Simon Fraser University
Calendar
1998 • 1999
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.

Protection of Privacy

Simon Fraser University collects and maintains information used for the purposes of admission, registration and other activities directly related to its educational 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).

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

All registered students are entitled, once a year, to one free copy of the Calendar upon presentation of a Calendar voucher. This voucher is mailed to students with the fall registration package or with a letter of acceptance for the spring or summer semesters. Those without a voucher will be charged $3.75 (GST and PST included) to pick up a Calendar which is distributed through the Simon Fraser University Bookstore or at Information and Registration Services at the Harbour Centre campus. To receive a Calendar by mail, the costs in Canadian funds are $8.75 within BC (including GST and PST), $10.52 within the rest of Canada (including GST), $11.29 in the USA, and $18.29 or $29.29 in other countries (surface or air delivery, respectively). Registered students with a voucher should subtract the following amounts from the foregoing costs: $3.75 (British Columbia, including GST and PST), $5.52 (rest of Canada, GST only), or $3.29 (US and International). Acceptable forms of payment include Visa, Mastercard, American Express, a money order in Canadian funds, or a cheque drawn on a Canadian bank. The no voucher costs will apply.

The Calendar is distributed free of charge to all universities, colleges, secondary schools and public libraries in British Columbia, and to all Canadian universities for reference purposes. The Calendar can also be accessed on the World Wide Web at http://www.reg.sfu.ca/RegStuff/Calendar/Calendarmain.html.

Calendar Production

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Simon Fraser University’s History

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

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

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

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

Construction began in the spring of 1964 and eighteen months later, on September 9, 1965, Simon Fraser University opened to 2,500 students.

Since those early years the University has grown substantially. In September 1997 approximately 20,966 students were enrolled in courses. At the June 1997 Convocation ceremonies 2,291 degrees were conferred, while at the University’s October Convocation, 1,098 students received their degrees.

In keeping with Simon Fraser University’s commitment to accessibility, after ten years of planning and preparation a downtown Vancouver campus was opened on May 5, 1989 in the historic Spencer Building at 515 West Hastings Street. Programs at the Simon Fraser University at Harbour Centre campus focus on the advanced recurring educational needs of the urban populace.
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### Area Code 604

#### Burnaby Mountain Campus

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<td>Campus Security</td>
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<td>Parking</td>
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<td>Financial Assistance</td>
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<td>Graduate Studies, Dean of</td>
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<td>Harassment Resolution Office</td>
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<td>Switchboard</td>
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#### Harbour Centre Campus

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<td>Health Services</td>
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<td>Information and Registration Services</td>
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<td>Meeting and Event Services</td>
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<td>Public Relations</td>
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<td>Security</td>
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<td>Harbour Centre administration</td>
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Programs Offered

See Credentials by Program for more information.

University Degrees

Honorary Degree
Doctor of Laws Honoris Causa

Faculty of Applied Sciences
Bachelor of Applied Science
Bachelor of Arts (Honors)
Bachelor of Arts
Bachelor of Science (Honors)
Bachelor of Science
Bachelor of Science (Kinesiology) (Honors)
Bachelor of Science (Kinesiology)
Master of Applied Science
Master of Arts
Master of Engineering
Master of Natural Resources Management
Master of Science
Doctor of Philosophy

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

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

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

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

*subject to approval

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

Faculty of Business Administration
Graduate Diploma in Business Administration

Faculty of Education
Certificate in Literacy Instruction
Post Baccalaureate Diploma

Faculty of Science
Certificate in Actuarial Mathematics
Post Baccalaureate Diploma in Biological Sciences
Post Baccalaureate Diploma in Environmental Toxicology
## 1998 Fall Semester

### September

1. **1 Tue** Last day for students completing degree requirements during summer to cancel application to graduate in October.
2. **4 Fri** Last day for continuing graduate students to register and pay fees.
3. **7 Mon** LABOUR DAY. Offices closed.
4. **8 Tue** Classes commence.
5. **11 Fri** Deadline for undergraduate application for readmission to the fall semester.
6. **14 Mon** Deadline for submission of undergraduate grade changes from 1998 summer semester, summer session and intersession.
7. **21 Mon** Last day for graduate students to add courses and register late.

### October

1. **2 Fri** Fall Convocation for students who graduated in the summer semester.
2. **12 Mon** THANKSGIVING DAY. All classes cancelled. Offices closed.
3. **13 Tue** Last day for undergraduates to drop courses except under special procedures applicable in extenuating circumstances.
4. **16 Fri** Certificates and diplomas awarded for 1998/1999 academic year.
5. **23 Fri** Deadline for submission of undergraduate application for graduation for students completing requirements by the end of the 1998 fall semester.

### November

1. **9 Mon** Last day for graduate students to drop courses without academic penalty except under special procedures applicable in extenuating circumstances.
2. **11 Wed** REMEMBRANCE DAY. All classes cancelled. Offices closed.
3. **30 Mon** Last day for graduate students to drop courses under special procedures applicable in extenuating circumstances.

### December

1. **2 Wed** Last day for undergraduates to drop courses under special procedures applicable in extenuating circumstances.
2. **4 Fri** Classes end.
3. **7 Mon** Examination period for undergraduates begins.
4. **17 Thu** Last date for receipt of grades and grades deferred from previous semester for graduate students. Deadline for submission of all graduate degree requirements, including completion of MA Field Examinations and submission of graduate theses to the library.
5. **18 Fri** Examination period for undergraduates ends.
6. **24 Thu** Last day for continuing graduate students to register and pay fees.
7. **26 Sat** BOXING DAY. Offices closed.
8. **28 Mon** Offices closed in lieu of Boxing Day.

## 1999 Spring Semester

### January

1. **1 Fri** NEW YEAR’S DAY. Offices closed.
2. **4 Mon** Classes commence. Last day for students completing degree requirements in December to cancel application to graduate.
3. **8 Fri** Deadline for undergraduate applications for readmission to the spring semester. Deadline for submission of undergraduate grade changes from the 1998 fall semester.
4. **15 Fri** Deadline for submission of application to the professional development program for fall semester, 1999. Last day for graduate students to register late, last day to add courses.

### February

1. **1 Mon** Deadline for application for undergraduate admission to the summer semester and intersession 1999.
2. **5 Fri** Last day for undergraduates to drop courses except under special procedures applicable in extenuating circumstances.
3. **15 Mon** MID SEMESTER BREAK. Classes cancelled.
4. **16 Tue** MID SEMESTER BREAK. Classes cancelled.
5. **19 Fri** Deadline for submission of undergraduate application for graduation, for students completing requirements by the end of the 1999 spring semester.

### March

1. **5 Fri** Last day for graduate students to drop courses without academic penalty except under special procedures applicable in extenuating circumstances.
2. **26 Fri** 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.

### April

1. **1 Thu** Classes end.
2. **2 Fri** GOOD FRIDAY. All classes cancelled. No examinations scheduled.
3. **5 Mon** EASTER MONDAY. All classes cancelled. Offices closed. No examinations scheduled.
4. **6 Tue** Examination period for undergraduates begins.
5. **15 Thu** Last day for receipt of grades and grades deferred from previous semester for graduate students. Deadline for submission of all graduate degree requirements, including completion of MA Field Examinations and submission of graduate theses to the library.
6. **17 Sat** Examination period for undergraduates ends.
7. **30 Fri** Deadline for application for undergraduate admission to the fall semester 1999. Last day for continuing graduate students to register and pay fees.
1999 Summer Semester (including intersession, May-June and summer session, July-August)

**May**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tr>
<td>3 Mon</td>
<td>Summer semester and intersession classes commence. Last day for students completing degree requirements in spring to cancel application to graduate in June.</td>
</tr>
<tr>
<td>7 Fri</td>
<td>Deadline for undergraduate application for readmission to the summer semester. Deadline for submission of undergraduate grade changes from the spring semester.</td>
</tr>
<tr>
<td>14 Fri</td>
<td>Last day for undergraduates to drop intersession courses except under extenuating circumstances. Last day for graduate students to register late or add courses.</td>
</tr>
<tr>
<td>17 Mon</td>
<td>Deadline for undergraduate application for admission to summer session (July/August). Deadline for submission of application to the professional development program for spring semester 2000.</td>
</tr>
<tr>
<td>24 Mon</td>
<td>VICTORIA DAY. All classes cancelled. Offices closed.</td>
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**June**

<table>
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<tr>
<td>3/4 Thur/Fri</td>
<td>Spring convocation.</td>
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<tr>
<td>7 Mon</td>
<td>Last day for undergraduates to drop summer semester courses except under extenuating circumstances.</td>
</tr>
<tr>
<td>14 Mon</td>
<td>Last day for undergraduates to drop intersession courses under special procedures applicable in extenuating circumstances.</td>
</tr>
<tr>
<td>18 Fri</td>
<td>Deadline for submission of undergraduate application for graduation for students completing requirements by the end of the 1999 summer semester. Intersession classes end.</td>
</tr>
<tr>
<td>28 Mon</td>
<td>Summer session classes for undergraduate classes commence.</td>
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**July**

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<tr>
<td>1 Thu</td>
<td>CANADA DAY. All classes Cancelled. Offices closed.</td>
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<tr>
<td>2 Fri</td>
<td>Last day for graduate students to drop courses without academic penalty except under special procedures applicable in extenuating circumstances.</td>
</tr>
<tr>
<td>12 Mon</td>
<td>Last day for undergraduates to drop summer session courses except under extenuating circumstances.</td>
</tr>
<tr>
<td>23 Fri</td>
<td>Last day for graduate students to drop summer semester courses under special procedures applicable in extenuating circumstances.</td>
</tr>
<tr>
<td>27 Tues</td>
<td>Last day for undergraduates to drop summer semester courses under special procedures applicable in extenuating circumstances.</td>
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<tr>
<td>30 Fri</td>
<td>Summer semester classes end.</td>
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**August**

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<tr>
<td>2 Mon</td>
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<td>3 Tue</td>
<td>Summer semester examination period for undergraduates begins.</td>
</tr>
<tr>
<td>6 Fri</td>
<td>Summer session classes for undergraduates end.</td>
</tr>
<tr>
<td>9 Mon</td>
<td>Summer session examination period for undergraduates begins.</td>
</tr>
<tr>
<td>10 Tue</td>
<td>Last day for undergraduates to drop summer session courses under special procedures applicable in extenuating circumstances.</td>
</tr>
<tr>
<td>12 Thu</td>
<td>Last day for receipt of grades and grades deferred from previous semester for graduate students. Deadline for submission of all graduate degree requirements, including completion of MA field examinations and submission of graduate theses to the library.</td>
</tr>
<tr>
<td>13 Fri</td>
<td>Summer semester examination period for undergraduates ends. Summer session examination period for undergraduates ends.</td>
</tr>
</tbody>
</table>
Academic Computing Services
In the distributed computing environment at Simon Fraser University an Ethernet-based Unix system allows access to Unix stations, Apple Macintosh, AST microcomputers and printers, connected to SFULAN (the high-speed, campus-wide, fibre optic network). This network allows users to communicate electronically with computing facilities across the country and around the world. Two Silicon Graphics compute servers are provided for large scale computing, researchers and the general community.
Extensive documentation is provided on using the UNIX system along with an active tutorial program. There are microcomputer facilities comprising about 400 microcomputers at several sites on campus and distributed printer services from all the computers. The Computing Guide for SFU provides details on all of these facilities. Please call (604) 291-3234 for additional information.

Alumni Association
Alumni Relations, 2118 Strand Hall (604) 291-4154 Tel, (604) 291-4958 Fax, alumni@sfu.ca E-mail, http://www.harbour.sfu.ca/alumni
Every person who has completed a degree, certificate or diploma program or PDP is a lifetime member of the Alumni Association, which seeks to support and further Simon Fraser University and higher education, and to strengthen the bond between Simon Fraser University and the University’s 55,000 alumni. The association promotes an annual fund-raising campaign for the University; offers services to members; and supports activities including regional events and career development programs. The Alumni Relations Office publishes the Alumni Journal, maintains alumni records, links alumni and University departments, and provides administrative support for the Association and its 24 chapters, regional branches, and representatives.

Archives
0400 Maggie Benston Student Services Centre, (604) 291-3261 Tel, (604) 291-4047 Fax, archives@sfu.ca E-mail, http://www.sfu.ca/archives
The mandate of Archives is to acquire original archival materials that document all programs and activities of the University or that enhance its teaching and research programs. The University archives acquires three major categories of materials:
• official records of the University, including those created by the board of governors, senate, University committees, faculties, departments and administrative offices
• materials documenting the wider University community. These include the private papers of groups such as the faculty association, student society, University labour unions, Alumni Association, Childcare Centre and the private papers of prominent individual faculty, staff and students
• private historical research collections. These include the Association of Canadian Publishers (ACP), Halpem family papers, John Howard Society (JHS), and W.A.C. Bennett.
Archives also holds the non-circulating original copies of all theses and dissertations approved by the University. The University’s archives are a multi-media collection including film, video and sound recordings, maps, plans and architectural drawings, documentary art, and photographs.

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

Services to the Institution
To help fulfill its mandate, Archives administers a recorded information management program for the University. The department also operates the University records centre, 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 and privacy program and responding to all formal access requests submitted under the Freedom of Information and Protection of Privacy Act.

Service Hours
The department is open for researchers 9 am to 12:30 pm and 1:30 pm to 4 pm Monday to Friday.

Art Gallery
3004 Academic Quadrangle, (604) 291-4266 Tel, (604) 291-3029 Fax
The Simon Fraser Gallery exhibits and collects art works from Pacific Rim countries with an emphasis on Canada and British Columbia. Temporary exhibitions change every three weeks throughout the active University year. The Simon Fraser collection includes several series and individual graphics by Inuit, Native, contemporary American and Canadian artists, as well as large scale works by major Canadian painters and sculptors. Special Activities: Lectures and events are organized in collaboration with University departments. Through the loans program, individual works of art are loaned to members of the University community for installation in specific sites on campus. Open regularly during exhibition dates.
Monday 12 noon – 6 pm
Tuesday – Friday 10 am – 4 pm
Closed weekends and holidays
The Simon Fraser Gallery is administered through the Dean of Arts Office, and operates through a gallery board.

