 226.

Graduate Courses
SA 840-0 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 890-0 Practicum I
Prerequisite: completion of core MA degree requirements SA 850 or 870, and SA 857 plus one (thesis option) or two (extended essay or research project option) of the following: SA 886, 853, 871, 872 and 886 (or equivalent) with a minimum gpa of 3.0. The recommendation of the student's supervisory committee and the approval of the departmental graduate program committee also is required. SA 891-0 Practicum II
Prerequisite: the student must have completed SA 890.
SA 892-0 Practicum III
Prerequisite: SA 891 and departmental approval.
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. Griffin Cohen BA (Iowa Wesleyan), MA (NY State), PhD (York, Can)***

Graduate Program Chair
H. Zaman, BA (Dhaka), MA, PhD (Manit)

Ruth Wynn Woodward Endowed Chair
S. Wilkinson BSc (Leic), PhD (Lough)

Faculty and Areas of Research
M. Griffin Cohen, Political Science – feminist economics, public policy
M. Kimball, Psychology – feminist theories of gender, feminist critiques of science, feminist psychoanalytic theories, women and achievement
H. Leung, Women’s Studies – queer theory and feminist theory; gender and sexuality in Asian cinemas; literacy and cultural studies
J. Levitin, Contemporary Arts – women and film: theory and production, women and popular culture, women, culture 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
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
For areas of research, refer to the department listed.
B. Burcht, Criminology
H. Dawkins, Contemporary Arts
P. Dossa, Sociology and Anthropology
K. Faith, Criminology
H. Gay, History
A.T. McLaren, Sociology/Anthropology
K. Mzei, 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.

Master’s Program
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 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 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 313.

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 899-0 MA Extended Essays**

**WS 999-0 MA Field Exam**
Prerequisite: completion of six graduate courses.
Faculty of Business Administration

3302 Lohn Building, 604.291.3708 Tel, 604.291.4920 Fax, www.bus.sfu.ca

Dean
C.E. Love BEng, MBA (McM), PhD (Lond)

Associate Deans
M.R. Fizzell BEd, BComm, MSc (Sask), CMA
B.H. Reich BA, MSc, PhD (Br Col)

Faculty and Areas of Research
See “Faculty of Business Administration” on page 191 for a complete list of faculty.

N.A.R. Abramson – international business, comparative management
A. Bick – investments and asset pricing
G.W. Blazenko – business finance
M.J. Brydon – management information systems
G.R. Bushe – organizational development, strategic human resource management
E.W. Bukszar, Jr. – business strategy, business, government and society
J.C.W. Chang – marketing
E. Choo – management science
C.M. Collins-Dodd – retailer decision-making, price expectations
A. Duncan – accounting
C.P. Egel – organizational power and politics, innovation, leadership
C.E.N. Emby – accounting
M. Faverre-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.G. Gemino – management information systems
I.M. Gordon – accounting
R.R. Grauer – business finance
D.R. Hannah – management and organization studies
J.W. Heaney – business finance
B.A. Lautsch – industrial relations, human resource management
T.B. Lawrence – management and organization studies
M.B. Lazarova – international business
C.E. Love – management science
E.A. Macdonald – accounting
E.M.A. Maine – management of technology, policy
N. MacKay – management information systems
I.P. McCarthy – management of technology, management science
G.A. Mauser – marketing
H. Merchant – international business
L.N. Meredith – business marketing, marketing strategy
M. Parent – management information systems
D.C. Parker – decision support systems
D.L. Patient – business communication
A.D. Pavlov – business finance
G. Poitras – international finance, econometrics, financial institutions
B.H. Reich – management of the information technology function, strategic information systems, qualitative research
J.O. Richards – business, government and society
R.W. Schwindt* – industrial organization, international trade; business, government and society
D.M. Shapiro – industrial organizations, managerial economics, business and public policy

J.P. Sheppard – business policy, corporate failure and survival
C.F. Smart – business policy, organizational behaviour
D.R. Smith – business finance
K.G. Stewart – business communication
D.C. Thomas – international business
R.L. Tung – international business
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.A. Yates – commercial law
J.L. Zaichkowsky – marketing
C.D. Zatzick – management and organization studies
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 specialist MBA program and the management of technology MBA program.

The executive MBA program is a weekend or weekday 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 specialized MBA program is a full-time 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 specialization.

The Management of Technology program (MOT) is designed for those who already have at least two years of experience working in the technology sector and who are now considering a move into management. Students can enrol in either the accelerated option (full-time study for 10 months) or the flexible option (part-time study for 20 months).

Graduate Diploma in Business Administration
7200 Harbour Centre, 515 West Hastings Street, Vancouver, BC, V6B 5K3, 604.291.5256 Tel, 604.291.5153 Fax, www.gdba.sfu.ca/gdba

Academic Program Co-ordinator
M. Selman BA, PhD (Br Col)

Executive Director
T. Brown MBA (S Fraser), 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 to attending a traditional classroom-based program. The GDBA is shorter and more concentrated than an MBA, covering the core of most MBA programs. It 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 SFU MBA application, satisfactory GDBA completion will not guarantee admission to the MBA program. Admission in the MBA program requires an applicant to meet all of the criteria set by each MBA program.

Admission
The basic entry qualification is a degree from a recognized university in an area other than business administration, commerce or equivalent. A university level course in mathematics is required and three reference letters, preferably from supervisors or former professors. Candidates must be computer literate and familiar with the Internet. 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 500 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
Students must complete a total of 24 credit hours drawn from the following courses.
BUS 500-2 Financial Accounting
BUS 551-2 Managerial Accounting
BUS 552-4 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*
BUS 560 Directed Studies
*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 behavior of people in organizations, and human resource management practices that influence employee behavior.
BUS 558-3 Special Topics
BUS 559-4 Special Topics
BUS 560-2,3,4 Directed Studies
Prerequisite: requires prior permission of the academic director.
BUS 561-562-2 Special Topics
Specialist MBA Program
2323 Lohn Building, 604.291.3639 Tel., 604.291.3404 Fax, www.bus.sfu.ca/mba
Director
M. Parent BComm (Carli), MBA, PhD (Qu)
Advisor
Ms. N. Lalji, program co-ordinator, 2323 Lohn Building, 604.291.3639 Tel., 604.291.3404 Fax
The MBA program has a subject specialization focus in the following fields of specialization.
accounting* management and organization studies International business marketing and information systems marketing policy analysis*
*not available in 2002/2003
Additional fields of specialization 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
an applicant must have a bachelor’s degree from a recognized university with a concentration in business administration (or its equivalent) and should have 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). Those 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 a year to an area of concentration is expected to be 30. The minimum undergraduate GPA 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 reference letters, and for students 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, for applicants with an undergraduate business/commerce degree, begins in September, January or May. Courses are sequenced through fall, spring and summer semesters. The normal course load is three courses per semester and so it is possible to complete the program in one year, although many require four semesters to finish their research project. Students choosing the thesis option and/or a co-op term(s) may expect to take one additional semester to complete BUS 900. The completion time for students holding a teaching assistantship during 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
• official transcript of undergraduate grades (mailed directly from the granting institution). It is advisable to include an unofficial copy of your transcript(s) with your application.
• 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) and 5 on analytical writing
• Students whose first language is not English and whose undergraduate degrees have not been obtained in Canada, the United States, the United Kingdom, Australia or New Zealand where English is the language of instruction, require TOEFL scores 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 $4,800 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 318 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 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 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 discipline literature and successfully completes original research which represents a contribution to knowledge in the area.

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
BUS 815-4 Portfolio Theory
BUS 817-4 Theory of Capital Markets
BUS 818-4 Advanced Topics in Business Finance
International Business
BUS 862-4 Contemporary Topics in International Business
BUS 882-4 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 and Organization Studies
BUS 831-4 Industrial Relations
BUS 836-4 Human Resource Practices for managers
BUS 837-4 Effective Leadership and Management in Organization
BUS 839-4 Organizational Assessment and Planned Change
Marketing and Information Systems
BUS 822-4 Decision Theory
BUS 876-4 Decision Support Systems
BUS 845-4 Marketing Measurement
BUS 846-4 Mining and Models in Marketing
BUS 877-4 Managing Information Technology
BUS 878-4 Electronic Commerce
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 858-4 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 890 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 800 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-operation designation, students 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 by co-op co-ordinator. 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 725 and 726 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 Practices for Managers
This course is focused on understanding how organizations can build, maintain, and compensate their pool of employees. Topics include recruitment and selection practices, compensation and incentive systems and diversity management.

BUS 837-4 Effective Leadership and Management in Organizations
Effective leadership is essential in modern organizations. This course provides an overview of leadership theories, principles and practices. An experiential learning approach is used to develop students' leadership skills and competencies.

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 Data Mining and Models in Marketing
The construction, analysis and application of models of marketing phenomena. The focus is on turning data into strategically useful information by using analytical tools. 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 578 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-competitive, utility regulation, patent policy, and other policies directed at market failure. Prerequisite: ECON 200, or permission of the instructor.

BUS 856-4 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 873-4 Tax Strategy for Managers
The course will provide an overview of how taxes affect business decisions. The students will be exposed to a variety of managerial strategic decision topics which require a knowledge of taxes in order that optimal decisions can be made. Topics to be included will be: entity planning, capital structure, compensation planning, pensions, markets and arbitrage, international operations and executive personal tax planning.

BUS 874-4 Advanced Topics in Accounting
Selected advanced topics in accounting. A continuation of 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 877-4 Managing Information Technology
This course is designed to give students the knowledge to take a leadership role within an organization with respect to information technology. Students will learn to analyse complex business situations and solve real-world IT-related management problems. The students will work in a team-based project environment to complete an IT-related project and should demonstrate effective analysis, communication and technical competence through class participation, presentations and report writing. (4-0-0)

BUS 878-4 Electronic Commerce
Electronic commerce is altering the way many organizations do business. This course will examine electronic commerce from both a managerial and a technological perspective. The objectives of the course are to provide students with an understanding of the technologies underlying e-commerce along with theoretical perspectives that will enable students to understand the broader implications of e-commerce. (4-0-0)

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-operative alliances in international business. Prerequisite: BUS 883.

BUS 897-4 Directed Readings
Supervised reading and report preparation in a particular field of specialization.

BUS 898-12 MBA Thesis
BUS 900-4 Methodology Seminar/Research Workshop
This course, which will meet twice weekly, will devote one half to an examination of methodological approaches including selection, planning and conduct of research and philosophy of science and one half to attendance at faculty and graduate student workshop presentations. The methodology section of the course is intended to place students’ research methodology in a broader context for critical evaluation. The workshop section will require students to present their own research finding for critical evaluation. Prerequisite: completion of prior required research courses, or permission of the instructor.

BUS 900-4 Selected Topics in Business Administration
BUS 903-904-4 Selected Topics in Business Administration
BUS 905-906-4 Selected Topics in Business Administration
BUS 907-910-4 Selected Topics in Business Administration
BUS 999-4 MBA Project

Executive MBA Program
2400 Harbour Centre, 604.291.5013 Tel, 604.291.5122 Fax, emba_program@sfu.ca, www.sfu.ca/emba

Academic Program Director
Dr. C.F. Smart BComm, MBA, PhD (Br Col), 2400 Harbour Centre, 604.291.5227

Executive Director
Ms. D. Cross BA (Qu), MHA (Ott), CHE, 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 program). Classes are held at Simon Fraser University at Harbour Centre, located in downtown Vancouver. Students take two courses or two and one half 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.

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, CFA, FRM)* • 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, fax 604.291.5122, e-mail emba_program@sfu.ca or see our website at www.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; 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 Program Schedule

Year I
Semester 1 Fall
Fall Residential
MBA 601-2.5 Data and Decision-making
MBA 651-5 Managerial Economics
MBA 681-5 Organizational Leadership and Interpersonal Behavior

Semester 2 Spring
MBA 615-5 Marketing Management
MBA 670-5 Financial and Managerial Accounting

Semester 3 Summer
MBA 606-5 Financial Management
Elective

Year II
Semester 4 Fall
Fall Residential
MBA 602-2.5 The Global Business Environment
MBA 603-5 Structure and Change in Organizations
MBA 691-5 Business and Government

Semester 5 Spring
MBA 607-5 Business Strategy
MBA 621-5 Information Technology & Organizational Transformation

Semester 6 Summer
Reflection Retreat
MBA 696-5 Applied Strategic Analysis

Executive MBA Courses

MBA 601-2.5 Data and Decision-making
This course explores the application of quantitative methods to managerial decision-making. Topics will include data analysis and statistical description, sampling and statistical inference, and regression analysis. Case studies are used to help managers cope with decision-making in complex and uncertain circumstances.

MBA 602-2.5 The Global Business Environment
This course will examine the international context of business. Fundamental concepts in international finance, economics and business will be introduced and significant trends in the world economy will be analysed. Topics might include global trends in monetary and fiscal policy, exchange rate analysis, trends in international trade and investment, analysis of emerging markets, and strategic alliances. The human, cultural and ethical issues arising from doing business abroad will be discussed.

MBA 603-5 Structure and Change in Organizations
This course applies contemporary organizational theory to the managerial challenges 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 606-5 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
and management, and the basic design of a plan of implementation for a strategic plan.

MBA 610-612-5 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 660-663-5 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 Behavior
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.

MBA (Global Asset and Wealth Management)

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.

Financial Assistance
Ten scholarships in the amount of $10,000 will be awarded annually from funds donated by the GAWM Business Council. The Royal Bank of Canada offers a student line of credit for Canadian citizen and landed immigrants. Loan information and application packages are available from the GAWM 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.

See “Financial Aid for Graduate Students” on page 318 for information on other university scholarships and awards that are available to graduate students.