Banking Facilities
222 Transportation Centre, (604) 668-3720 Tel, (604) 668-3071 Fax
A branch of the Bank of Nova Scotia is located on campus for the convenience of faculty, staff and students, with four off-site automated banking machines located in the Maggie Benston Student Services Centre, the north concourse of the Academic Quadrangle and in the West Mall Centre. Address correspondence to The Bank of Nova Scotia, Simon Fraser University Branch, 8888 University Drive, Burnaby, BC, V5A 1S6.

Bookstore
Maggie Benston Student Services Centre, (604) 291-3656 Tel, (604) 291-3401 Fax, Harbour Centre store (604) 291-5048
The Simon Fraser University Bookstore occupies three levels in the Maggie Benston Student Services Centre. The bookstore carries new and used books, stationery, clothing and giftware. The book selection includes general interest books, as well as textbooks for courses offered at the Burnaby campus and in the distance education program. The general interest books are located on the upper division and include a wide selection of reference books, study guides, literature, travel guides, cookbooks and other subjects. The bookstore also carries a extensive selection of stationery, university crestedsportswear and memorabilia, and unique gift items.
The Simon Fraser University Bookstore has a secondary location at the Harbour Centre campus in downtown Vancouver. Textbooks for courses offered at the Harbour Centre campus are only available at the downtown bookstore. For hours and information, call the number listed above.

Campus Community Services
1480 Maggie Benston Centre, (604) 291-4170 Tel, (604) 291-4341 Fax, http://www.sfu.ca/campus-community-services, Monday – Friday 8:30 am – 12:30 pm, 1:30 – 4 pm
Campus Community Services supports and enriches campus life by developing policies and providing programs and services to students and other members of the university community. Our mandate is to ease the transition of new students through orientation services, to offer a wide scope of activities, programs and services that assist students with academic and social success throughout their time at SFU, and to provide opportunities to explore career options and better prepare for life in the larger community when they leave SFU.
Campus Community Services includes: Centre for Students with Disabilities, Chaplaincy, Childcare Society, community events such as fall and spring series of events and the Annual SFU Community Barbecue, Counselling and Health Services, Nightline Crisis Counselling and the Peer Helper program, First Nations Student Services, Discover SFU Orientation Services, Recreational Services and Athletics, Residence and Housing, Student Employment Centre, and the Volunteer Resource Centre.

Discover SFU Orientation Services
Get connected to your new campus while addressing your needs and interests as a new Simon Fraser University student. It’s easy to fit in, manage your new schedule, select and register for courses, find your classes, join clubs, participate in campus events and join recreational teams. Over 40 student volunteers know as OAs (orientation ambassadors) will make sure that your transition to SFU is easy. We’re happy that you’re part of our campus and we’ll help you to discover SFU.
For more information about the orientation schedule, telephone (604) 291-3728, fax (604) 291-4341, or look on the at http://www.sfu.ca/ccs/orientation/orientation.html.
Campus Security

Patrol Operations/Information Centre
50 Transportation Centre, (604) 291-3100 Tel, (24 hours), (604) 291-3469 Fax

Security Programs
1300 Transportation Centre
(604) 291-5983 Fax
(604) 291-3920 University key control and locksmithing
(604) 291-5448 card access
(604) 291-5450 personal security

Parking
3110 West Mall Centre, (604) 291-5534 Tel, (604) 291-3469 Fax
(604) 291-4577 information
(604) 291-5452 parking special events, lot reservations, etc.
(604) 291-5698 visitors parkade

Centre for Students with Disabilities

The Centre for Students with Disabilities was established to improve general accessibility at Simon Fraser University by developing and updating University policies 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; co-ordination of American Sign Language interpreters. Students requiring any of these services should contact the centre as soon as possible, preferably three months prior to the start of a semester.

The centre has an equipment lab of computers with access software (eg. large text, voice output), a scanner, a Braille printer and a CCTV (closed circuit television for text or graphic enlargement). All computers in the lab are on adjustable tables. Due to possible delays, contact the centre at least three months prior to the start of the semester.

The centre at least three months prior to the start of the Bennett Library. Due to possible delays, contact the Centre for Students with Disabilities if you would like more information on this policy. Students are expected to supply documentation at their own expense.

Chaplains’ Service

Simon Fraser University is served by an ecumenical chaplaincy comprising six chaplains representing Christianity and Judaism. 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.

Childcare Services

Simon Fraser University Childcare Society has eleven programs offering quality childcare to children of students, staff and faculty. Our unique world class facility provides full time and part time care to over 250 children aged 3 months to 12 years. The school aged children are transported off campus to attend two local Burnaby schools and are then returned to the centre for a variety of leisure time activities. All childcare staff are fully qualified 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 (604) 291-4569.

CJSF Radio
216 Transportation Centre, (604) 291-3727 Tel, (604) 291-3695 Fax

CJSF Radio is Simon Fraser University’s campus/community station, primarily staffed and funded by Simon Fraser University students. The radio station offers volunteer, work study co-op and grants opportunities to members of the campus and the Burnaby community. You can listen to CJSF on Rogers Cable at 93.9 FM or on campus at 940 AM. Currently CJSF is in the process of applying for an FM licence to broadcast at 500 watts FM.

CJSF plays a very wide variety of non-commercial music from all genres in addition to special interest information programming, live sports casts of Clan and community sports, issues of importance to the campus and community, and arts and entertainment events.

CJSF produces and promotes concerts, offers free airline for public service announcements, promotes independent local bands through its own record label Three Minute Mile, and provides a disc jockey service to the campus community.

Station orientations are held once a week. The time is posted at the station, on the CJSF bulletin board, or by calling the telephone number above. Visit us.

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

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

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

Professional Development Offerings
The Contemporary Arts Summer Institute, (604) 291-4672, offers professional development, non-credit workshops in various art disciplines during the summer, Praxis Film Development Workshop, (604) 291-3100, offers a resource centre, intensive workshops, public seminars, and courses on a broad range of film-related topics.

Dining Services
Administrative Office, Academic Quadrangle 2028, (604) 291-4481 Tel, Catering (604) 291-4377/4510

Simon Fraser University Dining provides a variety of convenient food outlets offering well-balanced, nutritional meals, fast food services, catering for groups, and convenience store shopping.

The Piper Express debit card allows students, faculty and staff to purchase meals on a prepaid account from any of the following dining locations throughout the academic year. Hours of operation are reduced for holidays, semester breaks and summer semester.

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

Mountain Top Deli
For the creative at heart, choose from gourmet breads, meats, cheeses and toppings to make that perfect sandwich. Plus we also offer the ever popular panini, now available in half orders. Open Monday – Friday, 11 am – 2:30 pm.

Alexander MacKenzie Cafe
New to this cafeteria are chicken or vegetarian Wraps, in Thai, peanut and mango papaya flavours. Check out the grab and go health snack bar, with some of the feistiest dips this side of the 49th parallel. Or choose from our great daily entrees, burgers, sandwiches and pastas. Breakfast is served Monday – Friday, 7:30 – 10:45 am.
Academic Quadrangle

White Spot Express
The home of the White Spot Triple O burger, thick cut onion rings, fries, milkshakes and more.

Simon C’s
Our convenience store on campus sells sandwiches, snacks, beverages, slurpees, pretzels, pastries, groceries, health and beauty aids, newspapers, magazines and stamps. Open 8 am – 7 pm, Monday – Friday

Catering Service
A full catering department will meet all your catering needs.

West Mall Centre

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

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 7:30 am to 10:30 pm daily.

Centre for Distance Education
1300 West Mall Centre, (604) 291-3524 Tel, toll free within BC 1-800-663-1411
Distance Education courses provide an alternative to traditional classroom learning for those students 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.
The University required that its distance education courses and programs meet the same high standard as on campus equivalents and all courses carry full university credit. Students may complete many certificate, diploma and degree programs entirely by distance education. Each student who takes a distance education course receives a complete learning package containing lecture notes and required assignments. The course may also include a supplementary reading guide, audio and/or video cassette tapes, and slides. Most courses also have required textbooks. Some courses may use the Knowledge Network to televise support materials while others may have optional or mandatory computer components. An increasing number of courses are being designed to include Web-based delivery methods.

Each course is assigned a tutor marker who is responsible for course assignments and assisting students with their course work. All tutor markers have scheduled office hours for telephone consultation.

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

Harassment Resolution Office
Simon Fraser University’s harassment policy responds to the University’s responsibility under BC’s human rights code to prevent harassment, to provide procedures for handling complaints and to resolve harassment conflicts when they occur.
The harassment policy applies to all members of the University community which includes both employees and students. Under the policy, a complaint of harassment may be made by a member of the University community against another member of the University community.
SFU’s harassment policy includes, personal harassment, sexual harassment and harassment (based on a prohibited ground of discrimination). Complaints can be resolved through either informal or formal procedures, although it is important to note that personal harassment complaints can be dealt with only through informal procedures under the new policy.
SFU has an office dedicated to resolving harassment conflicts. SFU’s Harassment Resolution Office is open Monday to Friday from 8 am to 4 pm. Please call the office for more information on the policy.
If you are involved in a situation you think may be harassment, don’t wait. Call the Harassment Resolution Office now for confidential advice and information.

Health and Counselling Services
Health and Counselling Services is committed to helping you achieve and maintain physical, social, emotional and wellness. In addition to medical and nursing care, we provide specialized clinics, health education, clinical counselling and a multimedia career student resource centre. Self-help resources include CD rom and other interactive computer programs, personal growth videos and audio tapes, a resource libraries, peer helper programs and many workshops and groups. Visit the SFU Health and Counselling Service websites (addresses below) for the specific services and programs offered.

Health Services
Health Services is one component of Health and Counselling Services. We offer quality care to students, faculty and staff. The clinic consists of physicians, registered nurses, a physiotherapist, medical office assistants and support staff who look forward to serving the SFU community. We have an on-site lab, as well as psychiatric and dermatology services. Specialized clinics include allergy and travel clinics, and wart treatment. All patient information is maintained in the strictest confidence.
Health Services is open Monday to Friday, 8:30 am to 5:00 pm on either a drop-in or appointment basis. Please bring your student identification card. We also attend to medical emergencies 24 hours a day. Call (604) 291-4615 during the day and (604) 291-3000 at night in the event of an emergency.

Counselling Services
Counselling Services is another component of Health and Counselling Services. It is a comprehensive psychological service providing programs and services that encourage students to attain their highest potential. Counselling sessions are free and confidential. You must be a student taking credit courses within that semester to be eligible for individual sessions. Hours are Monday to Friday, 8:30 am to 4:30 pm. Later appointments are available upon request. Drop by, fill out an information sheet, and schedule an appointment at the same time.

Personal Counselling
Times of change and stress may trigger anxiety, depression or feelings of disempowerment. Individual counselling may help to understand and resolve problems that interfere with daily living and creative academic work. Therapy is offered by a psychiatrist, psychologists, pre-doctoral Interns and master’s practicum students. Newer, more powerful techniques such as EMDR can be used in these sessions.

Workshops
In collaboration with the Student Resource Centre, personal counselling groups and workshops are offered each semester. Topics vary each semester according to student needs and counsellor availability. Self registration for these workshops is available at the Student Resource Centre (MBC0300) or by calling (604) 291-5362.

Student Resource Centre
The Student Resource Centre offers a wide range of groups, workshops, and self-help programs. We house the following student led programs: SFU nightline, peer helper programs and date acquaintance rape prevention team (DART). We provide career, learning and study enhancement services and much more. Students and alumni are welcome to sign up for any of the listed services. Self registration is available at the Student Resource Centre (MBC0300) or by calling (604) 291-5362.

Career Counselling
Assistance with career concerns such as career decision making and planning, researching occupations and seeking career related employment is available at the Student Resource Centre. Self directed computer programs, career resource library, self help videos, peer helpers, workshops and career modules are some of the most popular forms for receiving this assistance. (Career modules identify occupational interests, skills, work values, and personal needs through career interest testing, self-assessment and programming.)

Learning and Study Enhancement Program
Designed to help students enhance their ability to learn academic materials, successfully meet the requirements of their coursework and become effective independent learners. The program includes seminars, workshops and individual consultation.

Peer Helpers
These are trained SFU students who assist students with learning and study skills, career development, work search and other special concerns. They provide this to individuals or groups.
Lesbian, Gay and Bisexual Peer Support and Referral Program (LGB)
This is a peer support program offering a safe and confidential environment to talk about issues related to sexual orientation. The LGB program also provides educational workshops for the SFU community.

Nightline
This is a student volunteer crisis line offering peer counselling, crisis intervention and information/referrals on and off campus. Nightline operates 4:30 pm to 8:30 am, Monday to Friday and 24 hours a day on Saturday, Sunday and holidays. Phone (604) 888-5198.

DART (Date Acquaintance Rape Prevention Team)
DART is an innovative group of trained student volunteers who are committed to raising awareness on campus about sexual assault in relationships. DART offers workshops, discussion groups and referrals for information, support and counselling.

Instructional Media Centre
The Instructional Media Centre (IMC) provides the following services.

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

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

Audio Visual Services (AVS)
A wide variety of audiovisual and computer equipment for classroom projects is available for loan to students as well as advice and instruction in proper use. When requested by faculty, audio recordings of lectures can be produced for student use. The cassettes and a listening facility are in the library. AV Services has two locations: South Concourse, room PS301, phone (604) 291-4828; West Mall Centre, room 2622, phone (604) 291-5538. Hours of operation are 8 am to 10 pm Monday through Thursday (until 8 pm in the West Mall Centre), and Fridays until 4:30 pm.

Hours of Service
The IMC is open from 8 am – 4:30 pm, Monday – Friday.

International & Exchange Student Services
1200 Maggie Benston Student Services Centre, (604) 291-4322 Tel, (604) 291-5880 Fax, sfu_international@sfu.ca E-mail, http://www.reg.sfu.ca/IESS/IESS.html
International & Exchange Student Services is responsible for co-ordinating the University’s exchange programs and other international opportunities as well as encouraging a strong and visible international student presence. Students and recent graduates of Simon Fraser University have access to a myriad of unique experiences and opportunities by becoming involved in any of the University’s many international and domestic activities, including student exchanges and field schools. The university can also offer some assistance in accessing employment and volunteer opportunities overseas.

International Students
IESS provides support and assistance with cultural adaptation and responds to a wide range of enquiries from international students, including clarification of Canadian immigration requirements for study and employment. In addition to orientations for new international students, IESS offers a students-helping-students program where a new arrival can be linked with an experienced ‘buddy’ who will help guide the new student during the first semester. Drop by for advice, for assistance, or just for a visit.

The centre also offers support to graduate and undergraduate visa students and their families. Services presently on offer include:
• contact with Canada Immigration to clarify regulations and procedures
• advice on coping skills for adaptation to a new academic and cultural environment
• information on appropriate medical coverage
• assistance with identifying housing options, tenant rights and group sharing
• temporary mail facilities for new students
• liaison with academic departments and units in support of international student issues

All new undergraduate and graduate international students will be contacted by the service shortly after admission to Simon Fraser University has been confirmed. Arrangements can be made with the service to meet new students arriving from overseas. Orientation is offered, as is a students helping students program. In addition to being a resource to all international students during their period of study, the service provides support in students’ adjustment to Canadian university life. New students especially are encouraged to visit our offices 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 Canada and in many countries around the world.

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

Undergraduate International Exchanges

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<thead>
<tr>
<th>Country</th>
<th>City</th>
<th>University</th>
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<tbody>
<tr>
<td>Argentina</td>
<td>Buenos Aires</td>
<td>Universidad de Belgrano</td>
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<tr>
<td>Australia</td>
<td>Adelaide</td>
<td>Flinders University</td>
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<td>Melbourne</td>
<td>Monash University</td>
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<td>Perth</td>
<td>Murdoch University</td>
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<td>Victoria</td>
<td>Swinburne Univ. of Technology</td>
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<td>Chile</td>
<td>Santiago</td>
<td>Pontificia Catolica Universidad de Chile</td>
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<tr>
<td>China</td>
<td>Shanghai</td>
<td>East China Normal University</td>
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<tr>
<td>Cuba</td>
<td>Havana</td>
<td>Universidad de la Habana</td>
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<td>Denmark</td>
<td>Aarhus</td>
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<td>Aarhus University</td>
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<td>England</td>
<td>Brighton</td>
<td>University of Sussex</td>
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<td>Norwich</td>
<td>University of the South Pacific</td>
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An information meeting for students interested in domestic of international exchanges will be held on Thursday, October 22, 1998 from 3 to 5 pm in the Halpenny Centre, room 126.

Application packages for all exchange programs are available at IESS. The application deadline for exchanges beginning in spring 1999 is October 1, 1998. The application deadline for exchanges beginning in fall 2000 is February 12, 1999.

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.

Academic and Campus Services

Canada

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<tr>
<th>Country</th>
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<tr>
<td>France</td>
<td>Grenoble</td>
<td>Université Stendhal-Grenoble III</td>
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<td>Germany</td>
<td>Giessen</td>
<td>Justus Leibig Universität</td>
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<td>Köln</td>
<td>Universität zu Köln</td>
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<td>Saarbrücken</td>
<td>Universität des Saarlandes</td>
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<td>Hong Kong</td>
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<td>Chinese University of</td>
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<td>Japan</td>
<td>Osaka</td>
<td>Kansai Gaidai</td>
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<td>Korea</td>
<td>Seoul</td>
<td>Meiji Gakuin Daigaku</td>
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<td>Mexico</td>
<td>Mexico City</td>
<td>Instituto Tecnologico Autónomo de México (ITAM)</td>
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<td>Universidad de Monterrey</td>
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<td>Puebla Universidad de las Americas</td>
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<td>Oregon State University</td>
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<td>Universitat de Groningen</td>
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<td>Oslo University of Oslo</td>
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<td>Philippines</td>
<td>Manila</td>
<td>De La Salle University</td>
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<td>Scotland</td>
<td>Dundee</td>
<td>The University of Dundee</td>
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<td>Singapore</td>
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<td>National University of</td>
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Fiji South Pacific Linguistics Field School (summer 1999)

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

Chinese Studies Field School (summer 1999)

Sponsored by the Department of Chinese, the field school will spend one week at SFU followed by seven weeks in China — one week in Beijing and six weeks in Jilin — studying intensive Chinese language as well as Chinese Culture.

Prague Field School (summer 1999)

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

Independent Study Abroad

Students may study at institutions in virtually any country and may receive Simon Fraser transfer credit. Students must arrange these programs individually, and must also organize transfer credit using a letter of permission. Local financial, tuition, academic and language requirements must be met by the individual student. Information on procedures is available from IESS. For more information, see Courses at Other Institutions in the Registration section.

W.A.C. Bennett Library


Collections

The library has over 1,300,000 bound volumes and over 9,000 currently received serial 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-HN on the 4th; HQ-PT on the 5th; and Q-Z on the 6th. Periodicals are housed on the 6th floor. Special extended hours are observed four Sunday from 11 am to 6 pm. Service hours are reduced during the summer semester, on holidays and during semester breaks.

Information

Librarians are available to assist users and provide reference service Monday to Thursday from 9 am to 8 pm, Friday 9 am to 5 pm, and Saturday and Sunday from 11 am to 6 pm. Service hours are reduced during the summer semester, on holidays and during semester breaks.

Access to information, a special series of lectures, is available in the library at the beginning of each semester. Librarians give specialized bibliographic lectures for specific courses when requested by faculty.

The Innovative Interfaces Inc. integrated computerized library system includes automated circulation and OPAC (On-line Public Access Catalogue) components. These allow users to consult records in the library collection through user-friendly terminals on all floors. The OPAC can also be accessed through any terminal or microcomputer connected to the campus network, by off campus computer dial-up, or via the Internet.

Loans

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

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

H ours

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

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

Samuel and Frances Belzberg Library

Simon Fraser University at Harbour Centre, (604) 291-5050 Tel, (604) 291-5052 Fax, http://www.harbouer.sfu.ca/belzberg/belzberg.htm

The Belzberg Library has been in operation since January 1989 as a branch library serving the students and faculty of Simon Fraser University at Harbour Centre. The library provides a full range of services including reference, loan of library materials, access to course reserve items and requests for materials from the main W.A.C. Bennett Library. Online services, including a computerized library catalogue, full text databases, and access to the World Wide Web, form an essential element of this electronic library.

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

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

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

Media and Public Relations Office


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

Museum of Archaeology and Ethnology


The museum exhibits and collects objects from around the world, with a specific emphasis on the archaeology and ethnology of the native peoples of British Columbia, especially the Northwest coast. Virtual exhibits on a wide variety of topics can be found at the above Internet address.

Native Student Centre


To ensure access and success while at Simon Fraser University, support services and programs are available to students of First Nations ancestry (aboriginal, Metis, Inuit) through the Native Student Centre.

First Nations Student Services

The direct services provided by the First Nations program co-ordinator include but are not limited to:

• assisting with course selection and registration
• providing referrals to and information concerning University and Aboriginal community resources
• acting as a liaison between students, bands and Simon Fraser University faculties and departments
• providing advice on financial aid as well as on and off campus cultural events listings
• providing information to those interested in applying for Indian status

First Nations Resource Centre and Study Lounge

The resource centre has built up a selection of academic and cultural resources. Material in the resource centre is presently used on a reference basis only but is accessible as a study lounge 24 hours a day.

First Nations Study Leadership Opportunities

A variety of programs at the Burnaby Mountain campus offer First Nations students the opportunity to further develop their leadership skills. These
include the First Nations peer helper program, elders program, First Nations campus tour guides program, First Nations role model and college liaison programs, First Nations orientation, and aboriginal cultural and issues awareness committees.

For more information on any of the above opportunities and resources, please contact the First Nations program co-ordinator.

Ombuds Office
2205 Maggie Benston Student Services Centre, (604) 291-4563 Tel, ombudsoffice@sfu.ca E-mail
Simon Fraser University has rightfully earned a reputation for being one of the best Universities in Canada and you will find your time at SFU challenging and rewarding. Nonetheless, as with any large and complex organisation, mistakes are made and misunderstandings occur. It is for these reasons, and the fact that the university encourages and sustains a diversity of perspectives, that we have an Ombuds Office.

The role of the Ombuds Office is to ensure that all members of the University community receive fair and equitable treatment. While most of our cases are initiated by students, we nonetheless attempt to explore all sides of an issue so that a fair resolution can be found.

The Ombuds Office can be your last resort, offering assistance when regular channels have failed, or it may be your first step when you don’t know where to begin. The Ombuds persons at Simon Fraser University are outside the formal administrative structure of the University, but do have access to staff, faculty and administrators. The services of the Ombuds person do not replace the formal channels of redress. Rather, we provide an additional venue that is confidential and conciliatory by design. The Ombuds person will advise you of your rights and responsibilities within the University, but does not provide legal advice.

The Ombuds Office, an independent and autonomous student funded agency, was established to provide the University with informal assistance to resolve problems, conflicts and disputes.

For appointments outside regular office hours, we can schedule an appointment at another time. If our Office is not accessible to you, please contact us and we will try to accommodate you.

Quad Books
2270 Maggie Benston Student Services Centre, (604) 291-4164 Tel, (604) 291-5877 Fax, Monday to Friday 9:15 am – 4 pm
Quad Books is a service of the Simon Fraser Student Society offering a complete line of school supplies, used textbooks, postage, transit and fax services. We also carry a variety of gifts and greeting cards. Used textbooks for the next semester are bought at half price. Photocopiers are available 24 hours a day outside the store.

Recreational Services and Athletics
This department provides opportunities for members of the campus community (faculty, staff, full and part time students) to learn and participate in a variety of social and physical activities. Facilities including the fitness centre, pools, weight rooms, courts, climbing wall, track, jogging trails and saunas are all available to the campus community. Program details and facility schedules are published each semester.

Athletics
Since its inception in 1965, the athletics program at Simon Fraser University has enriched Canada with a winning tradition that is second to non. Boasting more national and Olympic team members than any other collegiate organization in the country, SFU Athletics provides opportunities for the athletically talented student to compete in the NAIA (National Association of Intercollegiate Athletics), the only Canadian program to do so. Like our US counterparts, Simon Fraser University also offers athletic scholarships to its student athletes. After winning three national championships in the 1996/97 season, Simon Fraser University was awarded the National Association of Intercollegiate Athletics Sears Director’s Cup which is awarded to the top athletics program.

Intercollegiate teams for women include: basketball, track and field, cross-country, wrestling, field hockey, soccer, volleyball, softball and swimming. Intercollegiate teams for men include: basketball, football, track and field, cross-country, wrestling, soccer, golf, and swimming.

For more information about varsity programs, call (604) 291-3675, Fax (604) 291-4922.

Aquatics
Simon Fraser University Aquatics offers a six lane, 25 metre pool, and a diving pool with five and seven meter platforms. The larger pool is used for activities such as lap swimming, deep-water running, children’s Red Cross lessons, adult learn-to-swim lessons and advanced leadership courses. The pool serves campus clubs and various community groups. For swimming and course information call (604) 291-4142.

Club Sports
A variety of extramural clubs are sponsored by the department. Competitive clubs compete in local league and tournaments (some at a very high skill level) and non-competitive clubs are available for groups with common interests. For club information, consult the clubs notice board on the East Gym’s ground floor, or call (604) 291-4412.

Fitness Classes
Professionally trained instructors and assistants conduct complete, safe, and effective classes. Multi-level, co-ed classes cater to a wide variety of individual needs and include specialty classes such as aquafit, hi-low, step and personal training consultations. For further details on fitness classes, CPR, first aid or instructor training, call (604) 291-3634.

Intramural Sports
Intramurals are for everyone at the University — students, faculty, and staff. They are designed to meet all levels of aspiration and skill, and to provide a meeting place for people from all parts of the University. Frequency of participation varies from involvement in regular league schedules to special events and tournaments. Activities take place both on and off campus, and a variety is offered. Details are found in the Intramural flyer published each semester or call (604) 291-4824.

Non Credit Instruction
These classes offer sequential instruction of up to 12 weeks in a large number of activities suited to varying levels of skill or fitness. The group headings are: aquatics, combatives, dance, racquet sports, scuba, yoga and outdoor recreation. Details are found each semester in the non-credit brochure or call (604) 291-4142.

Outdoor Recreation
Non-credit courses are offered in backpacking, mountaineering, ski touring, kayaking, scuba diving and more. Information, course outlines and notices for trips are posted at the information board in the recreation office. For office hours and information, call (604) 291-4434.

Residence and Housing Office
Apartment residence office: 430 Louis Riel House, Tel (604) 291-4805
There are several residences on campus.

• Magde Hogarth House, a women’s traditional residence which accommodates 66 students
• Shell House, a traditional co-ed residence which accommodates 152 students
• McTaggart-Cowan Hall, a traditional co-ed residence which accommodates 200 students
• Hamilton Hall, a co-ed residence which accommodates 104 graduate students in single studio suites
• A townhouse complex which accommodates 396 single students in four bedroom townhouses
• Louis Riel House, a family apartment building containing 209 one and two bedroom units

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

In the traditional residences, studios and townhouses, accommodations are fully furnished and are equipped with stoves and refrigerators. In addition, the townhouses have a dishwasher. In the apartment residence, units are furnished with a stove and refrigerator. Apartments are reserved for couples, families with children, and single parent families.

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

Applications and information for on campus residences may be obtained from the Summit brochure or Internet address (Townhouse) or the Residence Office, 226 Shell House. Applications for Louis Riel House are accepted year-round.

Traditional residences, studios and townhouse application dates begin as follows.

fall 1998 – March 1
spring 1999 – September 21
summer 1999 – January 2
fall 1999 – March 1

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

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 accommodation.