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 40 credit hours or more from the following list:

BUS 800-4 Foundations of Financial Economics
BUS 803-4 Financial Econometrics
BUS 804-4 Strategic Analysis For Wealth Management
BUS 805-4 Capital Markets
BUS 806-2 Client Relationship And Leadership Effectiveness
BUS 807-2 Client Relationship And Leadership Effectiveness II
BUS 808-2 Client Relationship and Leadership Effectiveness Practice
BUS 809-2 Equity Security Analysis and Portfolio Management
BUS 810-2 Fixed Income Security Analysis and Portfolio Management
BUS 811-2 International Investing and Portfolio Management
BUS 812-2 Tax and Estate Planning
BUS 813-2 Ethics, Wealth Management and the Securities Industry
BUS 814-2 Derivative Securities
BUS 815-2 Investment Policy
BUS 819-4 Final Project for GAWM Students
MBA (Global Asset and Growth Management) Courses

BUS 802-4 Foundations of Financial Economics
An introductory course for GAWM students in the theory of finance and investor behavior. It covers investor financial decision-making under uncertainty as well as capital market equilibrium.

BUS 803-4 Financial Econometrics
The foundations in econometrics for the GAWM program. Reviews econometric methods for testing asset-pricing models and for performance measurement.

BUS 804-4 Strategic Analysis for Wealth Management
Will teach students to analyse the competitive prospects for a given industry as well as specific companies within that industry. It will also include analysis of strategic choices in the financial services industry.

BUS 805-4 Capital Markets
Extends concepts in BUS 802 to various estimation and empirical issues in capital markets that are important for wealth and asset management. Topics in behavioral finance as well as performance measurement and attribution will also be covered. Asset allocation models will be studied covered with reference to the theoretical literature as well as models actually used in practice.

BUS 806-2 Client Relationship and Leadership Effectiveness
Emphasizes how to become an effective investment counsellor. Topics covered will include leadership styles, client relationship development, interpersonal communication, coaching/counselling strategies and skills, conflict and team management, and performance measurement. Information systems for effective client relationship management will also be covered.

BUS 807-2 Client Relationship and Leadership Effectiveness
This course is a continuation of the concepts in BUS 806.

BUS 808-2 Client Relationship and Leadership Effectiveness Practice
Assists students in developing self-awareness and the ability to evaluate their leadership. Covers personal leadership plans, effective leadership practices and reflection-in-action and life-long learning practices.

BUS 809-2 Equity Security Analysis and Portfolio Management
Extends concepts covered in the financial economics course sequence to the valuation of equity securities. Topics include the components of fundamental and technical analysis for individual stocks, as well as an analysis of different investment strategies and styles. Students will be required to produce a research report on a given equity security analysing the prospects for the industry in which it operates, the company’s competitive position within its industry and whether the current market price fairly represents these prospects. This course will also introduce students to alternative investment classes, such as private equity, hedge funds and real estate investment vehicles.

BUS 810-2 Fixed Income Security Analysis and Portfolio Management
Covers theories of the term structure, measures of fixed income return, yield-spread analysis and sources of risk in fixed income securities. Specific fixed income securities analysed will include option-free bonds as well as bonds with embedded options. This course will also study fixed income portfolio strategies, such as active, passive, hybrid and derivative strategies.

BUS 811-2 International Investing and Portfolio Management
Extends equilibrium asset pricing models to an international context and analyses the implications on equity and fixed income security analysis and portfolio management. Students will be introduced to various international market indices and the role of international securities in investment portfolios. Currency hedging will also be covered.

BUS 812-2 Tax and Estate Planning
Provides students with an understanding of the implications of taxes and intergenerational wealth transfer on portfolio management. It will review basic elements of the tax system, tax-efficient investment vehicles and estate planning. Specific examples of the effect of these factors on investors’ portfolios will be considered. This course will be taught in the context of Canadian tax law, but will also contain selected coverage of the tax codes of other countries, including the U.S. Mechanisms for implementing investors’ charitable concerns will also be considered.

BUS 813-2 Ethics, Wealth Management and the Securities Industry
Reviews the regulatory framework for investment managers and analyses the types of ethical considerations that might arise. Specific topics will include the relationship between the client, the nature of fiduciary obligations, suitability, standards of care (i.e., the prudent person and produce expert rules) and the identification and proper management of conflicts of interest.

BUS 814-2 Derivative Securities and Structured Transactions
An introductory course for GAWM students in derivative securities. It covers pricing as well as the use of derivative securities in portfolio management and structured transactions.

BUS 815-4 Portfolio Theory
A study of optimum portfolio selection and diversification of financial assets including cash vis-a-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. This is the same course as BUS 816.

BUS 816-2 Investment Policy
A capstone course that focuses on the development of effective investment policy for high net worth as well as institutional investors. It integrates topics in previous courses and is closely linked to BUS 809 Client Relationship Management III, as well as the Wealth Management Practicum.

BUS 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. This is the same course as BUS 817.

BUS 818-4 Advanced Topics in Business Finance
Extensions of advanced topics beyond those covered in BUEC 815 and 817. Prerequisite: BUEC 815, 817. This is the same course as BUS 818.

BUS 819-4 Final Project
Students will be required to complete a written project equivalent to one full course (4 credits). A project will generally represent successful research on a topic in asset and wealth management. The project will be supervised by faculty members, but members of the broad investment management community may also participate in the supervisory committee as second readers when appropriate. We hope that topics proposed by members of the Business Council may be suitable from time to time.
must be above 570 on the TOEFL test and 5.0 on the TWE
• a recent passport style photo

Financial Assistance
Two scholarships annually in the amount of $10,000 will be awarded from funds donated by the MOT Business Council. 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. See “Financial Assistance and Awards” on page 60 for information on other university scholarships and awards that are available to graduate students.

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 Project Management Through Financial Management
BUS 770-774-4 Special Topics

MBA (Management of Technology) 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, multidivisional 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 759-4 Special Topics
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 770-774-4 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

8655 Multi Purpose Complex, 604.291.4787 Tel, 604.291.4320 Fax, www.educ.sfu.ca/gradprogs
Acting Dean
P. Shaker BA, MA, PhD (Ohio State)

Faculty and areas of research

See “Faculty of Education” on page 196 for a complete list of faculty.

C.L. Amundsen – teaching development in higher education, on-line learning
H. Bai – philosophy of education, moral philosophy and moral education, ecology, epistemology, Eastern philosophies
S. Balin – drama education, philosophy of education, aesthetic education, critical thinking, creativity
R. Barrow – philosophy of education, moral philosophy, curriculum theory, teacher education
J.D. Beynon – multi-cultural/anti-racist and First Nations education, roles and identities of minority teachers, mainstream and minority teachers and administrators working together for inclusive education in elementary, secondary and post-secondary education
C. Bingham – philosophy of education, literary theory, curriculum, the psyche, teaching as a life practice
S.R. Campbell – mathematics education and philosophy of education
R. Case – social studies, critical thinking, law-related education
W. Cassidy – social studies, law education, citizenship education, curriculum development and assessment, at risk youth, the ethic of care
P.E.F. Coleman – educational governance and particularly school boards, program and personnel supervision, policy processes, community involvement, educational finance, cost effectiveness
D.H. Dagenais – French language education, bilingualism, multi-linguism, applied sociolinguistics, literacy, ethnography, educational change
S.C. de Castel – literacy, educational technology, educational equity, cultural studies, qualitative research, socio-cultural theory
K. Egan – curriculum, intellectual development, educational theory
M. Fetters – epistemological, sociopolitical and pragmatic aspects of educational reform; theoretical aspects of modernity and post-modernity; the history and sociology of linguistic and educational thought
I. Geva-May – policy studies, policy analysis, policy evaluation, comparative policies, political cultures, impact on policy making, disciplinary focus in recent years on policy of higher education, immigration, health care
P.G. Grimmett – teacher education and teacher development, curricular theory and implementation, educational leadership, teacher research
A.O. Horvath – counselling and therapy process, family and couple’s counselling, therapeutic relationships
M.J. Horsky – literacy, language and lifespan development, learning disabilities, educational psychology
L. Kanovsky – education of gifted children, educational psychology
L. LaRocque – community, collaboration, ethic of caring, leadership, district-school relations, implementation of change, school reform, educational policy, teacher education
L.I. LeMare – social and emotional development, peer relationships and school adjustment in early childhood
A.M. MacKinnon – science education, teacher education, history and philosophy of science
G. Madoc-Jones – language arts, poetry, cultural origins of language, hermeneutics
C.M. Mamchur – theory and curriculum development, secondary English, the writing process, development of prelin service training programs, learning styles, integration of drama, literature and narrative writing
J. Martin – psychology of education, counselling psychology, theoretical psychology
M. McClaren – environmental education, science education
P. Neufeld – early reading acquisition, instructional practices in reading, theories in research and learning disabilities, diagnosis and remediation of students with LD
A.A. Obadia – French education, second language immersion, applied linguistics, error analysis, psycholinguistics, sociolinguistics, multi media, bilingualism
D.K. O’Neill – telemonitoring and distant collaboration, genre learning, children’s historical reasoning, conception, development and evaluation of innovative computing and communications technologies for K-12 education
T.J. O’Shea – mathematics education including curriculum development, problem solving, applications, and evaluation, large scale assessment and test development, teacher in-service education
D. Paterson – school counselling, groups, counsellor education, classroom communication
S. Richmond – visual arts education, aesthetic education
E. Samier – philosophy and theory of administration; knowledge and value theory; philosophy of leadership; concepts of free will as they relate to Max Weber and his comparative historical work on administrative systems
G.P. Sampson – teaching English as a second language; the origin and development of the scientific registers of the English language, philosophy of language
Y. Senyshyn – philosophical analysis applied to creative live musical performance and aesthetic theory, problem of language applied to music, education and musical criticism
S.J. Smith – physical education, phenomenological inquiry, pedagogical theory, and children’s play interactions
C. Snowber – movement education, physical education, phenomenological curriculum research, arts in education, embodiment and pedagogy, writing and the body, improvisational performance and teacher education, performatory inquiry, spirituality and holistic education
J.H. Sugarman – theory and philosophy of applied psychology, research methods, counselling
J. Thompson – counselling, close relationships, career development, depression and gender
K. Toohey – minority language education, educational theory, ethnography, socio-cultural theory, language and social context
J. Van Aalst – philosophy of science, computer-supported learning, qualitative research methodology, action research, metacognition, science curriculum; collaborative inquiry in science, tools for inquiry
S. Wasserman – teacher education, curriculum and instruction, emphasis on curriculum and program development, instructional strategies, teaching for thinking, teaching by the case method
M.F. Widen – science education, curriculum evaluation and implementation, in-service and change in education, teacher education
P. H. Winne – educational psychology, metacognition and self-regulated learning, software tools that promote learning
B.Y.L. Wong – literature intervention for adolescents with and without LD, motivation and metacognition in students with LD
D. Zandvliet – education and technology, curriculum and science and environmental education, study of learning environments.
R. Zazkis – mathematics education
M. Zola – language and language learning, the language arts, story, storying and storytelling, narrative research, literature for children and young people, literary criticism, writing for children, learning and teaching, phenomenological inquiry, spiritual literacy, spiritual education

*emeritus

Graduate Programs

8655 Education Building, 604.291.4787 Tel, 604.291.4320 Fax, www.educ.sfu.ca/gradprogs

Graduate Program Director
K. Toohey BA, MEd (Alta), PhD (Tor)

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 advanced knowledge about 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 length of EDUC 883 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 are signifying advanced knowledge in a 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 are successful completion of 30 graduate credit hours 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 (page 209) for University admission requirements. In exceptional circumstances, applicants who do not meet these requirements may be considered if superior scholarly or professional achievement 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 interview may be required.

Admission is granted to a specific degree and to a particular program or specialization. Admission decisions are available on April 15 or the first business day thereafter. Application packages, available after November 30, are available from Graduate Programs by post, telephone, fax or e-mail: Graduate Programs, Faculty of Education, SFU, 8888 University Drive, Burnaby, BC, V5A 1S6.

MA, MEd, MSc, PhD and EdD program information
604.291.4787 tel, 604.291.4320 fax, edugcddg@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
A pro-tem advisor will be appointed by the director of graduate programs upon admission. 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 (page 312) 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 original research in education. Graduate programs leading to these degrees culminate with a master’s thesis (EDUC 898).

The MEd is a professional degree signifying advanced knowledge and training in educational practice. All MEd programs, except an Individual program, culminate with a comprehensive exam (EDUC 883). In an Individual program, a project (EDUC 881) is undertaken that materially and substantially relates theory to practice or that examines a significant education problem.

MEd Off Campus Programs
MEd programs are intended for practising educators who wish to improve their abilities to critically read, evaluate and implement educational theory and research.

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 312.

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 “1.7.2 Residence Requirement for the Master’s Degree” on page 312.

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 master’s thesis research plan 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 the plan approval by the senior supervisor and at least one other University faculty member 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 (page 313) and 1.10 (page 314).

Programs of Study for a Master’s Degree

Educational Leadership
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). This program is intended for educators who wish to examine critically current educational theory, research and practice. Participants will be encouraged to examine their own instructional practices and to consider carefully the match between their practices and their developing theories of education.

The Curriculum and Instruction program can focus on an area of specialization such as diversity and inclusion, education and technology; French education, second language education, reading and learning disabilities, or can be pursued as a general program. Current information about the specializations is available from the Graduate Programs office or on the web site at www.educ.sfu.ca/gradprogs.

The general program’s required courses are at least three core courses from the list below. Each Curriculum and Instruction program specialization adds course work requirements to the general program requirements.