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

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

Simon Fraser Student Society
2250 Maggie Benston Student Services Centre, (604) 291-3181 Tel, (604) 291-5843 Fax
The Simon Fraser Student Society was established in 1965 to provide representation, advocacy and services for students, and is registered under the societies act of BC. As a grassroots organisation, the society is directed by the student forum, a council of elected representatives from 34 faculty and departmental student unions, and a six member executive which is elected at large. The executive includes a graduate issues officer and administrative support for graduate student representation.

Students pay a $55.35 activity fee that provides funding for the student society as well as other referenda based and contract based organisations, and is allocated as follows.

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The Maggie Benston Student Services Centre houses the SFSS campus pub which offers pub style food, full bar service, an outdoor patio with barbecue and live weekly entertainment. In addition to providing student employment, the student society maintains a pub support fund which is Monday and Tuesday 11 am – 10 pm; Wednesday 11 am – 11 pm; Thursday 11 am – 1 am; Friday 11 am – 12 am; Saturday, 11 am – 9 pm; Sunday 11 am – 7 pm.

Legal Advice Clinic
Free legal advice is available to student society members every Thursday afternoon. Call (604) 291-3870 for an appointment with a lawyer.

Ombuds Office
The Ombuds Office, an independent and autonomous agency funded by students, provides the University community with informal assistance to resolve problems, conflicts and disputes. The ombudsperson ensures fair and equitable treatment for everyone. While most cases are initiated by students, all sides of an issue are researched to find a fair resolution to a problem. Call for an appointment. If the Ombuds Office is not easily accessible, contact us and we will try to accommodate you. MBC 2205, (604) 291-4563, e-mail ombudsoffice@sfu.ca

Printing Services
The Student Society Printshop, which provides low cost printing services for student and campus organisations, has facilities for everything from thesis copying to banner printing and acetate overlays. MBC 2260, (604) 291-3186.

Quad Books
The Student Society operates a used books store to help with the high cost of textbooks. Quad Books also sells stamps and Farecards/Faresavers, gifts, cards, food items, etc. (see Quad Books in this section) MBC 2270, (604) 291-4164 Tel, (604) 291-5877 Fax, Hours are Monday to Friday 9:15 am – 4 pm.

Resource Office
This resource centre for students and elected representatives offers support for issues which extend or defend student rights. For information or to become involved, visit the Resource Office, MBC 2242, (604) 291-4540.

Student Unions and Graduate Caucuses
The student society provides funding and administrative support for student unions and graduate caucuses — the grassroots constituencies of the student society. Student unions and graduate caucuses elect student representatives to departmental committees, provide an opportunity for students to socialize, and organize projects such as film or lecture series, the publishing of anti-calendars and/or maintaining exam files. Special grants are available for conferences and other extraordinary activities. Working with a student union or graduate caucus, students have a voice on vital issues ranging from course offerings to government funding of education. The student union fieldworker is available to assist in setting up a student union or to organize a specific event. The student society also provides funding for a graduate caucus organizer and a student union project worker to ensure students have access to the resources they need to organize. Contact the Student Union Resource Office, MBC 2236, (604) 291-3131.

University Relations Office
The student society co-ordinates student representation on over 50 University committees. The University Relations Office offers consultation with students on the University governance structure and support for student representatives on University committees. The graduate caucus organizer also works out of the URO and provides organizational and administrative support for graduate caucuses. MBC 2236, (604) 291-3840.

Women’s Centre
The student society provides funding for the Women’s Centre which functions as a resource, information, and referral service for all women on campus. TC 3013, (604) 291-3670.

Affiliate Organizations
The Peak
This is SFU’s autonomous student newspaper. Published weekly, it is available free to all SFU students. MBC 2901, (604) 291-3597.

CJSF
CJSP is the campus radio station broadcasting widely on campus and in the community at 93.9 FM cable. Student participation is encouraged. TC 216, (604) 291-3727.

Canadian Federation of Students
The Simon Fraser Student Society is local 23 of the CFS, a national student organization dedicated to lobbying for the improvement of post-secondary education, and the condition of students. CFS also provides services such as Travel Cuts travel agency, student saver card, and International student identification card.

Simon Fraser Public Interest Research Group
Members of the Student Society are also members of SPPIRG, a student-run research, action and education group. TC 326, (604) 291-4360.

Student Employment Centre

The centre serves students and alumni looking for part time, summer, semester, international and permanent employment. New jobs are posted daily in the centre and on our web site at http://www.sfu.ca/student-services/employment.html.

Our staff assist students and alumni with job searches, resumes, cover letters and interview preparation. Our resources include books, videos, employer information files, magazines and newspapers. Specialized computer equipment to access job postings is available for students with a disability.

Students beginning their last study year should visit the centre early in September to ask about the on campus recruiting program. Employers are here each fall to recruit fourth year students for jobs starting the following year. Summer employment opportunities arrive as early as October. Students should visit the Student Employment Centre regularly throughout the semester.
Statistical Consulting Service
The service, a component of the Department of Mathematics and Statistics, provides advice and assistance in the design of experiments, surveys, and analysis of all manner of data to university and community clients. Launched in 1980, the service draws on the expertise of mathematics and statistics faculty and graduate students. Initial consultation is free.

Student Society Food and Beverage Services
The Simon Fraser Student Society operates three food and beverage service facilities, all in the Maggie Benston Student Services Centre.

The Atrium Cafeteria is downstairs and around the corner from the main entrance. This facility offers hot meals, deli, burgers, pizza and beverages and is open 7:30 am to 7 pm. There are specials for each meal and all the food is prepared by experienced chefs.

The Higher Grounds coffee bar situated on the mall offers all types of coffee including lattes and mochas and is open weekdays 7:30 am to 7 pm and weekends 11 am to 6 pm.

The Highland Pub, upstairs from the coffee bar, offers pub style food, full bar facilities, an outdoor patio, smoking and no smoking zones, and live entertainment. The Pub is open from 11 am to 11 pm Monday through Saturday, and 11 am to 9 pm Sundays. For inquiries, call 291-4334.

Women’s Centre
3013 Transportation Centre, (604) 291-3670 Tel, (604) 291-5843 Fax
The Simon Fraser Student Society Women’s Centre addresses the needs of women on campus. Set up as a comfortable drop-in space and resource centre, it is open to all women — whether students, staff or faculty.

The Women’s Centre lounge, open 24 hours a day, provides women with a non-smoking place to study, talk, eat and meet with other women. The lounge has a kitchen and children’s area. Adjoining the lounge is a library and resource office, generally open at least 20 hours a week.

The library, available to all SFU students, offers a range of women-centred books, periodicals and information files. Subjects include literature, aging, health care, sexuality, parenting, violence against women, science and technology, public policy, lesbian studies, spirituality, feminist theory, cross-cultural studies, and so on. Men wishing to access the Women’s Centre library are welcome to borrow materials through the SFU PIRG office. (The Simon Fraser Public Interest Research Group holds a copy of our current library index.) They can be reached in TC 326 or at (604) 291-4360.

The resource office acts as a referral service to university and community resources of interest to women. In addition, workshops and other programs are organized. Past topics include single parenting, self defence, birth control, sexual assault and harassment, international politics, peace and environment campaigns, health care, education, the arts, technology, professional opportunities, as well as various social events. There are also discussion/support groups for women who share particular experiences or interests. Such groups have included parenting, pagan women, bisexual women and body image. Each semester, the variety of discussion groups and their meeting schedules are adapted to meet the needs of interested women. Programs are also organized by the Women’s Centre for International Women’s Day, and other annual events.

The Women’s Centre is run by a collective of students. In addition there is a part time co-ordinator and librarian. Collective meetings are held regularly and are open to all Simon Fraser women. Volunteers are always welcome — to join the collective, or to participate in other aspects of the Women’s Centre activities.
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
- academic advice

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 at 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

The Simon Fraser University at Harbour Centre 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 student card or an authorized provisional use card.

Macintosh Lab: Equipped with 16 Apple Macintosh 7200/75 microcomputers for students and an additional machine connected to an overhead LCD display for use by the instructor. The lab is connected to a Novell network server, HP4si laserprinter, 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 Koshevov Publishing Lab

Hours 10 am – 10 pm Monday to Thursday, 10 am – 7:00 pm Friday, 9 am – 12 noon, 1 pm – 4:30 pm Saturday, closed Sunday

The Himie Koshevov Publishing Lab, located on the second floor at Harbour Centre, is equipped with 16 Macintosh 7200/90 computers with two-page color displays, an 11x17 printer, color scanner, CD-ROM player and syquest zip drives. Access is by means of a valid SFU picture ID card.

Royal Bank Instructional Computing Facility

(604) 291-5030 Tel, 10 am – 10 pm Monday to Thursday, 10 am – 7:00 pm Friday, 9 am – 12 noon, 1 pm – 4:30 pm Saturday, closed Sunday,


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 student card or an authorized provisional use card.

Belzberg Library

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

The 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. Online services form an essential element of this "electronic library." A web-based catalogue, searches of commercial and public databases, CD-ROM systems, and access to library files on the campus network are all available.

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

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

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

Information and Registration Services

(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),

http://www.harbour.sfu.ca/belzberg/belzberg.htm

Head

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

The Belzberg Library is 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.

Information and Registration Services


Executive Director

W.G. Gill BA, MA, PhD (Br Col)

Simon Fraser University is committed to the renewal of individuals and organizations through programs of advanced learning. Ten years of planning and close collaboration among representatives of the University and the business, professional and cultural communities, the City of Vancouver and the Province of British Columbia laid the groundwork for the Harbour Centre campus which opened in 1989. We continue to seek the advice and participation of the downtown community in the development of Harbour Centre's mission and programs. The University's chancellor, Dr. Joseph Segal, gave outstanding leadership to the drive to build Harbour Centre. The downtown campus is designed to provide continuity between work and study within an environment created specifically for advanced learning — built largely through private sector funding — that offers a range of programs and services directed to mid-career intellectual and professional growth.

The harbour Spencer Building at Hastings and Richards that houses the campus is located in the commercial heart of rejuvenated 'old' Vancouver. For six decades, Spencer's, Eaton's and Sears took advantage of this centrality. Simon Fraser University maintains the Spencer Building's prominence in the lives of those who live and work downtown.

Simon Fraser University at Harbour Centre provides over 145,000 square feet of instructional resources for advanced education. Each classroom, lecture theatre and laboratory was designed with its particular educational purpose in mind and is equipped with complete audio-visual resources.

The campus currently serves over 50,000 people annually. Each semester 2,000 undergraduates and 300 graduate students take formal credit courses, and thousands of individuals, groups and companies take advantage of continuing studies education opportunities and public programs, or use the campus for public, corporate and other meetings.

Work is under way to complete restoration of the exterior of the neo-classical temple bank building across Hastings Street from the Harbour Centre campus that will become the University's Centre for Dialogue, “a place where leaders at all levels will come to meet and resolve local, national and international issues.” The building is a gift to the university from Allied Holdings, developer of the adjacent hotel, condominium and retail complex.

When completed the Centre for Dialogue will be virtually a new structure within a heritage building. Its unique features will include a circular meeting room seating up to 154 participants. This will be named the Theatre of Asia Pacific. The Centre for Dialogue is anticipated to open in 1989.

Academic Computing Services

Royal Bank Instructional Computing Facility

(604) 291-5030 Tel, 10 am – 10 pm Monday to Thursday, 10 am – 7:00 pm Friday, 9 am – 12 noon, 1 pm – 4:30 pm Saturday, closed Sunday,


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 student card or an authorized provisional use card.

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Himie Koshevov Publishing Lab

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Lectures, Exhibitions and Special Events

(604) 291-5100 Tel

Simon Fraser's campus community and the general public are invited to attend the many public lectures, performances 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. Events in these public series are free, but seating is limited. Please write or telephone to add your name to the mailing list.

Teck Gallery

(604) 291-4266 Tel

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

Undergraduate and Graduate Programs

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

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

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

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, four 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, and the master of publishing – with other programs under development.

Continuing Studies


Acting Dean
M. Selman BA, PhD (Br Col)

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

Harbour Centre programs address advanced recurring educational needs of the urban core’s business, professional and cultural communities through graduate degrees, undergraduate programs for returning students and selected certificate programs. Also offered are intensive, specialized short courses, seminars and conferences developed from University and community resources.

Participants in the latter category are not required to be formally admitted to the University, although some programs have their own admission requirements. As a rule, there are no examinations and no university credit is awarded. In every other way these programs meet the high standards of university-level instruction.

The University awards certificates for completion of selected programs of credit-free study that have been approved by senate and meet specific criteria, including a minimum of 120 credit hours and formal evaluation.

Programs are held during the day, evening and on weekends. They are taught by faculty from the University, business, the arts and the professions.

For more detailed program information, or to enquire about “in-house” programs which can be developed for companies and organizations, refer to the Continuing Studies section of the Calendar, or call the Continuing Studies general office at (604) 291-5100.

Harbour Centre Research Institutes

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

Institute for Applied Algorithms and Optimization Research
Institute for Business and Innovation Studies
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
Geraldine and Tong Louie Human Performance Centre
Pacific Institute for the Mathematical Sciences
Council for North American Business Studies
Centre for Policy Research on Science and Technology
Scotiabank Resource Centre for Women Entrepreneurs
Simon Fraser University/University of British Columbia Centre for the Study of Government and Business
W.J. VanDusen BC Business Studies Institute

Harbour Centre Services

Health Services

300 Harbour Centre, (604) 291-5200 Tel

The Harbour Centre Health Services is open Monday through Friday, from 9:30 am to 6 pm, Monday through Thursday, and 9 am to 12 noon Friday.

Health Services provides a full range of medical care for students, faculty and staff. Physicians, nurses and staff 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

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.
Undergraduate Studies
General Information

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

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

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

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

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

Changes to personal student data
changes of address and/or telephone numbers
changes to names
changes to immigration status
Course outlines for lower division courses (all credit courses numbered 001 to 299) and for all evening courses are available for pick up on the lower level of the Maggie Benston Student Services Centre, 0100.

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

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

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

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

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

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

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

Double Major Program
A general degree may include completion of two major programs. The student must complete the following.
• the lower division requirements for each of the major subjects selected
• at least 28 hours of upper division courses as specified in each of the two subjects in which the majors are to be claimed
• any other requirements of the particular departments concerned
• the requirements of the faculty in which the student will receive the degree
This permits study for two majors within a single faculty or across faculties. The bachelor’s degree awarded will be determined according to the faculty for which all requirements have been met or, if the requirements of more than one faculty have been met, then from which one of the faculties the student selects. (See Major-Minor Program following.)

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

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

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

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

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

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

Degree Requirements
Students are cautioned to refer carefully to overall requirements of the faculties for degree requirements, as the requirements for a specific degree must be fulfilled. If in doubt, seek advice from Student Academic Resources. Some departments require specific prerequisite courses for entry to some upper division courses, and some faculties require completion of a minimum number of upper division courses taken in the upper divisions of study to fulfill degree conditions. Some faculties require
completion of a minimum number of credits within the faculty to qualify for a degree. In some instances, therefore, a student seeking a double major or a major-minor involving subjects in more than one faculty may need more than 120 credit hours to fulfill the requirements of the general degree.

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

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

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

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

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

General University regulations covering a first bachelor’s degree apply to further bachelor’s degrees unless otherwise stated or clearly implied. These include, but are not limited to:

- minimum CGPA and minimum GPA calculated on the basis of all upper division courses taken at Simon Fraser University required for graduation
- maximum number of transfer credit hours that may be counted toward minor/major/honors programs

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

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

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

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

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

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

Obligation to Declare Majors, Minors or Other Areas of Specialization
Students are expected to obtain formal approval to enter an area of specialization by the time they have earned 60 credits. ‘Specialization’ is an umbrella term used to cover programs such as majors, minors, double majors, honors, 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 the department offering the particular specialization(s).

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

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

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

Academic advising for undecided students designated under option B with degree/diploma...
objectives and faculty affiliation is the responsibility of the appropriate faculty advisor. Academic Advising for undecided students with no degree/diploma objectives or faculty affiliation is the responsibility of Student Academic Resources.

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

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

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

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

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

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

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

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

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

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

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

Qualifying Student
See the Graduate General Regulations section.

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

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

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

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

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

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

Example 1998
Semester 1
Spring
Jan. to April
spring 1998 (1998-1)
Semester 2
May – August
summer 1998 (1998-2)
Semester 3
September – December
fall semester
September – December
fall 1998 (1998-3)

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

The following illustrates an academic year at Simon Fraser University.

Level
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 terms of levels. ‘Level’ refers to the status of a student’s program. Each level would normally equal one semester’s work with a full course load; a typical four year bachelor’s degree program consists of eight levels. The first four (i.e., the first 60 credit hours of credit) are lower divisions. Levels 5 and above are upper divisions. The term ‘level’ is not used for graduate programs.

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

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

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

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

The credit hour weight is shown for each course as follows.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course Number</th>
<th>Credit hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics (MATH)</td>
<td>232</td>
<td>3</td>
</tr>
</tbody>
</table>

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

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

---

### Four Year General Degree Program

<table>
<thead>
<tr>
<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>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>2nd year/sophomore</td>
</tr>
<tr>
<td>Upper levels</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>15</td>
<td>4th year/senior</td>
</tr>
<tr>
<td>8</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>120 credit hours</td>
<td></td>
</tr>
</tbody>
</table>

### Four Year Honors Degree Program

<table>
<thead>
<tr>
<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>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>2nd year/sophomore</td>
</tr>
<tr>
<td>Upper levels</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>6</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>18</td>
<td>4th year/senior</td>
</tr>
<tr>
<td>8</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>132 credit hours</td>
<td></td>
</tr>
</tbody>
</table>
Admission and Readmission

The University welcomes applications from Canadian and international students. All new students must apply for and be granted admission to the University. Confirmation of an admission offer is required before students may register in courses.

Those who have previously attended Simon Fraser University but who fit into any of the following categories must apply for readmission:

- students who have not registered in courses at the University during the previous three semesters; or
- students who withdrew from their first semester at the University; 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.

Further information on readmission is given later in this section.

An advising service is available for potential applicants. Call (604) 291-3397 for an appointment. Information and assistance for students with a physical disability are available from the Centre for Students with Disabilities, telephone (604) 291-3112.

Director of Admissions
N. Heath BA (Oxf), MA (S Fraser)

Director, Student Recruitment
R.M. Smith BMgt (Leth)

Associate Director, Admissions
D. Moore BA (S Fraser)

Admission Recruiters
D. Dove BSc (Kines) (S Fraser)
H. Gawenda BA (S Fraser)
S. Ho
R. Khan Hemani BBA (S Fraser)
R. Roberts

Student Recruiters
M. Black
P. Godman BA (S Fraser)
L. McGregor BCom (McM)
L. Walker BA (S Fraser)

Admission Requirements

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

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

Applicants for the professional development program and the engineering science program must have the approval of the Faculty of Education and the Faculty of Applied Sciences respectively, in addition to meeting the general admission requirements. For the professional development program application deadline, consult the Academic Calendar of Events.

Admission Process

All enquiries relating to admission should be directed to director of admissions, Office of the Registrar, Simon Fraser University, Burnaby, BC, V5A 1S6. There are two methods of applying for admission.

Application by Computer

Application may be made from any computer which has a connection to the Internet and is equipped with browser software, enabling interpretation of data on the World Wide Web. The form may be accessed from http://www.reg.sfu.ca which is the Simon Fraser University Office of the Registrar home page.

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

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

Application by Paper Form

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

- official copy of the appropriate school leaving certificate (e.g. BC Secondary School Transcript of grades)
- official transcripts from all post-secondary institutions attended, whether or not the work was completed
- official reports of any standard tests written.
- Applicants whose primary language is not English must write a standardized English test (see English Language Requirements) and have the results submitted directly from the testing agency to Simon Fraser University. In some circumstances, this requirement will apply to students who have attended secondary schools or post-secondary institutions in Canada.

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

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

Application and Document Evaluation Fees

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

A document evaluation fee of $40 is assessed for all applicants whose academic records, in whole or in

<table>
<thead>
<tr>
<th>Evaluation Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>A document evaluation fee of $40 is assessed for all applicants whose academic records, in whole or in part, are not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Minimum Arts</th>
<th>Acceptance Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC grade 12 graduation</td>
<td>1,720</td>
<td>75%</td>
</tr>
<tr>
<td>degree holders and transfer</td>
<td>685</td>
<td>2.70</td>
</tr>
<tr>
<td>Total</td>
<td>3,175</td>
<td></td>
</tr>
</tbody>
</table>

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

Diverse Qualifications

Undergraduate Admission Policy

Each semester, many more admission applications are received than can be accepted. Academic performance is the main criterion for admission and is used exclusively in 90% of cases. However, it is recognized that some candidates have other attributes and achievements which should be recognized in determining admission. The University seeks to admit not only applicants who are academically very well qualified but also those who meet minimum admission standards and have

- demonstrated commitment and/or excellence in other endeavours, or
- presented a clear and valid reason for attending the University, or
- succeeded in their studies in spite of difficult circumstances.

Starting in January 1997, for a three year trial period, the University will select up to 10% of new students, taking into account these diverse qualifications. To be considered for admission under this policy, complete a personal information profile form and submit it with one letter of reference.

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

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

<table>
<thead>
<tr>
<th>Basis of Admission</th>
<th>Minimum Arts</th>
<th>Acceptance Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC grade 12 graduation</td>
<td>1,720</td>
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<td>2.70</td>
</tr>
<tr>
<td>Total</td>
<td>3,175</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fall Semester 1998</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Arts</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>BC grade 12 graduation</td>
</tr>
<tr>
<td>degree holders and transfer</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
part. originate outside of British Columbia and the fee will be assessed to students making a second or subsequent application for admission or an application for readmission to SFU if such application includes either secondary school documents from outside Canada or post-secondary documents from an institution outside British Columbia if these documents have not been evaluated previously. This fee is non-refundable and not applicable to tuition fees. The document evaluation 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 Simon Fraser University and another institution.

**International Students**

The University limits new international students to not more than 7% of each year's entry. Each program or department which is operating at maximum capacity (limited enrolment program) may limit international students within that program to not more than 10% of approved majors, honors or minors. In 1998, the only programs which are subject to this 10% limit are in the Faculty of Business Administration. Details are given under the Faculty of Business Administration.

**Admission to Faculty**

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.

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.

Entry to the Faculty of Education is restricted to students who have at least 76 credits and are selected for entry to the Professional Development Program, or who have a first degree and are approved to PDP or another program in the faculty.

**British Columbia – Secondary Schools**

Applicants may be selected for the faculties of arts, business administration, and science or to one of the four programs in the faculty of applied sciences.

**Faculty of Arts**

The admission target for Fall semester 1998 is 990 new students.

• secondary school graduation
  • mathematics 11 (or principles of mathematics 11), language 11 (beginner's language 11 may be used) and science 11 (acceptable subjects are biology, chemistry, earth science, physics)
  • English 12
  • three additional grade 12 courses selected from the following.
    AP calculus AB biology (or AP general biology or IB biology) AP computer science A (or AP computer science AB or IB computer science)
    chemistry (or AP general chemistry or IB chemistry)
    comparative civilizations
    English literature (or AP English literature and composition, or IB English literature)
    French or French 12A (or AP French language or IB French)
    geography (or IB geography)
    German (or AP German language or IB German)
    history (or AP European history or IB history)

**IB Russian**

Japanese (or IB Japanese)

Latin (or AP Vergil [Latin])

Mandarin (or IB Mandarin)

mathematics or principles of mathematics (or IB algebra or IB mathematics)*

physics (or AP physics B or IB physics)

Punjabi

Spanish (or AP Spanish language or IB Spanish)

survey mathematics

IB western civilization

writing

**Notes:**

*Applicants may not count both principles of mathematics 12 and mathematics 12 towards the admission GPA.

AP indicates an approved advanced placement program course and IB indicates an approved international baccalaureate course.

Approved programme cadre and French immersion courses equivalent to the above are also acceptable, except that Français 12 is not accepted in lieu of English 12.

Locally developed courses are not acceptable unless approved in advance by Simon Fraser University.

The minimum average required for admission is 67% calculated on English 12 and the best three academic grade 12 subjects, as selected from the above list. Applicants with averages below 67% are strongly advised to undertake a year of study at a community college and subsequently apply to Simon Fraser University as transfer students.

Actual final percentage marks will be used, whenever available. If not given, the following equivalents are used in computing the average:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0 or 91%</td>
</tr>
<tr>
<td>B</td>
<td>3.0 or 79%</td>
</tr>
<tr>
<td>C</td>
<td>1.0 or 56%</td>
</tr>
<tr>
<td>D</td>
<td>2.5 or 70%</td>
</tr>
</tbody>
</table>

Students who plan to major in economics are advised to include mathematics 12 or principles of mathematics 12 in their secondary school programs; intending criminology, linguistics or psychology majors should include mathematics 12 or principles of mathematics 12.

**Faculty of Business Administration**

The admission target for Fall semester 1998 is 70 new students.

The requirements are identical to those of the faculty of arts except that mathematics 12 or principles of mathematics 12 (or IB mathematics) must be included among the grade 12 courses.

Admission is highly competitive.

**Faculty of Science**

The admission target for fall semester 1998 is 425 new students.

Secondary school students planning to enter the Faculty of Science must satisfy the following requirements:

a) secondary school graduation

b) five specified grade 11 courses, as follows:
   • chemistry 11
   • mathematics 11 or principles of mathematics 11
   • physics 11
   • an approved language 11 or a beginner's language 11
   • four specified grade 12 courses including English 12*
   • mathematics 12*
   • two provincially examinable grade 12 subjects* chosen from biology, chemistry, geography, geology, physics

d) admission to the faculty is on a competitive basis. The average required for admission will be calculated over the four specified grade 12 subjects. The minimum average required in any semester will be determined by the number of qualified applicants. In recent semesters the minimum average for admission has been 75%.

e) The faculty reserves the right to make early offers of admission to outstanding students.

*or equivalent advanced placement or international baccalaureate courses as listed above under the Faculty of Arts Requirements.

Students who are interested in the life sciences (i.e., biological sciences, biochemistry) are strongly advised to include biology 12 in their secondary school programs. Students planning to enter biological sciences, biochemistry, chemistry, earth sciences or physics are strongly advised to include chemistry 12 and physics 12 in their secondary school programs, and to obtain a grade of B or better in mathematics 12. If a student lacks any of these courses, among the grades 12 may be taken, but degree completion could be delayed.

It is also recommended that students complete at least one computer studies course. If available, a calculus course in their secondary school program would be beneficial.

**Faculty of Applied Sciences – Communication**

The admission target for Fall semester 1998 is 15 new students.

Students planning to enter the BA degree program must satisfy the same requirements as for the faculty of arts.

Admission is highly competitive.

**Faculty of Applied Sciences – Computing**

The admission target for Fall semester 1998 is 30 new students.

Students planning to enter the BSc degree program must satisfy the same requirements as for the faculty of arts except that mathematics 12 or principles of mathematics 12 (or IB mathematics) must be included among the grade 12 courses.

Admission is highly competitive. Selection will be based on the average achieved in English 12 and principles of mathematics 12, in addition to the overall admission average.

**Faculty of Applied Sciences – Engineering Science**

The admission target for Fall semester 1998 is 80 new students.

Students planning to enter the BASc degree program must satisfy the following requirements.

• secondary school graduation
  • language 11 (beginner’s language 11 may be used)
  • English 12*
  • chemistry 12*
  • mathematics 12 or principles of mathematics 12*
  • physics 12*

* or equivalent advanced placement or international baccalaureate courses as listed above under British Columbia Secondary Schools - Faculty of Arts.

Admission is highly competitive.

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

**Faculty of Applied Sciences – Kinesiology**

The admission target for Fall semester 1998 is 40 new students.

Students planning to enter the BSc (Kinesiology) degree program must satisfy the following requirements.