Core Courses
EDUC 816-5 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 861-5 Perspectives on Technology-Supported Learning
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 857-5 Issues and Topics in Environmental Education
EDUC 858-5 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 866-5 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.
FPA 811-5 Interdisciplinary Graduate Seminar I
FPA 883-5 Studio in FPA I
FPA 887-5 Selected Topics in Fine and Performing Arts
FPA 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.
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, 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 credit 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 603-4 Foundations of Mathematics
MATH 604-4 Geometry
MATH 605-4 Mathematical Modelling

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

Electives
The remaining courses are selected from graduate level courses in the Faculty of Education or 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 801-5 Counselling Practicum I
EDUC 802-5 Counselling Practicum II
EDUC 862-4 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 Designs in Education
EDUC 866-5 Advanced Qualitative Research in Education
EDUC 867-5 Qualitative Methods in Educational Research

EDUC 871-5 Family Counselling
EDUC 873-4 Vocational Counselling
EDUC 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, studies 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 312. 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 School Context
EDUC 822-5 Evaluation of Educational Practice
EDUC 829-5 Contemporary Issues in Learning Disabilities
EDUC 833-5 Seminar in Social and Moral Philosophy and Education
EDUC 839-5 Western Perspectives on Childhood, Child-Rearing and Education
EDUC 860-3 Contemporary Psychology of Education and Instructional Applications
EDUC 863-5 Quantitative Methods in Educational Research
EDUC 866-5 Advanced Qualitative Research in Education
EDUC 867-5 Qualitative Methods in Educational Research
EDUC 871-5 Family Counselling
EDUC 873-4 Vocational Counselling
EDUC 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

EDUC 977-5 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 at consultation with and approved, in advance, by their pro-tem advisor.

Thesis
EDUC 898-10 Master’s Thesis

Individual Program
In exceptional cases, when no other regularly offered master’s program can accommodate special interests, an applicant may propose a unique curriculum called an Individual Program. The curriculum of an Individual Program must include a minimum of (a) 30 credit hours of course work plus EDUC 881 Master’s Project for a MEd Degree, or (b) 25 credit hours of course work plus EDUC 898 Master’s Thesis for a MA Degree

Individual Program applicants must file with their application a plan of study and research. The plan should clearly and thoroughly describe: (a) the inquiry to be pursued for the master’s project or thesis, (b) courses proposed and their sequence (using a form supplied), (c) a rationale for how the proposed courses contribute toward the master’s project or thesis, and in light of (a) – (c), (d) how the applicant’s interests are not met by a regularly offered master’s program. The plan must be developed with and approved by a faculty sponsor who automatically becomes the senior supervisor of the master’s project or thesis. A second person suitably qualified in relation to the project or thesis joins the supervisory committee normally before the completion of the fourth course in an Individual Program.

In addition to other criteria considered for admission, the director of graduate programs will adjudicate the plan of study and research regarding availability of resources to support it and whether it 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 312.

Comprehensive Examination
All doctoral candidates must take a comprehensive examination by enrolling in EDUC 983. This is a prerequisite to EDUC 899. Normally, the comprehensive exam 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-tem 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 (page 313) and 1.10 (page 314).

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 (page 313) and 1.10 (page 314).

Programs of Study
Arts Education
This program, leading to a PhD, is for those interested in becoming scholars and leaders in art education. Students are required to complete the following.

Educational Theory
EDUC 901-5 Seminar in the History of Educational Theory
EDUC 902-5 Interdisciplinary Seminar in Contemporary Educational Theory

Arts Core
EDUC 945-5 Doctoral Seminar in Arts Education
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 Thought
EDUC 911-5 Colloquium in Curriculum Theory I
EDUC 912-5 Colloquium in Curriculum Theory II

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.

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
EDUC 972-5 Colloquium in the Psychology of Education
EDUC 975-5 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-tem advisor.

Thesis
EDUC 899-10 Thesis

EdD in Educational Leadership
This program, leading to an EdD degree, is for educational administrators who work 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. It prepares 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 Educational Theory

Professional Foundations (20-25 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

Graduate Courses
EDUC 702-2 Directed Readings
EDUC 703-3 Directed Readings
EDUC 704-4 Directed Readings
EDUC 705-5 Directed Readings
EDUC 710-714-3, 4, 5 Special Topics
EDUC 720-724-3, 4, 5 Special Topics
EDUC 801-5 Counselling Practicum I

Supervised clinical experience for students enrolled in the MEd or MA Counselling Psychology Program. Graded on a satisfactory/unsatisfactory basis. Prerequisite: EDUC 870 and 874.

EDUC 802-5 Counselling Practicum II

Advanced supervised clinical experience for students enrolled in the MEd or MA Counselling Psychology
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 Second Language Teaching
Theories of sentence, discourse, and context in second language education; teaching scientific genres and humanities genres, use of dictionaries and glossaries, use of standardized and alternative forms of assessment.

EDUC 825-5 Language Acquisition and Schooling
Academic factors that impact language learning, the universal grammar model of language, speech perception and production in first and second languages.

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, psycholinguistic and psychological writings. Prerequisite: EDUC 473.

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 role of the administrative leader, and the institutional context.

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' roles; students' 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 relativism 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 840-0 Graduate Seminar
Graded on a satisfactory/unsatisfactory basis.

EDUC 841-3 Graduate Seminar
An in-depth study of selected topics in education and social philosophy and sociological theory.

EDUC 844-5 The Research Basis of Mathematics Education
An examination of critical issues, current research and research practices in mathematics education.

EDUC 845-4 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 creative 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 Perspectives on Technology-Supported Learning
Examines applications of technology in teaching and learning emphasizing the progression of theory and research in this area from the early 20th century through the present to predictions about the future. Related fields of inquiry to be examined include: educational technology, artificial intelligence (AI), computer assisted instruction (CAI), computer-supported collaborative learning (CSCL), distance education, and socio-political perspectives on technology.

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 853-5 Tools, Theories and Practices of Computer-Supported Collaborative Learning
Computer-supported collaborative learning environments are designed with three principal objectives: to upgrade the conceptual quality of what is learned; to increase students’ abilities to monitor, control and improve their own learning; and to provide improved support for social aspects of learning. In this course students will critically examine the theoretical underpinnings of the design of such learning environments, and examine and contribute to developing practices in K-12 classrooms and other educational settings that make use of them. (0-0-5)

EDUC 854-5 Teachers as Agents of Change
The narratives of teachers of minority and Anglo-European ancestry will provide insights into how teachers work within and beyond normative institutionally prescribed roles to define and implement positive social and educational changes for their students.

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 across a wide spectrum of areas of educational inquiry.

EDUC 856-5 Sociocultural Perspectives on Education and Identity
Course activities will be structured for participants to consider recent formulations of learners as agents as well as subjects of culturally constructed, socially imposed worlds. Participants will examine a number of ethnographic descriptions of the experiences of learners in a variety of communities, noting in particular their use of diverse mediations/tools, including language. Participants will consider these ideas in relation to their own educational communities and develop plans for research activity in those sites.

EDUC 857-5 Issues and Topics in Environmental Education
Examines the origins of environmental education, the range of potential contributions to educational goals, 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 related 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, naïve realism, 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 theoretical and empirical research on psychology as it relates to education. Topics include motivation, learning, group and peer interactions in classrooms, and classroom environments. In design projects, students examine and create educational activities based on research, and investigate individually chosen topics. Prerequisite: admission to Psychology of Education Program.

EDUC 861-5 Study of Learning Environments
This course reviews research on learning environments (also known as classroom climates or classroom ecologies) in terms of psychological and social perspectives on educational experience. Implications for student learning, professional development and evaluating education innovations are examined.

EDUC 862-4 Individual Assessment Procedures
An overview of assessment procedures used in educational and community counselling settings, including interviewing, standardized testing, and observational procedures. Review of assessment related issues such as diagnosis, ethics, bias, psychometrics, and the integration of assessment procedures into the overall counselling process. Students who have taken EDUC 872 in previous semesters may not take this course for credit.

EDUC 863-5 Quantitative 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 Design 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 research. Students with credit for EDUC 814 may not take this course for further credit.

EDUC 865-5 Advanced Qualitative Research in Educational Research
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 fundamental questions of curriculum theory.

EDUC 869-5 Music Education as Thinking in Sound
This course presents the theory and practice of music education based on theories of auditory perception, musical theory, and various cross-cultural perspectives on musical behavior.

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
An examination of contemporary approaches to school counselling. Program development, consultation skills, counselling interventions, and ethics of school counselling are considered.

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, interdisciplinary; 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 889-10 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 890-10 Doctoral Thesis
Prerequisite: EDUC 889.

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 educational theorizing will be studied. Special attention will be paid to the relationship between 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 collaboration with a faculty member in the student’s area of specialization.

EDUC 904-5 Fieldwork III
EDUC 905-5 Fieldwork IV
EDUC 907-908-5 Selected Topics
EDUC 910-5 Directed Readings
EDUC 911-5 Colloquium in Curriculum Theory (II)
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 and 847.

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 considered, 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 leaders. Students are expected to complete a preliminary proposal for their own doctoral research. Prerequisite: EDUC 950.

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; addresses learning, cognition, motivation, methods of inquiry, and other cornerstones of the field. Prerequisite: one of EDUC 826, 829, 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.

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 analysing 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 983-0 Doctoral Comprehensive Examination
The examination is graded on a satisfactory/unsatisfactory basis.

Field Programs
8559 Education Building, 604.291.5830 Tel, 604.291.5882 Fax, www.educ.sfu.ca/fp
Director
A.M. MacKinnon, BSc, BEU, MSc (Calg), 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 a minimum of 30 credit hours in 500 level EDPR courses. (The total number of credit hours may vary, depending on the program content but will, in no case, be less than 30 credit hours of 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 collaboration 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 that is relevant to the educational community.

Students normally progress through the program 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.

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 education 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 school-based 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, 604.291.4892/3628 Tel, 604.291.5882 Fax, fpa@sfu.ca
Graduate Diploma Courses
EDPR 501-520-2,3,4,5 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 521-540-2,3,4,5 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 541-550-2,3,4,5 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 551-560-2,3,4,5 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 561-570-2,3,4,5 Advanced Field Studies in Educational 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 571-580-2,3,4,5 Advanced Field Studies in Educational 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 581-590-2,3,4,5 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 591-599-2,3,4,5 Advanced Field Studies in Collaborative Inquiry II
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.
Faculty of Science

Graduate Degrees Offered
Master of Environmental Toxicology
Master of Pest Management
Master of Science
Doctor of Philosophy

Requirements for the MSc Degree
The minimum requirements are those stated in the Graduate General Regulations (page 309). 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 normally is a period of intensive work, during which not more than 20 hours of employment per week may be undertaken by the candidate. These refer to 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, see “Graduate General Regulations” on page 309.

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 314 for further regulations.
three credit course beyond the University MSc requirement (see "1.7.2 Residence Requirement for the Master's Degree" on page 312). Additional course work may be set by the supervisory committee. For 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 micro-organisms in biotechnology, e.g. in the environmental, pharmaceutical and chemical industries. The lectures will cover the unique physiology and biochemistry of industrial micro-organisms 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-borne 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 854-3 Ecotoxicology
The proposed course will detail the physicochemical 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. (4-0-0) Prerequisite: BISC 301 and 313.

BISC 859-3 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 889-3 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 developments in cellular 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 course 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. (1-0-0)

BISC 899-2 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. (3-0-0)

BISC 898-0 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 502-503-3 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 three week period. (0-3-0)

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. (0-6-0)

MASC 505-506-6 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. (0-6-0)

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
G.W. Leach BSc, MSc, PhD (Tor)
Faculty and Areas of Research
See “Department of Chemistry” on page 205 for a complete list of faculty.

G. Agnes – analytical chemistry
A.J. Bennet – organic chemistry
T.J. Borgford – biochemistry*

N.R. Branda – organic chemistry, materials chemistry
J.A.C. Clyburne – inorganic chemistry
R.B. Cornell – biochemistry*
J.M. D Auria – nuclear chemistry
M.H. Ekerling – fuel cell chemistry
I.D. Gay – physical chemistry
R.H. Hill – inorganic chemistry
S. Holdcroft – polymer chemistry
C.H.W. Jones – radiochemistry
G.W. Leach – physical chemistry
D.B. Leznoff – inorganic chemistry
P.C.H. Li – analytical chemistry
P.W. Percival – physical chemistry, nuclear chemistry
B.M. Pinto – organic chemistry
E. Plettner – bio-organic chemistry
R.K. Pomeroy – inorganic chemistry
D. Sen – biochemistry*
K.N. Slensor – bio-organic chemistry
J.J. Wilkie – theoretical chemistry
V. Williams – organic chemistry
P.D. Wilson – organic chemistry
Z-G. Ye – materials chemistry
H.Z. Yu – analytical chemistry

Associate Member
For areas of research, refer to the department listed.

D.H. Boal, Physics
*joint appointment with biochemistry

Degrees Offered
The department offers courses leading to the MSc and PhD degrees.

Degree Requirements
All students will be assigned a graduate supervisory committee who meets with the student at least once a year to assess progress. The first meeting must occur before the end of the second semester of registration. At this meeting the student makes an oral presentation of the research proposal; in subsequent years research progress must be reported.

MSc Program
Admission
See “Graduate General Regulations” on page 309.

Degree Requirements
Course Work
The minimum requirement for the master’s degree is 12 credit hours of graduate courses.

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 309.

Degree Requirements
Course Work
For students entering with a BSc or equivalent: 15 credit hours of graduate courses. For students entering with a master’s degree: six credit hours of graduate courses not including CHEM 801.

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 MSc to PhD Program
Transfer from the MSc to the PhD program without submitting an MSc thesis must satisfy University requirements. Evidence of research potential will be judged by the graduate program committee.

Biochemistry
See “Department of Molecular Biology and Biochemistry” on page 396.

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 309 for chemical physics under special arrangements.

Co-operative Education Program
The Department of Chemistry offers a co-operative education option 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 requires the approval of the graduate program committee.

Graduate Courses
CHEM 740-3 Solid State Materials Chemistry
The study of the detailed chemistry of solid state inorganic materials in terms of crystal structures, bonding, preparative methods, analytical and characterization techniques, mixed valence states, solid solutions, defects and non-stoichiometry, molecular mechanisms of the optical, electronic, ionic, magnetic and dielectric properties, and materials applications in advanced technology. (3-1-0)

CHEM 742-3 Polymeric Materials
The course covers the detailed chemistry of polymers, including polymer structure, studies of polymer solutions, molecular weight determination, and the synthesis of polymers. In addition, topics of current interest in polymer science will be discussed. (3-1-0)

CHEM 744-3 Organic Materials Chemistry
This is an advanced level course in modern organic materials chemistry. Emphasis will be placed on the synthesis and properties of materials that are useful in the design of electrooptical devices, such as light emitting diodes (LEDs) and liquid crystal displays (LCDs). Topics to be discussed will include liquid crystals, conjugated polymers, and the assembly of thin film materials. A case study approach will be employed in order to provide an overview of these areas of research, with examples taken from the primary literature. (3-1-0)

CHEM 750-3 Physical 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 752-3 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 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 755-3 Synthetic Organic Chemistry
An advanced treatment of strategy in organic
synthesis. The principles and use of modern synthetic
methodology.

CHEM 759-3 Special 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 801-3 Student Seminar
Discussion of recent literature in chemistry through
student seminars.

CHEM 819-3 Special Topics in Analytical
Chemistry
In-depth coverage of a particular area of analytical
chemistry. Example subject areas include separation
science, mass spectrometry, optical spectroscopy,
electrochemistry, or surface science. Occasionally the
subject matter of this course will be a survey of recent
advances in the field. (3-0-0)

CHEM 832-3 Organometallic Chemistry
An advanced treatment of 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 836-3 Special Topics in Inorganic
Chemistry I
An advanced, in-depth treatment of a specialized
area of inorganic chemistry.

CHEM 839-3 Special Topics in Inorganic
Chemistry II
An advanced, in-depth treatment of a specialized
area of inorganic chemistry.

CHEM 842-3 Special Topics in Radiochemistry
Theory and practical techniques of the current uses of
radioactive isotopes in systems of chemical interest.

CHEM 863-3 Magnetic Resonance
Principles, techniques and applications of NMR and
ESR.

CHEM 864-3 Quantum Chemistry
Non-relativistic quantum mechanics. Atomic and
molecular structure, perturbation theory, variation
method.

CHEM 865-3 Electrochemistry
Modern techniques and concepts in electrochemistry.
Topics include equilibrium and dynamic
electrochemistry, ion transport and voltammetry.
Electrochemical systems of increasing importance
including chemically modified electrodes, fuel cells
and solar energy conversion applications will also be
discussed. (3-1-0)

CHEM 869-3 Special Topics in Physical
Chemistry
A specialized area of physical chemistry will be
selected from a list of topics.

CHEM 881-0 Co-op Practicum I
First semester work experience term for graduate
students. Prerequisite: completion of MSc thesis
including defence.

CHEM 882-0 Co-op Practicum II
Second semester work experience term for graduate
students. Prerequisite: completion of MSc thesis
including defence.

CHEM 898-0 MSc Thesis
A thesis for the MSc degree may be written on a topic
in either chemistry or chemical education. Students
elected to write a thesis in chemical education, as
required to complete satisfactorily 10 hours of course
work in the Faculty of Education in addition to the
minimum chemistry degree requirements. The 10
units of course work in the Faculty of Education may
not be used for credit towards the PhD degree in
Chemistry if the student transfers into the PhD
program.

CHEM 899-0 PhD Thesis

Department of Earth Sciences

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 603-3 Field Techniques in Hydrogeology
This course is intended to complement the theoretical
aspects of physical hydrogeology and aqueous
geochemistry covered at an undergraduate (or early
MSc) level by providing students with hands-on
experience using hydrogeological equipment (data
loggers, pumps, chemical sampling equipment),
implementing sampling and testing protocols, and
observing state-of-the-art monitoring and geophysical
tools. The course entails preparatory research and
data interpretation on the hydrogeology of the Fraser
delta (including surficial geology, regional
geochemistry and geophysical characteristics), a
week at a hydrogeology field site on the Fraser River
delta (early May), the extensive analysis and
interpretation of data gathered during the field
day session complemented with regional data acquired
during preliminary investigations, the development of
a large-scale simulation model of the groundwater
flow system at the site, and the completion of
a comprehensive hydrogeological report. The course
normally runs for about three weeks following spring
session final examinations. Note: This course has
limited enrollment. (2-0-2) Prerequisite: undergraduate
courses in physical and chemical hydrogeology (or equivalent) and consent of the
department.

EASC 604-3 Deformation Mechanisms and
Continental Tectonics
This course will focus on increasing the level of
understanding of the mechanisms by which rocks
deform and the effect of environmental variables
(effective pressure, temperature, strain rate, chemical
environment, etc.) on these deformation mechanisms.
Lectures will cover flow concepts applied to ductile
deformation, grain-scale to crustal-scale strain
partitioning, and models of exhumation of metamorphic
rocks. The link between far-field effects such as lithosphere rheology, climate and erosion,
and orogenic style will also be discussed. (2-0-2)
Prerequisite: undergraduate level courses in
structural geology and global tectonics, equivalent to
EASC 204 and 309 (or permission of the instructor).

EASC 606-3 Advanced Field Methods in Earth
Sciences
Focuses mainly on the field description, measurement and interpretation of geological,
geochemical and geophysical features, and may
concentrate on certain aspects of bedrock or surficial
geochemistry. Includes methods of data acquisition,
display and modeling. Field exercises may be augmented by
directed readings and laboratory studies. Course
costs depend on the location and duration of field
work and the nature of related investigations. (2-0-2)
Prerequisite: permission of the instructor.

EASC 607-3 Exploration Seismology
Application of seismic methods of the delineation of
hydrocarbon deposits and crustal structure. Travel
time expressions for a layered Earth; Zoeppritz’
equations; 2-D and 3-D seismic surveying methods;
reflection data processing, including deconvolution
and migration; amplitude versus offset methods and
direct hydrocarbon detection; seismic wave
propagation in Earth’s crust; refraction inversion;
principles of seismic interpretation. (2-0-2)
Prerequisite: EASC 417 or equivalent.
EASC 608-3 Advanced Metamorphic Petrology
Field relations, nature and origin of metamorphic and metasomatic rocks, graphical treatment and interpretation of mineral assemblages and heat-flow regimes in the framework of global tectonics, with special emphasis on derivation of pressure-temperature-fluid conditions ranging from low-grade rocks through granulites to partial melts. Laboratory: petrographic techniques applied to the study of rock suites. (2-0-2) Prerequisite: permission of the instructor.

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 techniques 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, whereas 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 the understanding of fundamental principles and an appreciation 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 chemistry, 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 plates, 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: undergraduate structural geology and petrology courses.

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 ichnofacies 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 infauna 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 tests and their respective methods of analysis for evaluating groundwater resources. Advanced methodologies for partially penetrating wells, leaky aquifers, anisotropic aquifers, double porosity rock 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 704-711-3 Directed Readings
(2-0-2) Prerequisite: permission of the instructor.

EASC 889-0 MSc Thesis

Centre for Environmental Biology

B8255 Shrum Science Centre, 604.291.3705 Tel, 604.291.3946 Fax, www.sfu.ca/biologyceb/ceb.html
Director (to be announced)
Faculty and Areas of Research
See "Department of Biological Sciences" on page 202 for a complete list of faculty.
L.I. Bellend-Young – ecotoxicology
J.H. Borden – forest entomology
A.P. Farrell – cardiorespiratory physiology of fish, aquatic toxicology
F. Gobas – environmental toxicology
G.J. Gries – semiwaves
A.S. Harestad – wildlife biology
C.J. Kennedy – biochemical and aquatic toxicology
F.C.P. Law – environmental toxicology, environmental risk assessment
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. Rotberg – population dynamics
M.P. Rosin – environmental carcinogenesis
R.D. Routledge – biometrics, estimating the sizes of animal populations
M.L. Winston – apiculture, social insects

Adjunct Professor
M. Goettel BSc (C’dia), MSc (Ott), PhD (Alta)

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 "Graduate 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

24 credit hours
Elective Courses
MPM candidates must complete a minimum of four elective 600 level graduate courses from the list given below. Course selection must be approved by the senior supervisor. Up to six credit hours of non-MPM graduate courses may be substituted, subject to prior approval of 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

Environmental Toxicology
Admission Requirements
Before entering, students should have completed the following or equivalents. These prerequisites may be waived by the departmental graduate studies committee under special circumstances on recommendation from the program director.
BISC 312-3 Environmental Toxicology I
BISC 313-3 Environmental Toxicology II
CHEM 282-3 Organic Chemistry II
MBB 221-3 Cellular Biology and Biochemistry

Program Requirements
Each MET student must choose a senior supervisor after admission, in consultation with the program director. In accordance with university regulations, a supervisory committee is formed by the beginning of the third semester of full time equivalent enrolment. As part of the requirements, students 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 project’s completion, 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 consists of a minimum of 32 graduate credit hours, including the following courses.

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 849-3 Ecological Effects-based Tests
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

Co-operative Education
This program has a co-operative education option that allows students to gain work experience outside the University. The program offers one or two options - OEE (3-0-0) Prerequisite: BISC 313 or permission of the department.

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 (see “Graduate General Regulations” on page 309).

Defence
An oral examination that includes the candidate’s research as well as general aspects of pest biology and management will be given.

Faculty of Science – Geography Program

Geography Program
7123 Robert C. Brown Hall, 604.291.3321 Tel, 604.291.5841 Fax, www.sfu.ca/geography

Chair
R.A. Clapp BA (Yale), MA, PhD (Calif)

Graduate Program Chair
N.K. Blomley BSc, PhD (Brist)

Faculty and Areas of Research
See “Department of Geography” on page 165 for a complete list of faculty.

W.G. Bailey – physical climatology, ginseng research
T.A. Brennand – glacial geomorphology, quaternary environments, regional paleohydrology
S. Dragicevic – geographic information science, spatial analysis and modelling
J.J. Hickin – fluvial geomorphology
I. Hutchinson – quaternary environments, coastal studies
L.F.W. Lesack – ecosystem biogeochemistry, land and water interactions, limnology
W.L. Quinton – hydrology of cold regions, runoff processes
A.C.B. Roberts – cultural, historical, paleo environments, remote sensing, photogrammetry
M.G. Schmidt – soil science, forest ecology
N.C. Schuurman – geographic information systems, spatial data and integration

Degrees Offered
The Department of Geography offers a program leading to the MSc degree in the Faculty of Science with emphasis on earth surface processes and environmental geoscience, specifically in aspects of geomorphology, biogeography, soils, climatology and hydrology; spatial information science, remote sensing, GIS and spatial analysis.

Students interested in pursuing a PhD degree in physical geography should see the Department of Geography entry in the Faculty of Arts section (page 355).
Admission

Normally, MSc candidates should have a BSc GPA of 3.25 in geography or a related discipline to enter the program. Admission for MSc students is in the fall semester. Applications for fall admission should be completed by February 1 of that year.

MSc Committee

The MSc candidate, once admitted, works under the faculty advisor's guidance, pending the supervisory committee's choice. The supervisory committee, normally consisting of two faculty members, one of whom may be drawn from outside the department, will be chosen by the start of the second semester.

Degree Requirements

All candidates for the MSc degree are expected to complete the degree requirements (30 credit hours) in six semesters. The MSc program requires the submission of a thesis (18 credit hours). The remaining 12 credit hours will be comprised of required and elective courses.

Course Work

Students complete 12 credit hours minimum (three courses) plus GEOG 600 and 601 which are non-credit courses, the grading of which is on a satisfactory/unsatisfactory basis. Attendance is compulsory to obtain a satisfactory grade. Students normally complete GEOG 606 as part of the 12 credit hours. With the advisor's consent, this can be replaced by another course. The remaining seven hours are composed of two courses from the list below, or with the graduate chair's approval, from related graduate courses in other departments such as biological sciences, chemistry, physics, mathematics, earth sciences, resource and environmental management and computing science. Students with deficiencies may be asked to complete more course work.

Thesis

The MSc program requires the submission and successful defence of a thesis. Normally, MSc students present proposed research at a one-day conference (research day) held annually in the spring semester. A written proposal should be submitted to the student's supervisory committee, defended in colloquium and approved, by the end of the second semester and prior to the start of substantive research. The thesis normally involves the conceptualization of a problem and the collection, analysis and interpretation of empirical data. The recommended maximum length of an MSc thesis is 120 pages (including bibliography, but excluding appendices). The completed thesis is judged by the candidate's examining committee at an oral defence.

Graduate Courses

For a full list of GEOG courses offered, see "Geography Graduate Courses" on page 356 in the Faculty of Arts section.

GEOG 600-0 Introduction to Graduate Studies: Fall Semester

Introduction to graduate studies in the Department of Geography at Simon Fraser University, covering formal requirements and practical considerations.

GEOG 601-0 Introduction to Graduate Studies: Spring Semester

Completion of GEOG 600, with an emphasis on the preparation and presentation of the research proposal.

GEOG 606-5 Research Design and Analytical Techniques in Physical Geography

Research design, data collection and quantitative methods in physical geography. The following courses are offered less frequently, depending on student demand and faculty availability.

GEOG 611-4 Hydrology

Conceptual and methodological bases of current hydrologic research.

GEOG 612-4 Glacial Geomorphology

Glacial landform-process models; field study of glacial landforms and sediments.

GEOG 613-4 Fluvial Geomorphology

An examination of current conceptual and methodological issues in fluvial geomorphology based on analyses of the primary research literature.

GEOG 614-4 Climatology

Recent theoretical developments in physical climatology.

GEOG 615-4 Quaternary Environments

Recent developments in paleoecology and the study of Quaternary environments.

GEOG 617-4 Soil Science

Soil physics, soil chemistry, soil biology and/or forest soils.

GEOG 651-4 Advanced Spatial Analysis and Modeling

Perspectives on the description, analysis, and prediction of geographical processes using spatial modeling and decision-making in a GIS environment.

GEOG 653-4 Theoretical and Applied Remote Sensing

Theory and applications of analytical processing procedures used with multispectral remote sensing data.

GEOG 655-4 Advanced Principles of Geographic Information Science

Examines data, data structures and computational methods that underlie GIS description and analysis. Illustrates the social science and science links between computers and geography.