• secondary school graduation
  • language 11 (beginner’s language 11 may be used)
  • English 12*
• biology 12*
• one of chemistry 12* or physics 12*
• mathematics 12 or principles of mathematics 12*
* or equivalent advanced placement or international baccalaureate courses as listed above under British Columbia – Secondary Schools, Faculty of Arts.
Admission is highly competitive.

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.

International Baccalaureate
All applicants (including BC residents) who have completed the international baccalaureate diploma may be admitted subject to a minimum overall score of 27. Transfer credit will be granted for some higher level subjects passed with a grade of 4 or higher; no transfer credit will be granted for subsidiary level subjects. The maximum transfer credit awarded is 30 credit hours.
Students with incomplete or partial international baccalaureate programs will be considered for admission on the basis of secondary school graduation. Transfer credit will be granted for some higher level subjects passed with a grade of 5 or higher.

IB Examination Simon Fraser University Recognition
art/design Transfer credit: FPA, Art History (6)
biology Transfer credit: BISC 101, 102 (8)
organization & management studies Individual assessment
chemistry Transfer credit: CHEM 102, 103 (6)
comparing studies LOVE CHEM 115
classical language Transfer credit: general elective, Greek (6) or general elective, Latin (6)
economics Transfer credit: ECON (6)
English (language A) Transfer credit: ENGL (3). Contact English department for individual assessment if high grade in any Simon Fraser University 100 level ENGL course received subsequently.
(language B) No credit
French (language A) Transfer credit: FREN (4) or (7) depending on result in placement test
(language B) Transfer credit: FREN (4) or (7) depending on result in placement test
government Transfer credit: GEOG 100, 111 (6)
history Transfer credit: HIST 225 (3), HIST (3)

history of East Asia Individual assessment
languages (A or B) Transfer credit: FPA 104 (3), FPA, Music (3)
mathematics Transfer credit: FPA 104 (3), FPA, Music (3)

philosophy Transfer credit: PHIL (6)
physics Transfer credit: PHYS 101, 102 (6) Contact physics department for individual assessment if grades are high.
physical education No credit
social anthropology Transfer credit: SA (6)

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

APP Examination
history of art FPA 166 (3), FPA 167 (3)
studio art – general portfolio FPA (6) VSAR studio
studio art – drawing FPA 262 (3), FPA (3) VSAR studio
biology transfer credit for BISC 101, 102 (6 credits)
calculus AB transfer credit for MATH 151 (3 credits)
calculus BC transfer credit for MATH 151, 152 (6 credits)
chemistry; Advanced standing in CHEM 102, 103 (no credit)

computer science A transfer credit for CMPT 103 (3 credits); from 98-3 on CMPT 101 (4)
computer science AB transfer credit for CMPT 101 (4); from 98-3 on CMPT 101 (4), CMPT (1)
economics – micro contact the economics department for a 12 hour prerequisite waiver for ECON 103 or ECON 105
economics – macro contact the economics department for a 12 hour prerequisite waiver for ECON 103 or ECON 105

English language & composition transfer credit for ENGL (3 credits)

English literature & composition transfer credit for ENGL (3 credits)

French transfer credit for FREN (4) or (7) depending on result in placement test; from 98-3 on FREN (5) or (8) depending on result in placement test
to be determined

German government – US no credit
government – comparative

American history transfer credit for HIST (3 credits)

European history transfer credit for HIST 106 (3 credits)

Latin I transfer credit for HUM 161 (3)

Latin II transfer credit for HUM 162 (3)

music – theory FPA 104 (3)

music – listening and literature FPA 141 (3)

physics B transfer credit for PHYS 101, 102 (6 credits)

physics C – mechanics transfer credit for PHYS 120 (3 credits) see note below.

physics C – electricity & magnetism transfer credit for PHYS 121 (3 credits) see note below.

psychology transfer credit for PSYC 100, 102 (6 credits)

Spanish language advanced standing in SPAN 303

Spanish literature advanced standing in SPAN 240

Statistics STAT 101 (3)

Course challenge (credit by examination) is also available in some disciplines.
Note: Please note that the following topics are not covered in APP physics C but are included in PHYS 120 and 121: heat, kinetic theory, thermodynamics, wave motion, interference diffraction, geometric optics and some topics in modern physics and special relativity.

British Columbia – Community and University Colleges

Transfer Credit
A transfer guide, listing all transferable courses and the Simon Fraser University course equivalents is accessible through the World Wide Web at http://www.islandnet.com/bccat.

Adult Basic Education Provincial Diploma
Applicants who have completed the adult basic education provincial diploma must be at least 19 years of age and must meet the following requirements.

either adult basic education advanced level or grade 11 completion

If grade 11 has been taken, the following courses must be included.

English 11

mathematics 11

language 11 (beginner’s language 11 may be used)

social studies 11

science 11 (acceptable subjects are biology, chemistry, earth science, physics)

Four subjects at the provincial level including English and three additional subjects selected from the following.

biology algebra or mathematics

chemistry computer science

English literature geography

geography history

languages physics

statistics trigonometry

All four provincial level subjects should be graded; a minimum average of C+ is required. Entry requirements for computing science, engineering science, kinesiology and the Faculty of Science parallel those for BC secondary school graduates.

College Transfer
Faculty of Arts
The admission target for Fall semester 1998 is 536 new students.
Students planning to enter the BA or BFA degree programs or Certificate programs must complete at least one full year (30 credit hours) of transferable work with a minimum average of 2.0 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 on the basis of those requirements provided that they have attempted less than 30 credit hours of transfer credit. However, they will not be admitted if they present three or more transferable courses equal to nine or more credit hours with an average of less than 2.0 or 60%.
Faculty of Business Administration
The admission target for fall semester 1998 is 17 new students.

Students planning to enter the BBA degree program must meet the same requirement as those given for the faculty of arts, except that the equivalents of the following courses must be included:

- BUED 222-3
- BUS 237-3, BUS 251-3, BUS 272-3
- ECON 103-3, ECON 105-3
- MATH 157-3 (or MATH 151-3 or MATH 154-3)
- and two of ENGL 101-3, ENGL 102-3, ENGL 103-3, ENGL 104-3, ENGL 105-3, ENGL 199-3, PHIL 001-3, PHIL 100-3, PHIL 120-3

Admission is competitive.

Faculty of Science
The admission target for fall semester 1998 is 80 new students.

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

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

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

Admission is competitive.

Faculty of Applied Sciences – Communication
Students planning to enter the BA degree program must satisfy the same requirements as for the faculty of arts.

Admission is highly competitive.

Faculty of Applied Sciences – Computing Science
Students planning to enter the BSc degree program must satisfy the same requirements as for the faculty of arts and the following requirements depending on the number of credit hours completed:

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

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

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

Admission is highly competitive.

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

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

- biology 12
- mathematics 12
- chemistry 12 or physics 12

at least 24 semester hours of transfer credit in the following courses with a 2.00 GPA in those courses:

- BISC 101-4
- BICH 221-3
- CHEM 102-3, 115-2, 150-3, 155-2
- KIN 142-3, 201-3, 203-3 (or CMPT 103-3), 205-3, 207-3
- MATH 151-3, (or 154-3), 152-3 (or 155-3)
- PHYS 101-3, (or 120-3), 102-3, (or 121-3), 130-2, (or 131-2)

Admission is competitive.

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

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

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

British Columbia Special Categories
Simon Fraser University is interested in extending learning opportunities to British Columbia residents who may not qualify under the regular categories of admission. The number of such admissions is limited by the availability of resources, and is not automatic.

Four special categories are available — mature student entry, early entry, concurrent studies and irregular admission.

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

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

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

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

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 admissions board. 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 designated, 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.

Other Canadian Provinces
Secondary Schools and CEGEP
Please consult the current publication Summit for more detailed information.

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

The admission average will vary depending on the number of applications received and on space available in our programs. It will not be lower than 67% (70% from CEGEP). The admission average is calculated on the required senior English course or courses (i.e. group requirement #1) and on the three best academic courses offered in the other course groups as shown below.

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

School of Kinesiology applicants will be eligible for formal acceptance into the kinesiology major program [bachelor of science (kinesiology)] if they
- fulfill the general University admission requirements
- complete a senior biology course with a minimum mark of 67%
• complete a senior mathematics course with a minimum mark of 73%
• complete at least one senior chemistry of physics course with a minimum mark of 67%

A senior computer science course is recommended, if available.

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

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

Alberta and Northwest Territories
Applicants must supply evidence of academic grade 12 completion leading to graduation and include at least five courses, selected as follows.
1. English 30
2. at least three additional courses selected from among: biology 30, chemistry 30, language 30, language 31, math 30, math 31, physics 30, social studies 30, science 30, world geography 30
3. additional level 30 or 31 courses acceptable and necessary for the completion of grade 12

Admission average will be based on English 30 and the three best courses in group 2.

Saskatchewan
Applicants must supply evidence of completion of academic level three (grade 12) leading to graduation, including at least seven academic subjects selected as follows.
1. English A30 and B30
2. one of mathematics A30, mathematics B30, mathematics C30, Algebra 30, Geometry-Trigonometry 30 or mathematics 30
3. at least two additional 30 numbered courses selected from among the following: algebra, biology, calculus, chemistry, Français A or B, French, geography, geometry-trigonometry, history, mathematics, other languages or physics
4. additional courses acceptable and necessary to graduate.

Admission average will be based on English A30, B30, the best mathematics course in group two and the best two remaining courses in groups two or three.

Note: English is a double course so this average is over five courses but only four subject areas.

Manitoba
Applicants must supply evidence of completion of an academic program which will lead to graduation and includes at least five courses selected as follows.
1. English 40G or 40S (except language and technical communication)
2. at least three additional courses selected from biology 40S, chemistry 40S, computer science 40S, history 40S, language 40S, mathematics 40G or 40S, physics 40S. Note that mathematics 45A may not be used in either group 2 or 3.
3. at least one additional 40S or 40G or 40A course and further courses required for graduation

Admission average will be based on English 300 and the three best courses in group two.

Ontario
Applicants must supply evidence of completion of the OSSD (or OSSHD) including six OACs and including the following.
1. one OAC English (language and literature recommended) or OAC Français
2. at least three additional OAC courses selected from English, Français, other languages, algebra and geometry, calculus, finite mathematics, biology, chemistry, computing science, physics, geography, history, and not more than one of visual art, drama or music, economics, law, or sociology
3. additional OAC courses necessary to complete the OSSD

Admission average will be based on OAC English or Français and the three best courses in group two excluding visual art, drama, music, economics, law and sociology.

Quebec
Applicants from a CEQEP must present either a completed DEC or at least one year of an approved academic program. Contact Admissions, Office of the Registrar, for information.

Quebec Grade 12
Applicants from Quebec grade 12 must present the following:
1. English 12 or François 12
2. at least three additional university preparatory grade 12 courses selected from mathematics, sciences, languages, literature, social sciences, history, geography
3. additional academic subjects required for graduation

Admission average will be based on one course from group one and the three best courses in group two.

New Brunswick
Applicants must supply evidence of completion of an academic (i.e., college preparatory) program which will lead to graduation and includes at least six courses as follows.
1. English 120, 121 or 122 (or Français 121 or 122)
2. at least three additional grade 12 academic (college preparatory) courses selected from among biology, chemistry, computer science, English, Français, French, geography, history, mathematics, physics
3. additional grade 12 academic (college preparatory) courses acceptable and necessary to complete grade 12

Admission average will be based on English 120, 121 or 122 and the three best courses in group two.

Prince Edward Island
Applicants must supply evidence of completion of an academic or advanced academic program which will lead to graduation and includes at least five academic and/or advanced academic subjects selected as follows.
1. English 621 or English 611
2. math 621 (algebra and trigonometry) or math 611
3. at least three additional courses numbered 621 and/or 611 selected from among biology, chemistry, Français, French, geography, history, other languages or physics
4. additional courses necessary for graduation

Admission average will be based on English 621 or 611, math 621 (or 611) and the two best courses in group three.

Nova Scotia
Applicants must supply evidence of completion of an academic (i.e., university preparatory) program which will lead to graduation, including at least five subjects selected as follows.
1. English 441 or English 541
2. at least two additional courses numbered 441 and/or 541 selected from among the following subjects: biology, chemistry, computer science, Français, French, history, math, other languages, physics or math 442
3. additional courses numbered 441 or 541 from those listed immediately above, or from economics, geography, home economics, law, modern world problems, music, physical and health education, political science or sociology, acceptable and necessary to graduate (i.e., to total at least five courses 441 and/or 541).

Admission average will be based on English 441 or 541, the two best courses in group two and the best further course in group two or either geography or modern world problems from group three.

Newfoundland
Applicants must supply evidence of completion of an academic program which will lead to graduation and includes at least 13 credits as follows.
1. language 3101 and either English 3201 or 3202
2. mathematics 3201 or 3203
3. any one of biology 3201, chemistry 3202, geology 3203, physics 3204
4. any one of geography, history or languages at the 3000 level
5. at least two additional 3000 level academic credits from groups 1 to 4
6. additional academic credits acceptable and necessary to graduate (i.e. at least 13 credits)

Admission average will be weighted according to the credit value of each course and will be based on both courses in group one, the better course in group two and the two best courses in groups three or four.

Other Countries – Secondary Schools
The following requirements refer to admission to the Faculty of Arts, except where otherwise stated.

United States
American high school students 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, test scores (i.e. SAT, ACT), honors student, rank in class, and on whether the student has taken advanced academic courses (e.g. international baccalaureate, advanced program). The percentage is based on a scale with a 50% pass mark; when some other pass mark is used the minimum average is adjusted.

Other Countries
For information regarding secondary school admission requirements for students from other countries, contact the Office of Admissions.

Transfer from Colleges outside British Columbia and Quebec
The following requirements refer to admission to the Faculty of Arts, except where otherwise stated.

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

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

Applicants who met the University’s admission requirements after completing grade 12 may be admitted on the basis of those requirements provided that they have attempted less than 30 credit hours of transfer credit. However, they will not be admitted if they present three or more transferable courses equal to nine or more credit hours with an average of less than 2.0 or 60%.