GEOG 656-4 Aerial Reconnaissance for Remote Sensing

Theoretical and practical training in the acquisition of airborne multispectral remote sensing data.

GEOG 691-4 Directed Readings

Students may only take this course once during their program.

GEOG 697-0 MSc Thesis

Department of Mathematics

K10512 Shrum Science Centre, 604.291.3331 Tel, 604.291.4947 Fax, www.math.sfu.ca

Chair

N.R. Reilly BSc, PhD (Glas)
Graduate Program Chair
(to be announced)

Faculty and Areas of Research

See "Department of Mathematics" on page 211 for a complete list of faculty.

GEOG 700-0 Geophysical Studies: Spring Semester

Completion of GEOG 600, with an emphasis on the preparation and presentation of the research proposal.

Admission

See "Graduate General Regulations" on page 309 for admission requirements. Applicants normally submit aptitude section scores and an appropriate advanced section of the Educational Testing Service's graduate record exams. Applicants whose first language is not English will be asked to submit TOEFL results.

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 the MSc or PhD programs may apply.

Applied and Computational Mathematics

Admission

See "Graduate General Regulations" on page 309 for admission requirements. Applicants normally submit scores in the aptitude section and an appropriate advanced section of the Educational Testing Service's graduate record examinations. 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.

MSc Program Requirements

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 APMA 900,901; APMA 920, 922; APMA 930, 935; a further eight credit hours at the graduate level; and a further four credit hours which may be at the graduate level or at the 400 undergraduate level. The six core courses are

APMA 900-4 Advanced Mathematical Methods I
APMA 901-4 Advanced Mathematical Methods II
APMA 920-4 Numerical Linear Algebra
APMA 922-4 Numerical Solution of Partial Differential Equations
APMA 930-4 Fluid Dynamics
APMA 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 and submits and successfully defends a project report. This project should be completed within about one semester.

**PhD Program Requirements**

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 an MSc are required to obtain credit or transfer credit for an amount of course work equivalent to that obtained by students with an MSc.

PhD candidates normally pass an oral candidacy exam given by the supervisory committee before the end of the fourth full-time semester. The exam consists of a proposed thesis topic defence and supervisory committee questions on related proposed research topics. The exam follows submission of a written PhD research proposal and is graded pass/fail. Those with a fail 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.

**Applied and Computational Mathematics Graduate Courses**

**Note:** course descriptions for MATH 800-899 appear in the Mathematics and Statistics section while those for STAT 801-890 can be found in the Statistics Program section, the courses listed below replace courses labelled MATH. Except for selected topics courses, students with credit for a MATH labelled course may not take the corresponding APMA labelled course for further credit.

**APMA 900-4 Advanced Mathematical Methods I**

- Hilbert spaces. Calculus of variations. Sturm-Liouville problems and special functions. Green’s functions in one dimension. Integral equations. Prerequisite: MATH 314 or equivalent. Students with credit for MATH 900 may not take APMA 900 for further credit. Recommended: MATH 419.

**APMA 901-4 Advanced Mathematical Methods II**


**APMA 902-4 Applied Complex Analysis**

- Review of complex power series and contour integration. Conformal mapping, Schwartz-Christoffel transformation. Special functions. Asymptotic expansions. Integral transform. Prerequisite: MATH 322 or equivalent. Students with credit for MATH 836 or 902 may not take APMA 902 for further credit.

**APMA 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. Students with credit for MATH 905 may not take APMA 905 for further credit.

**APMA 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 or 910 may not take APMA 910 for further credit.

**APMA 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 or 912 may not take APMA 912 for further credit.

**APMA 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 or 920 may not take APMA 920 for further credit.

**APMA 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 in the real and complex domains. Prerequisite: MATH 851 or 921 may not take APMA 921 for further credit.

**APMA 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 or 922 may not take APMA 922 for further credit.

**APMA 923-4 Numerical Methods in 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 or 923 may not take APMA 923 for further credit.

**APMA 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 in scientific computing.

**APMA 930-4 Fluid Dynamics**

- Basic equations and theorems of fluid mechanics. Incompressible flow. Compressible flow. Effects of viscosity. Prerequisite: MATH 361 or equivalent. Students with credit for MATH 930 may not take APMA 930 for further credit. Recommended: MATH 462.

**APMA 934-4 Selected Topics in Fluid Dynamics**

- Study of a specialized area of fluid dynamics such as hydrodynamic stability, multiphase flow, non-Newtonian fluids, computational fluid dynamics, boundary-layer theory, magnetic fluids and plasmas, bio- and geo-fluid mechanics, gas dynamics. Prerequisite: APMA 930 or permission of the instructor.

**APMA 935-4 Mechanics of Solids**

- Analysis of stress and strain. Conservation laws. Elastic and plastic material behavior. Two and three dimensional elasticity. Variational principles. Wave propagation. Prerequisite: MATH 361 or equivalent. Students with credit for MATH 883 or 935 may not take APMA 935 for further credit. Recommended: MATH 468.

**APMA 939-4 Selected Topics in Mechanics of Solids**

- Study of a specialized area of the mechanics of solids such as composite materials, micromechanics, fracture, plate and shell theory, creep, computational solid mechanics, wave propagation, contact mechanics. Prerequisite: APMA 935 or permission of the instructor.

**APMA 981-4 Selected Topics in Continuum Mechanics**

- (4-0-0)

**APMA 982-4 Selected Topics in Mathematical Physics**

- (4-0-0)

**APMA 990-4 Selected Topics in Applied Mathematics**

**Mathematics**

**MSc Program Requirements**

A candidate normally obtains at least 20 credit hours beyond bachelor’s degree courses. Of these, at least 12 are graduate courses or seminars; the remaining eight may be from graduate courses or seminars or 400 division undergraduate courses. The student also submits a satisfactory thesis and will attend an oral examination based on that thesis and related topics. Note: APMA 990-990 (page 388) and STAT 800-890 (page 399) may be used to satisfy requirements for the master of science degree.

**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. The first stage covers a broad range of senior undergraduate material. In the second, students present to their supervisory committee a written thesis proposal and then defend this at an open oral defence. The supervisory committee evaluates the thesis proposal and defence and either passes or fails the student. A candidate ordinarily cannot 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 309 for further information and regulations. Note: APMA 900-990 (page 388) and STAT 800-890 (page 399) may be satisfy PhD requirements.

**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 the Department of Mathematics 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 the Department of Mathematics 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 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 or permission of the department. Graduate students in the Department of Mathematics cannot take this course to satisfy their degree requirements.

MATH 605-4 Mathematics in Context
Mathematical modeling in the largest sense with a focus on topics and issues related to doing and discovering mathematics, including explorations of available computational resources, e.g., Maple. Prerequisite: acceptance into the MSc program in mathematics education or one year of university level calculus. Graduate students in the Department of Mathematics 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 606.

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 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

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 Lebesgue measure, integration and the Lebesgue convergence theorems together with the treatment of such topics as absolute continuity, the fundamental theorem of calculus, the Lebesgue-Riemann integral, and 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, Schwartz-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 877-1 Supplementary Reading
MATH 890-0 Practicum I
First semester of work experience in a Co-operative Education Program. (0-0-0)

MATH 891-0 Practicum II
Second semester of work experience in a 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 894-2 Reading
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
8166 South Science Building, 604.291.5630 Tel, 604.291.5583 Fax, www.sfu.ca/mbb

Chair
M.J. Smith BSc (St Mary’s, Calif), PhD (Br Col)

Faculty and Areas of Research
D.L. Bailie – developmental genetics, genomics
C.T. Beh – cholesterol molecular genetics and genomics
B.P. Brandhorst – developmental biology and gene regulation
F.S.L. Brinkman – bacterial genomics and bioinformatics
R.B. Cornell – membrane bound enzymes
W.S. Davidson – molecular, population and evolutionary genetics
N. Harden – developmental genetics, signal transduction
N.C. Hawkins – developmental genetics
B.M. Honda – molecular biology and gene regulation
M.R. Leroux – protein structure and function
M.W. Peetzel – crystallographic analysis of protein targeting and translocation
F.F. Pio – physical biochemistry; x-ray crystallography
J.K. Scott – immunoochemistry, immunology
D. Sen – nucleic acid biochemistry; chromosome structure
M.J. Smith – molecular phylogy and development
J.J. Thewalt – membrane biophysics; nuclear magnetic resonance
P.J. Uriu – RNA-catalyzed chemical reactions; early metabolism; self-replicating systems
E.M. Verheyen – Drosophila developmental genetics; cell fate determination

Associate Members
For areas of research, refer to the department listed.

E.A. Accili, Kinesiology
A.T. Beckenbach, Biological Sciences
A.J. Bennett, Chemistry
F. Breden, Biological Sciences
Faculty of Science – Department of Molecular Biology and Biochemistry 397

N.H. Haunerland, Biological Sciences
C. Krieger, Kinesiology
P.C.H. Li, Chemistry
M.M. Moore, Biological Sciences
B.M. Pinto, Chemistry
E. Plettner, Chemistry
L.M. Quarmby, Biological Sciences
G.F. Tibbits, Kinesiology

Obtain information about the department and its faculty research from the MBB graduate secretariat, Department of Molecular Biology and Biochemistry, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A 1S6. Telephone 604.291.5631, E-mail mbb@sfu.ca

Admission
See “1.3 Admission” on page 309 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 is devoted to original research. A thesis describing the work is submitted and defended in accordance with Graduate General Regulations.

PhD Program
Course Work
For those with a BSc or equivalent, 19 credit hours minimum is required, at least 15 of which must be graduate level including MBB 801, 802 and 806. PhD students normally enrol in MBB 806 at the earliest opportunity following four program semesters. 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 (page 309). In addition, all MBB PhD candidates present a public seminar on their research.

Courses Offered by Other Departments

Upon the supervisory committee’s recommendation and with the department graduate studies committee’s approval, MBB students may take relevant courses from other departments toward their degree. Some courses of interest may include, but are not limited to CHEM 752, 754 and 811.

Graduate Course Work at Other Universities
With the supervisory committee’s recommendation and department graduate studies committee approval, up to six credit hours taken elsewhere that didn’t result in a degree may apply to requirements, but not exceed more than half the required credits in addition to MBB 801, 802 and 806.

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.

MBB 806-3 PhD Graduate Research Seminar
Oral presentation and defense 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.

MBB 811-1 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 812-2 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 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 immunity 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.

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 838-3 Human Molecular Genetics
The course will consider recent advances in human molecular genetics. Topics will include genome analysis, genetic testing, and studies of genetic disorders. Prerequisite: MBB 331 (or BISC 331) or equivalent.

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 841-3 Bioinformatics
An overview of the newly emerging field of bioinformatics, which is loosely defined as the intersection between the fields of molecular biology and computer science. A combination of lecture format and hands-on instruction is provided in the use of, and theory behind, bioinformatic software tools used in genomic and computational biology research. An introduction to the development of bioinformatic software is included, though only basic computer science knowledge is required for this particular course. Prerequisite: one introductory computer programming course (e.g. CMPT 101, 102, 103 or 110 or equivalent).
MBB 842-3 Proteomics
Since the completion of the human genome, the next step is to understand the function of these genes. Proteomics cover the integration of a number of topics with the aim of analysing the complete complement of proteins expressed by a biological system. This course will give a general understanding of the proteome, describe many of the different aspects of proteomics that have been developed recently, identify the technological limitations related to proteomics, and will also include likely future directions for the field. Prerequisite: one introductory computer programming course (e.g. CMPT 101, 102, 103 or 110 or equivalent).

MBB 843-3 Protein Biogenesis, Function and Degradation
The central dogma of molecular biology (DNA to RNA to protein) underscores two fundamental biological processes, transcription and translation, that are essential to life. Protein biogenesis (folding, assembly, targeting to the proper cellular compartment), protein modification and protein degradation represent three other equally important cellular activities. The emphasis in this course will be to review the literature on protein biogenesis, function, and degradation, and explore the most exciting developments that are just starting to uncover how mechanistically complex these processes are.

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 898-0 MSc Thesis
MBB 899-0 PhD Thesis

Department of Physics
P8429 Shrum Science Centre, 604.291.4465 Tel, 604.291.3592 Fax, www.sfu.ca/physics

Chair
D.H. Boal BSc, MSc, PhD (Tor)
Graduate Program Chair
H.D. Trotter BSc, MSc, PhD (McG)

Faculty and Areas of Research
See “Department of Physics” on page 217 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
D. Broun – highly correlated electronic materials, high Tc superconductivity
B.P. Clayman – far-infrared properties of solids
J.F. Cochran* – surface impedance of metals, ferromagnetism
K. Colbow* – thin film semiconductors, microsensors, solid state gas sensors, hydrogen storage materials
E.D. Crozier – condensed matter, structure and electronic properties, EXAFS
A.E. Curzon* – scanning and transmission electron microscopy, energy dispersive x-ray analysis, materials science
J.S. Dodge – superconductivity, magnetism, optical spectroscopy
R.H. Ernss – non-linear problems in optics and other areas of physics
R.F. Fritid – layered solids, intercalation solids
B.J. Friskin – soft condensed matter
S. Gygi* – superconductivity, low temperature physics
M. Hayden – experimental condensed matter physics, resonance imaging
B. Heinrich – molecular beam epitaxy, superconductivity, surface physics
D.J. Huntley* – luminescence dating, archaeeometry
J.C. Irwin* – layered compounds and high temperature superconductors, Raman scattering
I. Herbut – condensed matter theory
K.L. Kavanagh – materials science
G. Kirchenow – condensed matter theory
S.R. Morrison* – physical and chemical properties of semiconductor surfaces, energy storage and conversion
D.O’Neill – experimental high energy physics
L.H. Palmer* – astronomy, astrophysics, musical acoustics
M. Pilschke – condensed matter theory, statistical physics
K.E. Rieckhoff* – chemical physics, spectroscopy
J.E. Sonier – MuSR spectroscopy, high Tc superconductivity
M.R. Scheinfein – magnetic nanostructures
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
M. Vetterli – intermediate energy and particle physics
K.S. Viswanathan* – high energy theory, classical and quantum gravity
S. Watkins – semiconductor physics
M. Worts* – solid state theory, statistical mechanics, surface physics, membranes, biophysics

Adjunct Faculty
St. J. Dixon-Waren – optoelectronic and microelectronic devices
M. Zuckermann – solid state physics, statistical mechanics, biophysics, lipid membranes

Associate Members
For areas of research, refer to the department listed.

J.M. D Auria, Chemistry
K. Delaney, Biological Sciences
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 309.

MBB 811-3 Fundamentals of Quantum Mechanics
MBB 812-3 Electromagnetic Theory
and one of
PHYS 813-3 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 master’s degree or the equivalent in physics. Also see “Graduate General Regulations” on page 309.

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.

The 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 see “1.3.4 Admission to a Doctoral Program” on page 310.

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 see “1.3.4 Admission to a Doctoral Program” on page 310.

Biochemistry and Molecular Biology
See "Department of Molecular Biology and Biochemistry" on page 396.
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, relativisticQM. 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 quantization, perturbation theory, Feynman diagrams and rules, strong and weak interactions. Course offered occasionally. Prerequisite: PHYS 811 or equivalent.

PHYS 821-3 Electromagnetic Theory
Advanced topics in classical electromagnetic theory: review of Maxwell’s equations, wave propagation, radiation theory, special relativity and electromagnetic theory, magnetohydrodynamics and plasma physics, radiation damping. Course offered regularly. Prerequisite: PHYS 425, or equivalent.

PHYS 841-3 Equilibrium Statistical Mechanics
Review of ensembles and thermodynamics, ideal gases, imperfect classical gases, classical and modern theories of phase transitions, renormalization group. Course offered regularly. Prerequisite: PHYS 345, or equivalent.

PHYS 846-3 Nonlinear Physics
Nonlinear dynamics and chaos. Pattern formation and an introduction to turbulence. Prerequisite: PHYS 384 or equivalent.

PHYS 847-3 Topics in soft-condensed matter and biological physics
An introduction to one of several topics in soft-condensed matter and biological physics. Recent versions of this course have focused on polymers, liquid crystals, structures of biological membranes, and cell mechanics. Corequisite: PHYS 841.

PHYS 861-3 Introduction to Solid State Physics
Free electron theory, crystal structure, band theory, Bloch’s theorem, electron dynamics, phonons, semiconductors. Course offered regularly. Prerequisite: PHYS 465 or equivalent, and PHYS 415.

PHYS 862-3 Solid State Physics II
Special topics in solid state physics such as superconductivity, magnetism, optical properties of solids, electron correlations. Course offered regularly. Prerequisite: PHYS 861.

PHYS 863-3 Surface Science, Thin Films and Interfaces
Review of surface science techniques: Auger, XPS electron spectroscopies, low energy electron diffraction (LEED), high energy electron diffraction (RHEED), Scanning tunneling microscopy (STM). Review of thin film deposition techniques: molecular beam epitaxy of metallic and semiconductor multilayer and superlattice structures. Physics and chemistry of surfaces and interfaces. Course offered occasionally. Prerequisite: PHYS 810, 821, 861 or permission of the department.

PHYS 871-3 Introduction to Elementary Particle Physics
Elementary particle phenomenology: classification of particles, forces, conservation laws, relativistic scattering theory, electromagnetic interactions of leptons and hadrons, weak interactions, gauge theories, strong interactions. Course offered occasionally.

PHYS 880-3 Applications of Group Theory to Physics
Elements of group theory, matrix representations, the Clebsch-Gordon series, applications of finite and continuous groups to problems in atomic, solid state and elementary particle physics. Course offered occasionally.

PHYS 881-3 Special Topics I
PHYS 882-3 Special Topics II
PHYS 883-3 Special Topics III
PHYS 884-2 Special Topics IV
PHYS 885-2 Special Topics V
PHYS 886-2 Special Topics VI
PHYS 890-0 MSc Thesis
PHYS 899-0 PhD Thesis

Department of Statistics and Actuarial Science

Graduate Courses

PHYS 841-3 Equilibrium Statistical Mechanics
Review of ensembles and thermodynamics, ideal gases, imperfect classical gases, classical and modern theories of phase transitions, renormalization group. Course offered regularly. Prerequisite: PHYS 345, or equivalent.

PHYS 846-3 Nonlinear Physics
Nonlinear dynamics and chaos. Pattern formation and an introduction to turbulence. Prerequisite: PHYS 384 or equivalent.

PHYS 847-3 Topics in soft-condensed matter and biological physics
An introduction to one of several topics in soft-condensed matter and biological physics. Recent versions of this course have focused on polymers, liquid crystals, structures of biological membranes, and cell mechanics. Corequisite: PHYS 841.

PHYS 861-3 Introduction to Solid State Physics
Free electron theory, crystal structure, band theory, Bloch’s theorem, electron dynamics, phonons, semiconductors. Course offered regularly. Prerequisite: PHYS 465 or equivalent, and PHYS 415.

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Special topics in solid state physics such as superconductivity, magnetism, optical properties of solids, electron correlations. Course offered regularly. Prerequisite: PHYS 861.

PHYS 863-3 Surface Science, Thin Films and Interfaces
Review of surface science techniques: Auger, XPS electron spectroscopies, low energy electron diffraction (LEED), high energy electron diffraction (RHEED), Scanning tunneling microscopy (STM). Review of thin film deposition techniques: molecular beam epitaxy of metallic and semiconductor multilayer and superlattice structures. Physics and chemistry of surfaces and interfaces. Course offered occasionally. Prerequisite: PHYS 810, 821, 861 or permission of the department.

PHYS 871-3 Introduction to Elementary Particle Physics
Elementary particle phenomenology: classification of particles, forces, conservation laws, relativistic scattering theory, electromagnetic interactions of leptons and hadrons, weak interactions, gauge theories, strong interactions. Course offered occasionally.

PHYS 880-3 Applications of Group Theory to Physics
Elements of group theory, matrix representations, the Clebsch-Gordon series, applications of finite and continuous groups to problems in atomic, solid state and elementary particle physics. Course offered occasionally.

PHYS 881-3 Special Topics I
PHYS 882-3 Special Topics II
PHYS 883-3 Special Topics III
PHYS 884-2 Special Topics IV
PHYS 885-2 Special Topics V
PHYS 886-2 Special Topics VI
PHYS 890-0 MSc Thesis
PHYS 899-0 PhD Thesis

Statistics

Admission
See “1.3 Admission” on page 309 for admission requirements.

MSc Requirements
The program instructs students on a wide range of statistical techniques and provides experience in the practical application of statistics. The program teaches statistical expertise in preparation for a career in either theoretical or applied statistics.

Students in the program will be required to:
• complete at least 30 credit hours of course work in Statistics and related fields beyond courses taken for the bachelor’s degree. Of these 30 hours, at least 24 are to be in graduate courses or graduate seminars, and the remaining six may be chosen from graduate courses or those 400 level undergraduate courses which may be taken for credit for the BSc in statistics. Normally these courses will include STAT 801, 811 and 812 and at least four of STAT 802, 803, 804, 805, 806, 870, 890, 891.
• complete satisfactorily STAT 811 and 812
• submit and defend successfully a project (as outlined in the Graduate General Regulations) based on some problem of statistical analysis. This problem will ordinarily arise out of the statistical consulting service.

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.

PhD Requirements
A candidate will generally obtain at least 30 credit hours beyond those for the bachelor’s degree. Of these, at least 25 will be graduate courses and the remaining eight may be from graduate courses or those 400 level undergraduate courses which may be taken for credit for the BSc in statistics. Students who hold an MSc in statistics are deemed to have earned 16 of the 22 graduate hours and four of the eight undergraduate or graduate hours required.

Candiates normally pass a general examination covering a broad range of senior undergraduate statistics material. A candidate ordinarily cannot take the general exam more than twice. This exam is normally completed within four full time semesters of initial PhD enrolment.

Students submit and successfully defend a thesis which will embody a significant contribution to statistical knowledge. See “Graduate General Regulations” on page 309 for further information and regulations.

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.

Statistics Graduate Courses

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 Mathematics and 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 Statistics and Actuarial Science.

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 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
Statistical methodology used in analyzing failure time data. Likelihoods under various censoring patterns. Inference using parametric regression models including the exponential, Weibull, lognormal, generalized gamma distributions. Goodness-of-fit tests. The proportional hazards family, and inference under the proportional hazards model. Stratification and blocking in proportional hazards models. Time dependent covariates. Regression methods for grouped data. Prerequisite: STAT 450.

STAT 811-2 Statistical Consulting I
This course is designed to give students some practical experience as a statistical consultant through classroom discussion of issues in consulting and participation in the department’s Statistical Consulting Service under the direction of faculty members or the director.

STAT 812-2 Statistical Consulting II
Students will participate in the department’s Statistical Consulting Service under the direction of faculty members or the director.
Centres and Institutes

Centre for Research on Adaptive Behaviour in Economics (CRABE)
Director: J. Arilovic BA (Sarajevo), MA, PhD (Chic), 604.291.5603 Tel, 604.291.5944 Fax, www.sfu.ca/crabe, arilovic@sfu.ca

The centre's activities and program initiate and promote research related to experimental and behavioral economics, and computational methods of learning, adaptation and evolution in economic environments. The centre facilitates the conduct of faculty and student research projects by providing infrastructure for computer simulations, economic experiments with human subjects and survey studies. The centre organizes conferences, colloquia, visiting speakers' seminars and visiting scholars' programs.

Western Canadian Universities Marine Biological Society (Bamfield)
Director: A.N. Spencer BSc (London), PhD (Vic, BC) 250.728.3301 Tel, 250.728.3452 Fax

This 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.

BC Synchrotron Institute
Director: C.H.W. Jones BSc, PhD (Manc), 604.291.5714 Tel, 604.291.3765 Fax, bcsi@sfu.ca, www.bcsi.org

The institute's members come from the University of BC, University of Victoria, SFU, and University of Northern BC, BC companies, federal and provincial government laboratories in BC. The institute's mandate is to inform the BC academic, industrial and government laboratory communities of opportunities that exist through synchrotron radiation studies, particularly at the Canadian Light Source; to raise BC's profile nationally in research and development; and to assist in preparing BC funding applications for facilities and equipment from agencies such as CFI.

Behavioural Ecology Research Group
Director: L.M. Dill BSc, MSc, PhD (Br Col), 604.291.3664 Tel, ldill@sfu.ca, www.sfu.ca/biology/berg

The research group, formally established in 1989 to pursue basic research in the field of behavioral ecology, maintains and further develops an internationally recognized student training centre in behavioral ecology, and related areas of inquiry. It provides a service to government, industry and other organizations to tackle basic and applied problems in behavioral ecology through collaborative research. Members are drawn from the Departments of Biological Sciences, Psychology, Archaeology and the School of Resource Management.

W.J. VanDusen BC Business Studies Institute
Director: C.E. Love BEng, MBA (McM), PhD (Lond), 604.291.4183 Tel, 604.291.5833 Fax, www.bus.sfu.ca/research.html

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: R.M. Lorimer BA, MA (Manit), PhD (Tor), 604.291.5242 Tel, 604.291.5239 Fax, ccpp-info@sfu.ca, www.harbour.sfu.ca/ccsp

This centre was established in 1987 to pursue the study of publishing and to serve the research and the information needs of the publishing industry. The CCSP engages in basic research into the history, management and policy issues related to the industry. Projects are initiated by the CCSP and undertaken under contract to, or by means of grants from industry, government and granting agencies. The research of the CCSP involves faculty, graduate students and independent researchers from a variety of disciplines. From time to time, the CCSP publishes monographs and reports on the theory and practice of publishing, and sponsors seminars, conferences and professional development courses.

Institute for Canadian Urban Research Studies
Director: P.L. Brantingham AB (Calif), MA (Fordham), MSP, PhD (Florida State), 604.291.3515 Tel, 604.291.4140 Fax

The institute furthers multidisciplinary urban issues research. Specifically its objectives are to provide a focus for research about Canadian urban problems and issues; 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 accessible through modern digital data management; to provide a facility in which research and techniques are available to those with responsibility for policy.

Centre d'études Francophones Quebec-Pacific
www.sfu.ca/french/cefep.htm

The centre is a research and documentation centre. Its mandate includes gathering and disseminating information relating to French literatures, cultures and languages of the Pacific region, as well as interdisciplinary research in literature, sociolinguistics, cinema and culture. It supports and sponsors conferences, colloquia and visiting speakers. As the only research centre of its kind west of the Rockies, it's activities and programs focus on the distinct culture of French speakers of BC and the Pacific Rim. In addition, the centre acts as a liaison between the Centre d'études Québécoises (CETUQ) of the University of Montreal and the Pacific Region.

Chemical Ecology Research Group
Director: J.H. Borden BSc (Wash State), MSc, PhD (Calif), RPF, RPE, FESC, 604.291.3646 Tel, 604.291.3496 Fax

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.

Centre for Coastal Studies
Director: P. Gallagher BSc, BEd (Br Col), PhD (S Fraser), 604.291.4653 Tel, 604.291.3851 Fax, www.sfu.ca/coastalstudies

The centre promotes interdisciplinary research, education and dialogue on Canada's coastal ecosystems, particularly British Columbia. By linking social and natural science with local knowledge, the centre focuses on three key themes: marine conservation, diversification of coastal economies, and capacity for resource management. Activities include: collaborative research involving universities, industry, communities, First nations and governments; public education; and programs and projects that enhance capacity building and information sharing. The centre's facilities provide a venue for networking, a location for visiting researchers, and a reference library.