Up to 60 semester hours of transfer credit will be awarded for acceptable passed courses.
Other requirements are parallel to those for BC college transfer students (see above), except that associate degrees are given no special priority.

Transfer credit may be granted to a maximum of 60 credit hours based on approved transfer lists or on the advice of the appropriate departments at Simon Fraser University.

Institutes of Technology/Colleges of Applied Arts and Technology
Students with completed two year diplomas from Canadian institutes of technology, including BCIT, or colleges of applied arts and technology may be admitted with an average of 65%. Transfer credit may be granted based on overall academic background and on the recommendations of the appropriate departments at Simon Fraser University. Transfer credit is generally granted only for completed technical programs as a block and is not evaluated on a course by course basis.

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

The following conditions apply.
• studies must have been at a fully accredited institution granting baccalaureate or higher degrees
• the studies presented for transfer credit must be acceptable to a leading university in the home country toward a program similar to the one to which admission is sought.
• 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.
• maximum transfer credit allowed is normally 60 credit hours.
Applicants are requested to send copies of detailed course outlines to assist with the evaluation of transfer credit.

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.

Visiting Students
Students of other universities may apply for admission to take the 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.

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 who consider English their primary language may request in writing an exemption from further English tests. Requests should be addressed to the director of admissions and should be accompanied by supporting evidence.

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.
• test of English as a foreign language (TOEFL), minimum score 540 and successful completion of Simon Fraser University’s English Bridge Program; or
• TOEFL minimum score 570, and test of written English (TWE), minimum score 5; or
• TOEFL minimum score 600; or
• international English language testing system (IELTS), minimum score 7.
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. It emphasizes English language skills that are in particular demand in the academic setting for international students whose first language is other than English. It is designed for students who are otherwise fully admissible to the University but who do not completely meet the English language requirements. Successful completion of the program leads to automatic admission to the undergraduate program in the following semester.

Advance Standing
Advance standing is placement to a certain level in a subject area granted to students 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.

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

Regulations
Total transfer and course challenge credit may not exceed 60 credit hours, and may not include more than 15 credit hours credit as upper division work. Within these limits, credits may be transferred for all courses passed, which are acceptable under University policies.

Transfer credit is not used in the calculation of the CGPA.

Transfer credit for ungraded passes (e.g. pass/fail) will be granted only if the course has been previously articulated for transfer credit and if all students in the course are graded in a similar manner.

Transfer credit is not granted for credit assessed by other institutions, for knowledge acquired outside formal instruction, but course challenge credit may 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.

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

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

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

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

An applicant seeking admission with transfer credit is advised that the courses transferred, together with those he/she subsequently takes at Simon Fraser University, must meet the general and specific requirements of the faculty and department in which he/she chooses to major or honor. Some of the transfer credit awarded may be designated ‘general elective credit.’ Individual faculties may restrict the amount of general elective credit that may be counted toward a degree in that faculty. 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 at type one, two, or three. Type one is assigned credit, used when there is a Simon Fraser University equivalent. Type two is unassigned credit in a subject area, used for courses without Simon Fraser University 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...
Admission and Readmission

that three credit hours of credit 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 number of hours 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 for a D grade. The repeated courses will show on the student’s permanent record, but double credit will not be granted.

Readmission and Re-registration

Students who have previously attended 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. See Application and Document Evaluation Fees.

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

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

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

- completion of a semester by a concurrent studies student who wishes to continue at the University 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 permission from the appropriate department and faculty as soon as possible. Such students entering certificate programs should obtain permission from their faculty advisors. Students holding SFU bachelor’s degrees may also apply for readmission to undertake undergraduate courses as special students.

Protection of Privacy

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

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

Retention of Documents

The documents which you supplied to support your application for admission will be retained for three semesters, following the semester to which application is made. Then, application forms, transcripts and other materials related to your application will be destroyed. Irreplaceable documents will be returned to you if you request their return when you apply for admission.
Registration

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

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

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

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

New Students

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

Continuing Students

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

Former Students

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

Course Loads

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

Regular Session

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

- Applied Sciences, Arts, Business Administration or Education – 16 hours of lower division courses, or 18 hours of upper division courses
- Science – 18 hours of lower or upper division courses
- Engineering Science – 20-22 hours of any courses (permission of the director is required for course loads below 15 hours).

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

Course Overloads

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

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

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

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

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

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

Limits on Duplication of Courses

The number of courses which a student may duplicate in a degree program is limited to five. This limit may be extended by the dean of the faculty. Normally, a course may not be duplicated if the original grade is C or better.

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

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

Courses at Other Institutions/ Letters of Permission

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

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

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

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

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

Duplicate Transfer Credit

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

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

**Course Challenge**

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

- course challenge is not permitted for a course for which credit has already been obtained at Simon Fraser University or through transfer credit. A student may not register in one semester for both regular enrolment and course challenge in the same course at the same time, but must select one or the other, and may not change that decision in that semester later than ten days following the commencement of University classes
- a student is not entitled to register for course challenge if he/she has recorded two challenges as either unsuccessful or unattempted
- a student is not permitted to challenge a 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 Spanish Program 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, seek approval of the appropriate department chair to register for course challenge in that department, and return the completed form to the Office of the Registrar or the academic department by the tenth day following commencement of classes. Normally, a student may not complete registration for course challenge after the end of the tenth day of classes. During the first ten days of classes, a student may change registration in course challenge from one course to another or to regular enrolment in courses, but may not withdraw from course challenge without substitution of regular course enrolment. After the tenth day of classes, no further course challenge changes will be permitted.

**Course Audit**

A student who has satisfied the admission requirements of the University may attend a specific course(s) as an auditor upon completion of the necessary registration procedures, which include written approval of the department concerned. Audit will be recorded as ‘AU’ on a student transcript if the student fulfills the requirements agreed to by the student and the instructor at the time of registration. Minimally, these requirements should comprise completion of readings and participation in class activities. Audited courses will not count towards degree requirements.

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

**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. It is the student’s responsibility for any costs not covered by the student’s personal insurance plan(s), whether it is Medical Services Plan coverage or otherwise. It should be understood that the University itself carries no medical, hospital or dental insurance coverage on students’ behalf.

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

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

**Program/Course Changes and Withdrawals**

**Program Changes**

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

**Course Changes**

You are urged to read the tuition refund policy carefully to avoid, or minimize, financial penalty for dropping courses for which you register. Details of the policy, and deadlines, appear in the Undergraduate Fees section of the Calendar and, also in the Course Timetable and Exam Schedule.

Failure to attend classes does not constitute withdrawal from a course. Courses that are not formally dropped will be given a failing grade; payment for the course’s tuition fee is required.

**Semester Course Changes**

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

**Summer Session and Intersession Course Changes**

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

**Normal course change period**

Regular Semester – Class Days 1-5 Courses may be added or dropped or tutorial times may be exchanged using the telephone 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 and course challenge is not available by telephone registration; registration and course changes must be done in person at the department offering the course.

**Extended course change period**

Regular Semester – Class Days 6-15 After the fifth day of classes to the 15th day of classes, courses may be added only with special permission of the chair and instructor concerned. No courses can be added or dropped after this time. Courses may be dropped without notation on the student’s academic record. However, if a student drops all courses for the semester, the withdrawal will be noted on the academic record. A student may not withdraw from course challenge without substitution of a regular course enrolment. During the first ten days of classes, he/she may change registration in course challenge from one course to another, or to regular enrolment in the course. Permission of the department is required.

**Course drop period**

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

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

During the sixth to twelfth week of classes a course may be dropped only in extenuating circumstances. There will be a notation on the student’s academic record for specific courses dropped. These drops require the approval of the instructor and the chair. Normally, no courses may be dropped after the twelfth week of classes unless approved by the appropriate faculty.
Note: Extenuating circumstances are defined as unusual circumstances beyond the student’s control which make it impossible for the student to complete the course.

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

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

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

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

Class Interruption
Simon Fraser University makes reasonable efforts to ensure that its classes and courses of instruction proceed on a regular basis 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
All members of the University community share the responsibility for 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 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 or in the Course Timetable and Exam Schedule published every semester, or on the World Wide Web via http://www.reg.sfu.ca.

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

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

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

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

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

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

Examinations
Final examinations will normally be held during the last two weeks of each semester. Examination period dates are outlined in the Academic Calendar of Events, and in the Course Timetable and Exam Schedule mailed each semester to students eligible to register. Students must check the exam schedule when planning course selections. 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 re-write (or write, in the case of receiving an N grade) a paper unless he/she re-registers for the course and participates in the course as required by the instructor.

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.

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
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></td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td></td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>Good performance</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td></td>
<td>2.67</td>
</tr>
<tr>
<td>C+</td>
<td></td>
<td>2.33</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>2.00</td>
</tr>
<tr>
<td>C-</td>
<td></td>
<td>1.67</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>F</td>
<td>Unsatisfactory performance (fail)</td>
<td>0.00</td>
</tr>
<tr>
<td>AE</td>
<td>Aeugrotat standing, compassionate pass</td>
<td>No equivalent</td>
</tr>
<tr>
<td>AU</td>
<td>Audit</td>
<td>No equivalent</td>
</tr>
<tr>
<td>CC</td>
<td>Course challenge</td>
<td>No equivalent</td>
</tr>
<tr>
<td>CR</td>
<td>Credit challenge</td>
<td>No equivalent</td>
</tr>
<tr>
<td>DE</td>
<td>Deferred grade</td>
<td>0.00</td>
</tr>
<tr>
<td>GN</td>
<td>Grade not reported</td>
<td>No equivalent</td>
</tr>
<tr>
<td>N</td>
<td>Did not write final exam or otherwise complete course</td>
<td>0.00</td>
</tr>
<tr>
<td>P</td>
<td>Satisfactory performance or better (pass, ungraded)</td>
<td>No equivalent</td>
</tr>
<tr>
<td>W</td>
<td>Withdrawn</td>
<td>No equivalent</td>
</tr>
</tbody>
</table>

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

Scale Changes
In the first two semesters (65-3, 66-1), A- and C+ grades were awarded; these grades were discontinued with the third (66-2) semester, as was the T (standing granted) grade. A- and C+ were re-established with the 67-3 semester, discontinued in 79-2 semester and re-established in 79-3.

Prior to fall semester 1979, numerical equivalents assigned to grades differed from those given above as follows: A+ and A = 4.00; B+ and B- = 3.00; C+ and C- = 2.00.
Explanation of Grades/Notations

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

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

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

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

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

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

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

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

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

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

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

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

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

Reconsideration of Grades
Students who intend to appeal a course grade are cautioned that failing grades have been checked very carefully and appeals seldom result in higher grades except where a clerical error has occurred. Students who feel there has been an error in arriving at or recording a grade should apply in writing for reconsideration to the instructor, who will advise the chair of the department, who will then notify the registrar of the final decision. The registrar will communicate this decision to the student. All course grade changes require the approval and initial of the department chair before being submitted to the registrar.

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

Statement of Grades
At the end of each semester grades for that semester are made available to registered students in good financial standing on the telephone registration system and on the registrar’s information service telephone line. Official grades will not be released before they become available on the telephone systems. Notifications of grades and academic standing will be mailed to students not in good academic standing. Errors in grades will be corrected and notification provided to students as soon as possible.

Information concerning final grades is not released to unauthorized persons without written consent of the student.

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

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

Example

<table>
<thead>
<tr>
<th>Course</th>
<th>Grade</th>
<th>Numerical 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>
</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, which is closed out the semester in which a degree or diploma is awarded to a student by the senate. A new CGPA begins when a student returns for further studies following the awarding of a degree or diploma.
The CGPA is calculated by dividing the total number of grade points earned to date by the total number of credit hours undertaken to date, with the exception of those courses assigned a final grade of P, W, CC, AU, AE or CR. The CGPA calculated for semesters completed prior to the fall semester 1979 includes duplicate courses.

Duplicate courses repeated in the fall 1979 or thereafter and which have been assigned a final grade equal to or lower than the grade previously assigned are excluded from the CGPA calculation for the semester in which the course was repeated as well as any subsequent semesters completed. 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. If, however, the lower grade is reflected in the CGPA calculated for each semester up to the semester in which the higher grade was achieved.

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

Standing Required for Continuance

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

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

Repeated Withdrawals

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

Ineligible to Re-register

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

Academic Probation

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

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

If at the end of the probation period,
- the grade point average on assigned grades during the probation period and the CGPA average (CGPA) are 2.00 or higher, the student will be considered to be in good academic standing
- the grade point average on assigned grades during the probation period is 2.00 or higher, but the CGPA is less than 2.00, the student will continue on academic probation
- the grade point average on assigned grades during the probation period is less than 2.00, but the CGPA is 2.00 or higher, the student will continue on academic probation. (This could apply to students repeating courses during the probation period.)
- both the grade point average on assigned grades during the probation period and the CGPA are less than 2.00, the student will be required to withdraw (RTW) from the University

Required to Withdraw

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

Extended Withdrawal

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

Readmission of Involuntarily Withdrawn Students

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

Required to Withdraw or Ineligible to Re-register Students

Former students who are required to withdraw (RTW) or ineligible to re-register (ING) (i.e. CGPA of less than 1.0 in two consecutive semesters) will be eligible for readmission if they complete further transferable academic work according to the following schedule (any of the following five options):

- 12-17 credit hours with a minimum 3.50 GPA
- 18-23 credit hours with a minimum 3.00 GPA
- 24-29 credit hours with a minimum 2.75 GPA or with the acceptance GPA,* whichever is higher
- 30 or more credit hours with the acceptance GPA* (a complete 2 year technical diploma with a 70% minimum average and at least 12 credit hours of transferable course work with a minimum 2.75 GPA. (The transferable work may be within the diploma program or supplementary to it.)

Extended Withdrawal Students

Former students who are on extended withdrawal (EW) will be eligible for readmission if they complete further transferable academic work according to the following schedule (any of the following five options):

- 24-35 credit hours with a minimum 3.50 GPA
- 36-47 credit hours with a minimum 3.00 GPA
- 48-59 credit hours with a minimum 2.75 GPA or with the acceptance GPA,* whichever is higher
- 60 or more credit hours with the acceptance GPA*
- a completed 2 year technical diploma with a 70% minimum average and at least 24 credit hours of transferable course work with a minimum 2.75 GPA. (The transferable work may be within the diploma program or supplementary to it.)