Community Economic Development Centre
M.L. Roseland, BA MA (Wesleyan, Conn), PhD (Br Col), 2100 East Academic Annex, 604.291.5849 Tel, 604.291.5473 Fax, cedc@sfu.ca, www.sfu.ca/cedc

Community economic development (CED) is the process by which communities can initiate and generate their own solutions for their common economic problems. CED enterprises are based on a consideration of the relationship between economic factors and other community elements such as housing, education, the natural environment, health, and the arts. CED has emerged as an alternative to conventional approaches to economic development, a participatory, holistic process that leads to positive, concrete changes in communities by creating employment, reducing poverty, contributing to the health of the natural environment, stabilizing local economies, and increasing community control.

The goal of the SFU CED Centre is to encourage accountable, sustainable and appropriate community economic development 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 an undergraduate certificate and a post baccalaureate diploma in community economic development, which are also available through distance education. In 2001 it also began offering a Professional CED Certificate Program through Continuing Studies.

Co-operative Resource Management Institute
Director: R.M. Peterman BSc (Calif), PhD (Br Col), 2100 East Academic Annex, 604.291.5849 Tel, 604.291.4683 Tel, 604.291.4968 Fax, www.rem.sfu.ca/crim

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
Executive Director: F.M. Gordon, 604.822.9875 Tel, 604.822.9317 Fax, iccr@law.ubc.ca, www.iccr.law.ubc.ca

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 trans-national 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: M.A. Jackson BA (Calif), MA, PhD (Tor), 604.291.4040 Tel, 604.291.4140 Fax

The institute 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: W.G. Glackman BA (Calif), MA, PhD (S Fraser), 604.291.4041/4127 Tel, 604.291.4140 Fax

The centre was established in 1978 to facilitate criminological research by faculty and graduate students. Funds to establish and maintain the centre were provided by the Solicitor General of Canada for the first 15 years of operation. Since that time, grants and contracts obtained by the School of Criminology faculty from provincial, federal and private sources have maintained the centre at a minimal level. Currently, the centre operates largely as an administrative unit for external funding received by faculty of the school. Funding to pay the salary of an administrator is derived from these sources and occasional grants from the Dean of Arts. In addition modest library is maintained for the use of the SFU and external community.

The Dialogue Institute
Director: R. S. Anderson BA (Br Col), MA, PhD (Chic), 604.291.5075 Tel, 604.291.5098 Fax, robert_anderson@sfu.ca, www.sfu.ca/dialogue

The purposes of the institute are to promote the study and practice of dialogue within and outside the University. The Institute is the University’s centre for research, learning and training efforts with respect to the Morris J. Wosk Centre for Dialogue, and the Institute is, in turn, supported by the Centre for Dialogue.

The Centre for Education, Law and Society
Director: W. Cassidy BA, MEd (S Fraser), PhD (Chic), 604.291.4484 Tel, 604.291.3203 Fax, cassidy@sfu.ca, www.lawconnection.ca

The centre 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. Projects range from the use of mock trials as teaching to the development of an interactive web site for social studies teachers. Among its goals are curricular development across subject areas and grades and research into school culture. 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 the Centre for Distance Education. The centre attracts a number of graduate students interested in school law, curriculum and youth justice issues.

Centre for Experimental and Constructive Mathematics
Director: M.B. Monagan BSc (Massey), MMath, PhD (Wat), 604.291.5617 Tel, 604.291.5616 Fax, operations@cemc.sfu.ca, www.cemc.sfu.ca

The centre is intended to further research and graduate education in computation in the mathematical sciences.

The centre’s activities 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, travel 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.

Feminist Institute for Studies on Law and Society
Co-directors: D.E. Chun BA (Br Col), MA, PhD (Tor), 604.291.4761 Tel, W. Chan BA (Car), MA (Sheff), PhD (Camb), 604.291.4469 Tel, fsls@sfu.ca, www.sfu.ca/~fsls

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: G.M. Gutman BA (Br Col), MA (Alta), PhD (Br Col), 604.291.5062 Tel, 604.291.5066 Fax, gero@sfu.ca, www.harbour.sfu.ca/gero/

Established in 1982, the research centre promotes and conducts research on topics relating to aging and the aged, serves as a clearing house 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.

Centre for Global Political Economy
Director: S. McBride BSc (Lond), MA, PhD (MMc), 604.291.4375 Tel, 604.291.4786 Fax, cgpe@sfu.ca, www.sfu.ca/politics/cgpe.html

The centre is housed in the Department of Political Science, and involves faculty from other academic units at Simon Fraser University to provide a focus for existing strength in the field of global political economy and to win a position as an international centre for such research. This will be accomplished through external grants, high quality publications and a variety of other activities.

Institute of Governance Studies
Director: P.J. Smith BA, MA (MMc), PhD (Lond), 604.291.4994 Tel, 604.291.4786 Fax, lgs@sfu.ca, www.sfu.ca/lgs

The institute was established to further research on issues and problems of governance in Canada at the municipal, regional, metropolitan, provincial and federal levels and in comparative and international settings. It seeks to promote collaboration and research on governance issues; to provide a forum within the Vancouver metropolitan and British Columbia for the collection and dissemination of governance research; and to facilitate exchange between researchers on public policy/governance matters and those with direct responsibility for contemporary governance. Its activities include: occasional paper/monograph series, colloquia/conferences — in 1995 on public sector ethics and on UN Habitat II; and research projects — such as currently on labor market policy and on metropolitan governance.

Institute for the Humanities
Director: D. Grayston BA (Br Col), MDiv (Gen Theol Sem, NY), ThM (Tor), PhD (Saint Michael’s) 604.291.5516 Tel, 604.291.5788 Fax, grayston@sfu.ca, www.sfu.ca/humanities-institute

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 conferences, seminars, projects and publications 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 Department of Humanities are affiliated.
Centre for Innovation in Management
Director: C.E. Love BEng, MBA (McM), PhD (Lond), 604.291.4183 Tel, 604.291.5833 Fax, cim@sfu.ca, www.crim.sfu.ca

The centre serves as a leading edge source of ideas and learning 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 practise case studies.

Centre for Labour Studies
Director: M. Leier BA, MA (S Fraser), PhD (Nfld), 604.291.3446 Tel, 604.291.5837 Fax, labour_studies@sfu.ca, www.sfu.ca/labour

The centre promotes the study and understanding of labor, 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 See-Chai Lam Centre for International Communication
Director: J.W. Walls BA, MA, PhD (Indiana), 604.291.5089 Tel, 604.291.5112 Fax, dlam-info@www.cic.sfu.ca, www.cic.sfu.ca

This interdisciplinary centre, which began operation in 1989, integrates university, government, professional and business resources for research, 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. Activities include international communication research and development on Chinese, Japanese and other East Asian culture, language and communication courses and workshops, cross-cultural management and communication seminars, and the Pacific Regional Forum on Business and Management Communication.

Logic and Functional Programming Group
Director: V. Dahl MSc (Buenos Aires), PhD Aix-Marseille I, Dipl d’Et Aix-Marseille II, 604.291.3426/3426 Tel, 604.291.3045 Fax, www.cs.sfu.ca/research/groups/Logic-Functional.html

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 and expert systems, robotics, distributed processing, mobile code and virtual worlds, and as tools for molecular biology.

Mental Health, Law and Policy Institute
Director: R.M. Roesch BS (Arizona), PhD (III), 604.291.5868 Tel, 604.291.6695 Fax, mhpl@sfu.ca, www.sfu.ca/mhpl

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: M. Parameswaran BE (Madr), MSc, PhD (Alta), 604.291.4971 Tel, 604.291.4951 Fax, param@sfu.ca, www.sfu.ca/imr

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: M.R. Trummer PhD (Zur), 604.268.6655 Tel, 604.268.6657 Fax, sfu@pims.math.ca, www.pims.math.ca/pimssites/sfu

The Pacific Institute for the Mathematical Sciences (PIMS) is dedicated to promoting all aspects of the mathematical sciences by stimulating, co-ordinating and facilitating the activities of mathematical and computational scientists. This is achieved by:

• promoting research in all areas of the mathematical sciences
• initiating collaborations and strengthening ties between mathematical scientists in the academic community and those in the industrial, business and government sectors
• training of highly qualified personnel for academic and industrial employment
• developing new technologies to support research, communication and training in the mathematical sciences. Associated with PIMS and partially administered by PIMS are projects of the Mathematics of Information Technology and Complex Systems (MITACS). The project is defined as a project of the Mathematics of Information Technology and Complex Systems (MITACS). The project is defined as a project of the Mathematics of Information Technology and Complex Systems (MITACS). The project is defined as a project of the Mathematics of Information Technology and Complex Systems (MITACS).

Through the strength and vitality of its programs, PIMS and MITACS are able to serve the mathematical sciences community as a catalyst in many areas of significance: communication and dissemination of mathematical ideas through public outreach; mathematical education and training at all school levels; creation of strong mathematical partnerships and links.

PIMS involves scientists in several SFU faculties including the Faculties of Science, Applied Science and Education. The PIMS community includes specialists in mathematics, statistics, computer science, mathematical physics, biology, chemistry, economics, operations research, management, engineering, and other fields involving mathematical methods. In addition, PIMS involves teachers in the mathematical sciences at all levels.

Centre for Policy Research on Science and Technology
Director: D.R. Smith BBusiness, MBusiness (Qld UT), PhD (Br Col), 604.291.5114 Tel, 604.291.5165 Fax, cprost@sfu.ca, www.sfu.ca/cprost

The Centre for Policy Research on Science and Technology (CPRoST) was established in 1998. CPRoST’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.

Centre for Public Policy Research
Acting director: N.D. Olevier BA (Col), MA (S Fraser), PhD (Br Col), 604.291.3442 Tel, 604.291.5944 Fax, www.sfu.ca/mpp

The purpose of the centre is to promote interdisciplinary research, education, and dialogue on a broad range of public policy issues in Canada. The centre supports and initiates research teams, publications, colloquia, conferences, visiting researchers and speakers, and international relationships. It is the research arm of the Public Policy Program at Simon Fraser University, complementing the proposed Master in Public Policy graduate degree program.

Centre for Restorative Justice
Co-directors: R.M. Gordon BA (La Trobe), MA (S Fraser), PhD (Br Col), 604.291.4305 Tel, E. Elliott BPE (Ont), MSW (Car), PhD (S Fraser), 604.291.4730 Tel, 604.291.4140 Fax, mlegan@sfu.ca, www.sfu.ca/cfrj

The centre was established in 2001 to provide a number of services and initiatives related to the field of restorative and transformative justice. The centre, which is housed in the School of Criminology, conducts research on restorative justice programs and practices and acts as a research clearing house. The centre also organizes and conducts training courses in aspects of restorative and transformative justice, as well as credit courses at the introductory and advanced levels. The centre organizes conferences including the annual Ron Wiebe Memorial Lecture and Dialogue on Restorative Justice. The centre has developed strong ties with the Correctional Service of Canada, the BC Ministry of the Attorney-General, and non-government organizations involved in the restorative justice and community justice fields.

Centre for Scientific Computing
Director: R.D. Russell BS, BA, MA, PhD (New Mexico), 604.291.4819 Tel, 604.291.4947 Fax, rrd@cs.sfu.ca, www.csc.sfu.ca

Motivated by the expanding role played by scientific computation and mathematical modeling in science and engineering, this centre was formed to bring together interdisciplinary research teams from the various faculties at Simon Fraser University. The major purpose of the centre is to provide SFU with a visible focus for computational research both on the campus and in the wider Pacific Rim research community. Specifically, the centre’s goals are to facilitate discussion between scientific computing research groups (through seminars, workshops and conferences), to provide advanced instruction in computational techniques and applications (through graduate and post doctoral programs), and to actively pursue joint research ventures with industry, government and laboratories.
Centre for Scottish Studies
Director: S. Duguid AB (Ill), MA, PhD (S Fraser), 604.291.5515, 604.291.4504 Fax,duguid@sfu.ca, www.sfu.ca/scottish

The activities and programs of the centre 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 provides support to existing individual, departmental and cross-departmental activities at SFU in the area of Scottish studies.

Research Institute on Southeastern Europe
Director: A. Gerolymatos BA (C’dia), MA, PhD (McG), 604.291.5597 Tel, 604.291.5837 Fax, agerolym@sfu.ca

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 Systems Science
Director: M.S. Atkins BSc (Nott), MPhil (Warw), PhD (Br Col), 604.291.3229 Tel, 604.291.4424 Fax, css-sec@cs.sfu.ca, http://css.sfu.ca

The Centre for Systems Science (CSS) is a multidisciplinary research institute that supports specialized research areas and advanced educational programs in related disciplines that promise to offer particular support for the development of sophisticated industry for British Columbia. The 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.). The 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 (ASI) at Simon Fraser University and collaborates with other research units at SFU, 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
Director: P.P. Grimmet BA (Newcastle, UK), BEd (Keele), MA, MED (Alta), EdD (Br Col), 604.291.4937, 604.291.3203 Fax

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: P.W. Williams BA (Ott), MA (Wat), PhD (Utah State), 604.291.3103 Tel, 604.291.4968 Fax, peter_williams@sfu.ca, www.rems.sfu.ca/tourism

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 venue for graduate level research and professional development education with a distinctively integrated resource and business management orientation.

Tri-University Meson Facility (TRIUMF)
Director: A.C. Shotter BSc, ARCS (Lond), DPhil (Oxf), 604.222.1047 Tel, 604.222.1074 Fax, info@triumf.ca, www.triumf.ca
Contacts: W.S. Davidson BSc (Edin), PhD (Qu), 604.291.3771 Tel, C.H.W. Jones BSc, PhD (Manc), 604.291.3583 Tel, R.G. Korteling AB (Hope), PhD (Calif), 604.291.3332 Tel

TRIUMF is a joint venture of the University of Alberta, Simon Fraser University, University of Victoria, Carleton University and the University of British Columbia, funded under a contribution agreement with the National Research Council of Canada. The TRIUMF facility is based on a 520MeV cyclotron capable of producing three proton beams simultaneously, each at a different energy level. TRIUMF has developed a world-class exotic ion beam facility, ISAC, producing beams of short lived isotopes for research. Pure scientific research at TRIUMF includes medium energy nuclear and particle physics, astrophysics, condensed matter studies and radiochemistry for the production of radiopharmaceuticals. Applied research includes the design of small cyclotrons, microchips, controls software and medical applications such as the use of proton beams and radioisotopes for cancer therapy.

Centre for Wildlife Ecology
Director: R.C. Ydenberg BSc (S Fraser), DPhil (Oxf), 604.291.4282 Tel, 604.291.3496 Fax, higham@sfu.ca, www.sfu.ca/biology/wildberg

The centre fosters high quality, graduate training and research, conducts basic and applied research in wildlife ecology, and provides knowledge and personnel that will help Environment Canada and other agencies meet the challenges of conservation in the 21st century. The central concept is to foster synergy between mission-oriented research and management policies of the Canadian Wildlife Service and the basic research agenda of Simon Fraser University.
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 role of Convocation by regulations of the senate

Board of Governors

Ex Officio
Chancellor
President and Vice-Chancellor

Appointed by Order-in-Council
J. Cowperthwaite, February 2005
P. Eng, February 2005
N. Khosroshahi, February 2005
B. Louie, January 2006
P. Rafferty, January 2006
S. Rasul, February 2005
W. Rowe, July 2005
(one vacant position)

Elected by Faculty Members
C. Murray, May 2005
N. Olewiler, May 2005

Elected by University Employees (excluding Faculty Members)
P. Johnston, May 2005

Elected by Students from the Students
B. Bourke, May 2004
T. Gregory, May 2004

Elected by University Employees (excluding Faculty Members)
P. Johnston, May 2005

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 Business Administration
Dean of the Faculty of Education
Dean of Graduate Studies
Registrar – Secretary of Senate
University Librarian

Appointed by Order-In-Council
B. Naef
D. Smith
R. Thandi
(one vacant position)

Elected by the Faculties

Faculty of Applied Sciences
J. Dickinson, May 31, 2006
J. Vaisey, May 31, 2005

Faculty of Arts
S. Aloi, May 31, 2004
C. Gerson, May 31, 2005

Faculty of Business Administration
M. Fizzell, May 31, 2006
G. Mauser, May 31, 2005

Faculty of Education
A. Horvath, May 31, 2005
J. Van Aalst, May 31, 2004

Faculty of Science
N. Haunerland, May 31, 2004
C. Jones, May 31, 2005

Elected by Faculty Members Jointly
S. Atkins, May 31, 2005
J. Budd, May 31, 2006
W. Chan, May 31, 2006
J.M. D’Auria, May 31, 2004
A. Gill, May 31, 2004
R. Gordon, May 31, 2005
P. Grimmett, May 31, 2006
K. Gupte, May 31, 2005
J. Heaney, May 31, 2004
A. Higgins, May 31, 2005
P. McFetridge, May 31, 2005
P. Percival, May 31, 2006
J. Peters, May 31, 2004
G. Poirier, May 31, 2006
R. Russell, May 31, 2004
R. Woodbury, May 31, 2006

Elected by Convocation
P. Beynon, May 31, 2005
V. Dunsterville, May 31, 2005
J. McArthur, May 31, 2005
S. Wessel, May 31, 2005

Elected by Students
C. Apaak, May 31, 2004
G. daSilva, May 31, 2004
E. Fung, May 31, 2004
C. Giacomantonio, May 31, 2004
T. Gregory, May 31, 2004
P. Kaila, May 31, 2004
T. Kalanj, May 31, 2004
J. Lernay, May 31, 2004
S. Rozell, May 31, 2004
C. Sears, May 31, 2004
J. Wong, May 31, 2004
R. Yoo, May 31, 2004
(one vacant position)

Elected by Students (one vacant position)

Academic and Administrative Officials

Chancellor
M.K. Wong BA (Br Col), LLB (S Fraser), CM
President and Vice-Chancellor
M. Stevenson BA (Witw.), MA (Mich), PhD (Northwestern)
Provost and Vice-President, Academic
J.H. Waterhouse BSc, MBA (Alta), PhD (Wash)
Vice-President, University Advancement
Gill, W.G., BA, MA, PhD (Br Col)
Vice-President, Finance and Administration
P.M. Hribits BA (Tor), MBA (York, Can)
Vice-President, Research
B.P. Clayman BS (Rensselaer), PhD (Cornell)
Associate Vice-President, Academic
W.R. Krane BA (Windsor), MA, PhD (York, Can)
Associate Vice-President, Administration
J.E.R. Johnson BSc(CE), MBA (S Fraser), PEng
Associate Vice-President, Policy, Equity and Legal
J.A. Osborne LLB (Edin), MA (Tor), LLM (Br Col)
Associate Vice-President, Simon Fraser University at Harbour Centre
W.G. Gill BA, MA, PhD (Br Col)
Executive Director, President’s Office
G. Macdonald BA (Br Col), MA (S Fraser)
Executive Director, SFU International
N. Angerilli BSc, PhD (S Fraser)
Chief Information Officer
J. Cranston BSc, MBA (Qu)
Dean of Applied Sciences
B.S. Lewis BA (Hamilton), MA, PhD (Iowa)
Dean of Arts
J.T. Pierce BA (Tor), MA (Wat), PhD (Lond)
Dean of Business Administration
C.E. Love BEng, MBA (McM), PhD (Lond)
Dean of Continuing Studies
J.C. Yerbury BEd, MA, PhD (S Fraser)
Acting Dean of Education
P. Shaker BA, MA, PhD (Ohio State)
Dean of Graduate Studies
J.C. Driver MA (Camb), PhD (Cal)
Acting Dean of Science
M. Pilschke BSc (Montr), MPhil (Yale), PhD (Yeshiva)
Dean of Student Services and Registrar
W.R. Heath BSA (Guelph)
Director of Academic Computing Services
L. Tolan
Director of Admissions
D. Whiteley BA (Northeastern), MA (S Fraser), PhD (Br Col)
Director of Alumni Relations and Community Giving
J. Saito BBA (S Fraser)
Director of Alumni and Volunteer Relations
J. Horne BGS, MALS (S Fraser)
Director of Analytical Studies
W.J. Wattamaniuk BEng, MSc, PhD (Alta)
Director of Campus Community Services
M. Dinning BA, MA (WOnt)
Director, Campus Security
N. Coutu
Director of Ceremonies and Events
M. Pankratz
Director of Childcare Services
S. Davidson
Director, Communication Services
B. Henry BA, MBA (Br Col)
Director of Co-operative Education
N. Johnston BSc (Wat), MSc (S Fraser)
Director, Centre for Distance Education
J. Collinge BA, MA, PhD (S Fraser)
Director, Centre for Students with Disabilities
B. Morton BEd (Alta), MSc (Calg)
Director of Health and Counselling Services
L. Pelletier BA (Wat), BEd (Qu), MHSc (Tor)
Director of Human Resources
B.L. Anderson BCom (Alta), MA (Illinois)
Director, Mobility and International Co-operation, SFU International
R. Martin BA, MA (S Fraser)
Director, Project and Support Services, SFU International
C. Dagg BA (Br Col)

Governing Bodies and Faculty 405
Director of Media and Public Relations
K. Aberle

Director, Records and Registration
D. Whiteley BA (Northeastern), MA (S Fraser), PhD (Br Col)

Director, Recreational Services and Athletics
W. Wedman BA (S Fraser), MA (Oxf)

Director, Registrar Services, Simon Fraser University at Harbour Centre
R.B. MacLeod BComm (Mt. Allison)

Director, Residence and Housing
J. Fialkowski BFA (Sir G Wms)

Reference Liaison Librarians

I. Forsyth BA (McG), MA (W Laurier)
Co-ordinator
University Archivist and Information Privacy

A. Watt BA (Hull)
Director, University Secretariat

C. French BA (S Fraser)
Director, Student Academic Resources

C. French BA (S Fraser)
Director, Student Academic Affairs

J. Fialkowski BFA (Sir G Wms)
Director, Residence and Housing

P.E. Groves BA (Wat), MLS (Br Col)

C. Goldsmith BA, MLS (Br Col)

J. Corse CA, MA (Edin), MLS (Br Col)

G. Coleman BA (Tor), MLS (Br Col)

M. Bubber (BFA (Sask), MLS (WOnt)

M. Bodnar BA (S Fraser), MLS (Br Col)

P.E. Groves BA (Wat), MLS (Br Col)

I. Nisetoe BA, MA (Belgrade), MLS (Br Col)

L. Rimmer BSc (S Fraser), MLS (Alta)

S. Roberts BA (Sask), MLS (WOnt)

H-A Tingley BA, BLS (Br Col)

S. Wong BA (Vic, BC), MLS (Br Col)

Librarians, Belzberg Library

M. McIntosh BA (Calg), MLS (Alta)

N. Smart BA (McG), MLS (Br Col)

C.E. Swovelend BA (Calif), MLS (Br Col)

Librarians, Surrey Library

G. Coleman BA (Tor), MLS (Br Col)

N. Glick BS, MLS (Br Col)

Operations Manager, Library Systems
N. Baldwin

Excellence in Teaching Awards

1982
P.F. 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. Sliesor, Chemistry

1986
A. Aberbach, History
R. Mathewes, Biological Sciences
R. Menzies, Criminology

1987
F. Fisher, Biological Sciences
T. Kirschner, Languages, Literatures, and Linguistics
R. Koepke, 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

1991
C. Banerjee, English
J. Clague, Earth Sciences

1992
D. Krebs, Psychology
M. Thewalt, Physics

1993
G. Poole, Psychology
J. Martin, Education

1994
D.A. Ross, Political Science
S. Roberts, English

1995
D.A. Ross, Political Science
J. S. Woodsworth Chair

1996
A.L. Liestman, Computing Science
S. Roberts, English

1997
M. Jackson, Criminology
J. Giltrow, English

1998
L. Dill, Biology
J. S. Woodsworth Chair

1999
J. Busumtwi-Sam, Political Science
H. A. Tingley BA, BLS (Br Col)

2000
C.R. Day, History
G. Leach, Chemistry

2001
D. Wilson, Biological Sciences
M. Dubiet, Mathematics

2002
M. Laba, Communication
M. Holdwright, English

Endowed Chairs and Professors

Burnaby Mountain Endowed Professors
M. Thewalt, Physics
L. Dill, Biological Sciences
R. Grauer, Business Administration
J. Martin, Education
D. Allen, Economics
K. Akins, Philosophy
G. Anderson, Criminology
M. Howlett, Political Science

Centre for Education, Law and Society
W. Cassidy, Education

Endowed University Professor (vacant)

Jack and Nancy Farley Endowed University Professor
J. Parr BA (McG), MA, PhD (Yale), FRSCan

Hellenic Canadian Congress of BC Endowment
A. Gerolymatos, History

Gordon M. Shrum Endowed Chair
J. Clogue, Earth Sciences

Telus Endowed University Professor
R.G. Harris, Economics

J.L. Wighton Professors of Laboratory Studies
A. Parameswaran, Engineering Science

Ming and Stella Wong Endowed Chair in International Business
R.L. Tung, Business Administration

J.S. Woodworth Chair (vacant)

J.S. Woodworth Resident Scholar
S. Djwa BEd, PhD (Br Col), FRSCan

Deana Wosk Professor of Arts and Culture (vacant)
J.L. Wighton Professor for Engineering Development
A. Rawicz, Engineering Science

Reference Liaison Librarians

M. Bodnar BA (S Fraser), MLS (Br Col)

M. Bubber (BFA (Sask), MLS (WOnt

G. Coleman BA (Tor), MLS (Br Col)

J. Corse CA, MA (Edin), MLS (Br Col)

C. Goldsmith BA, MLS (Br Col)

C. Graebner BA (Carli), MLS (WOnt

P.E. Groves BA (Wat), MLS (Br Col)

Endowed University Professor (vacant)

Jack and Nancy Farley Endowed University Professor
J. Parr BA (McG), MA, PhD (Yale), FRSCan

Hellenic Canadian Congress of BC Endowment
A. Gerolymatos, History

Gordon M. Shrum Endowed Chair
J. Cilogue, Earth Sciences

Telus Endowed University Professor
R.G. Harris, Economics

J.L. Wighton Professors of Laboratory Studies
A. Parameswaran, Engineering Science

Ming and Stella Wong Endowed Chair in International Business
R.L. Tung, Business Administration

J.S. Woodworth Chair (vacant)

J.S. Woodworth Resident Scholar
S. Djwa BEd, PhD (Br Col), FRSCan

Deana Wosk Professor of Arts and Culture (vacant)
J.L. Wighton Professor for Engineering Development
A. Rawicz, Engineering Science

University Librarian
L. Copeland BSc (Tor), MA (Brandeis), MLS (Col)

Associate University Librarian
T.M. Mundle BA, MLS (Br Col)

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

Head, Collections Management Division
G. Bird BA (Cornell), MLS (Br Col)

Head, Document Delivery Services Division
S. Mackenzie BA, MLS (Br Col)

Head, Loans Division
G. Pomerleau

Head, Processing Division
M.L. Harris BA (WOnt), BLS (Br Col)

Head, Reference Division
E. Fairey BA, MA (Br Col), MLS (Tor)

Acting Head, Systems Division
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Library

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Jack and Nancy Farley Endowed University Professor
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A. Parameswaran, Engineering Science

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R.L. Tung, Business Administration

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A. Rawicz, Engineering Science
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N.R. Branda, Chemistry
D.L. Bailey, Molecular Biology and Biochemistry
R.M. Peterman, Resource and Environmental Management
M.K. Egan, Education
P.H. Wenke, Education
M.R. Scheinfein, Physics
C. Loenberger, Biological Sciences

Etho/Epic NSERC Industrial Chair in Intelligent Software Systems
Q. Yang, Computing Science (junior chair)

NSERC / University-Government Research Chair in Behavioural Ecology
Junior Chairholder T.D. Williams with Environment Canada

Chancellor Emeritus

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