Ineligible to Re-register Students

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

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

Deadlines

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

Duplicate Courses

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

Final Grades Evaluated

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

Transfer Credit

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

Standing on Readmission

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

Academic Alert

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

Student Appeals

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

Students may appeal certain University decisions as follows.
Grades
May be appealed to the instructor, department chair and, in some cases, faculty dean in accordance with academic policy T20.01.

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

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

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

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

Tuition Fee Refunds
Appeals may be considered by the registration appeals committee.

Academic Penalties (e.g., Suspension)
Dispute about the findings of fact may be brought to the university board on student discipline (policy T10.03). Appeals on three grounds may be brought to the senate committee on disciplinary appeals (Policy T10.04):

a) that there was unfairness in the process at the hearing
b) that the penalty imposed was inappropriate
c) that new evidence has emerged that was not available at the hearing and which casts doubt on the accuracy of the finding

Entry to Limited Enrolment
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: Director, Admissions, Office of the Registrar

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

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

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

Stage 1 – Written Submissions Considered
All appeals which go forward to the board will be reviewed in two stages. In stage 1, the written documentation will be reviewed. The board will decide cases in which

• the appellant requests a written appeal only
• the appellant requests an in-person hearing appeal but the senate appeals board considers that the written material presented is sufficient for a positive decision.

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

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

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

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

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

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

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

Semester Tuition Fee Schedule 1998/99

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

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

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

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

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

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

5. Persons aged sixty years or more at the commencement of the semester are exempt from undergraduate tuition fees.

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

Any student who considers he/she has just cause to appeal the application of University policy as it pertains to the assessment and refund of undergraduate tuition fees may submit an appeal in writing to the Registration Appeals committee.

Appeals must concern the current or the immediately preceding semester. Normally, appeals related to earlier semesters will not be accepted. Appeals should be submitted to the Office of the Registrar.

Intersession and Summer Session Tuition Fee Schedules

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

Student Activity Fee

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

Student Activity Fee Schedule

The student activity fee will be $55.35 for students registered for credit courses except for students registered in:

- students aged sixty years or more ........................ nil
- audit courses only ............................................ nil
- three or fewer course hours for credit ............... $27.68
- summer session courses only ............................. $27.68
- intersession courses only ................................... $27.68
- any combination of intersession/summer session/summer semester ................................................. $55.35

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

Athletic-Recreation Fee

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

- students aged sixty years or more ........................ nil
- audit courses only ............................................ nil
- three or fewer course hours for credit ............... $15.00
- summer session courses only ............................. $15.00
- any combination of intersession/summer session/summer semester ................................................. $30.00

Special Fees

Application fee ........................................ $25.00
Awards of certificate or diploma .......................... $20.00
Documents evaluation fee ................................ $40.00
International exchange participation fee ........... $100.00

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 computer laboratory use
- materials or services required as a result of the method of instruction such as audio visual equipment, course outlines, study rooms and films and video tapes that are integral to the instruction and do not become property of the student.

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

Archaeology
ARCH 433, 434, 435, 436 $400

Biological Sciences
BISC 306, 310, 526, 404 $60
BISC 600 $189

Contemporary Arts
FPA 130, 131, 290, 390 $75
FPA 170, 370 $35
FPA 252, 363 $20
FPA 321, 293 $30
FPA 371 $25
FPA 230, 231, 430, 432 $100

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

Earth Sciences
EASC 101 $20
EASC 102 $10
EASC 206 $80
EASC 302, 404 $30
EASC 304 $40
EASC 305 $80
EASC 306 $300
EASC 401 $30
EASC 403 $50
EASC 408 $450
EASC 409, 410 $30
EASC 411 $100

Education
EDUC 456, 477, 488, 495 $20
EDUC 452 $35
300 and 400 level EDPR courses $20

Geography
GEOG 213 up to $25
GEOG 253, 293 $15
GEOG 264, 344, 441 up to $10
GEOG 313, 353, 416 $35
GEOG 324 $20
GEOG 412, 453 $50
GEOG 427 up to $50
GEOG 426 $50

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

Sociology and Anthropology
SA 371 $100 per semester

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

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

Payment of the Registration Tuition Deposit for Continuing Students
Continuing students registering for their second or subsequent semester are required to pay a registration tuition deposit of $100. Payment must be received at the Cashier’s Office before a student will be given access to the telephone registration system to select courses. Students must pay the registration tuition deposit at least five working days prior to attempting to register for classes. The deposit will be applied to the cost of tuition; it is not an additional fee.

Payment of the deposit is considered by the University to be a commitment by a student to attend the semester.

Payment of the deposit cannot be deferred. Students eligible for any awards or sponsorships will receive a refund from the Cashier’s Office when the appropriate credits are received and processed.

Passport to education vouchers from the province of British Columbia may be submitted as payment of the registration tuition deposit.

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

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

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

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

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

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

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

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

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

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

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

Tuition Fee Certificates (T2202A)
The official tuition fee certificate for income tax purposes will be produced by the Cashiers’ Office in January of the following year. During the month of February, the certificate will be available for personal pick-up at the Cashiers’ Office.
Financial Assistance
3200 Maggie Benston Student Services Centre
(604) 294-8600 Registrar Information Service (Touch Tone service only), (604) 291-4356 general enquiries, (604) 291-4722 Fax.
http://www.reg.sfu.ca/StudentServices/
CommunityMember/Calendar/UndergraduateStudies/
UFinancialAssistance/UFinAssmain.html

Introduction
Students are eligible for a variety of financial assistance programs including entrance or continuing scholarships, bursaries, awards, and loans. These programs are administered by one of three agencies: Simon Fraser University, an external organization, or a government.

General Information and Regulations
The following regulations apply generally to all types of financial assistance administered by the University.
• All scholarships, awards and bursaries are given on the recommendation of the senate undergraduate awards adjudication committee. Decisions of the committee, 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 the nature of 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.

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
• Simon Fraser University Bursaries
• Private Bursaries
• Private Awards
• University Awards
• Canada Student Loan/BC Student Assistance Program

Students re-entering Simon Fraser University may apply for:
• Scholarships for continuing students
• Private Bursaries
• Simon Fraser University Bursaries
• Private Awards
• University Awards
• Canada Student Loan/BC Student 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

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University administered programs

University administered entrance scholarships


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

The scholarships described below reflect our program as it currently exists. For complete descriptions and information applicable to students entering the University in the Fall of 1999, please refer to the entrance scholarship brochure and application material, available in December 1998.

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

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

For BC secondary school students; application required

$30,000 Simon Fraser Scholarship
Recognizes excellent academic performance and potential. Distributed over eight semesters.

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

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

$12,000 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. $7,000 distributed over four semesters, with potential for an Open Undergraduate Scholarship in the third and subsequent semesters, valued at $77 per credit hour. Winners may qualify for a one-time $500 travel allowance.

For BC secondary school students; no application required

The following $10,000 Scholarships consist of $3,500 distributed over two semesters, with potential for an Open Undergraduate Scholarship in the third and subsequent semesters, valued at $77 per credit hour.

$10,000 Jack Diamond 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 Athletics. For further information, 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 promise in a particular area of study. Distributed over four semesters. Winners may also receive one-time $500 travel allowance. Students may qualify for the Open Scholarship, following the end of the scholarship disbursements.

Other entrance scholarships

Columbia College Entrance Scholarship
This award provides financial support for an alumnus 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 by May 30th.

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.

Daniel Janzen Memorial Scholarship
This scholarship, equal in value to the accrued interest, will be awarded to an undergraduate student who is transferring from University College of the Fraser Valley. Preference will be given to a student who is pursuing studies in Economics and/or Business Administration. The scholarship is based on academic merit and applicants must have a minimum CGPA of 3.33 (B+) at University College of the Fraser Valley. Please provide a copy of your transcript along with your scholarship application.

Stanley Morisse Memorial Scholarship
The Stanley Morisse Memorial Scholarship is awarded to students transferring from the University of Cyprus. The amount of the award is determined by the amount of interest earned on the endowment. For further information, contact Student Recruitment.

Phi Theta Kappa International $3,500 Summit Scholarships
Up to three entrance scholarships valued at $1,750 in each of the first two semesters are made available for 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 Open 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 bachelors degree are not eligible. All figures quoted in 3CDN.


Contact: Rick Smith, Director, Student Recruitment, Simon Fraser University, Burnaby, BC V5A 1S6, Canada. Tel (604) 291-4970; e-mail smithaj@sfu.ca

Rotary Club of Vancouver Sunrise Entrance Scholarship
The Rotary Club of Vancouver Sunrise provides an annual entrance scholarship from the interest earned...
University administered scholarships for continuing students

Regulations
The following regulations govern all university, private and endowed scholarships for continuing students over which the University has jurisdiction.

• A minimum 3.50 CGPA is required to be eligible for a scholarship.
• The student must be registered in a minimum of nine semester 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 semester hours or subsequently drop below nine hours may have their scholarships cancelled.
• The student must have completed at least nine semester hours of graded courses at the University to be considered for most private and endowed scholarships.
• A student holding an ongoing Simon Fraser University entrance scholarship is not eligible for private scholarships until the entrance scholarship is fully paid out.
• Funds will be credited to the successful student’s account with the University. Outstanding debts to the University will be deducted from the scholarship funds before a cheque for the credit balance is issued.
• The 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 on the notice 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 private or endowed scholarships in future semesters of registration, students must reapply.

University scholarships for all students

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 at Simon Fraser University. Eligibility will expire when a student’s total accumulated credit hours (including transfer credits) exceed by 10% the minimum number of credit hours required to complete the degree program in which the student is registered. (E.g., a student whose major program requires 120 credit hours to graduate becomes ineligible when her/his total accumulated credit and transfer credit exceeds 132 credit hours.)

To qualify, a student must have
• a minimum Simon Fraser University cumulative grade point average of at least 3.60, with the eligible CGPA set according to the availability of funds. The threshold CGPA will be set as low as permitted by the availability of funds. (For example, the minimum CGPA requirement for eligibility was set at 3.70 in 1997-2, 1997-3, and 1998-1.)
• a minimum semester GPA of 3.5 in the last semester of registration
• been registered in one of the last three semesters
• completed at least 24 credit hours of normally graded courses over their last three semesters of registration in such courses. For students who 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. In fiscal 1997/98, the scholarship was paid at rate of $77/credit for normally graded courses in the semester.

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

Co-operative Education students will be eligible subject to normal program guidelines. Job practicum courses, however, are excluded from the calculations (i.e., the scholarship does not cover the co-op fee).

Co-op students should seek advice about this scholarship before registering in normally-graded courses while also registering in a co-op semester.

Visa students are eligible on the same basis as other students.

Graduate students, including qualifying, special and exchange students, are not eligible for this scholarship.

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

University scholarships for Arts students

School for the Contemporary Arts Scholarship
Terms of reference: a native undergraduate student with high academic standing 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.

Hy Aisenstat Scholarship
Terms of reference: a member of the Men’s Soccer team. A letter of recommendation from the Head Soccer Coach who is a member of the Men’s Soccer team. A letter of recommendation from the Head Coach should accompany the application.

Alumni Scholarship and Bursary Endowment Fund
Terms of reference: undergraduate students who meet the minimum scholarship regulations.

B.C. Telephone Company Scholarships
Terms of reference: undergraduate students, from any discipline, who are in their second, third or fourth year of study. The scholarships will be awarded on the basis of scholastic ability and community involvement either at Simon Fraser University or elsewhere. Both criteria must be clearly indicated by documentation. Preference will be given to Canadian citizens or permanent residents.

John Buchanan Men’s Soccer Scholarship
Terms of reference: a Co-op student in any faculty who is a member of the Men’s Soccer team. A letter of recommendation from the Head Coach should accompany the application.

Hong Kong University BC Alumni Fund
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.

University administered private/ endowment scholarships for continuing students

The following scholarships have been made possible by generous donations. To apply, students must complete the Simon Fraser University Private Scholarship Application form, available in Financial Assistance. Unless otherwise noted, the same regulations apply as for University Administered Scholarships for Continuing Students.

Private scholarships for all students

Hy Aisenstat Scholarship
Program code: UESO-517
Value: 3 @ $2,500
Awarded: one each semester
Terms of reference: undergraduate students with experience in the hospitality industry who are returning to University. Please document eligibility.

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

B.C. Telephone Company Scholarships
Program code: UPSO-209
Value: 2 @ $1,250
Awarded: Spring
Terms of reference: undergraduate students, from any discipline, who are in their second, third or fourth year of study. The scholarships will be awarded on the basis of scholastic ability and community involvement either at Simon Fraser University or elsewhere. Both criteria must be clearly indicated by documentation. Preference will be given to Canadian citizens or permanent residents.

John Buchanan Men’s Soccer Scholarship
Program code: UESO-512
Value: $800
Awarded: Fall
Terms of reference: - based on scholastic merit, awarded to an undergraduate student in any faculty who is a member of the Men’s Soccer team. A letter of recommendation from the Head Coach should accompany the application.

Hong Kong University BC Alumni Fund
Program code: UESO-519
Value: $235
Awarded: Spring
Terms of reference: a Co-op student in any faculty who is doing their work placement in Hong Kong. This award is intended to offset travel and/or living expenses for the period of time (not exceeding one year) spent in Hong Kong. A departmental recommendation is required from the Co-operative Education Program Director.

Hughes Aircraft Native Indian Scholarship
Program code: UPSO-278
Value: $750
Awarded: Fall
Terms of reference: a native undergraduate student with high academic standing at Simon Fraser University. Preference will be given to students majoring in Engineering Science, Computing Science, Mathematics, Physics or Business Administration.
India Club Scholarship  
Program code: UPSO-225  
Value: $500  
Awarded: Spring  
Terms of reference: a 4th year student with high academic standing who has demonstrated good citizenship and community service. The letter of application should discuss the individual’s contributions toward enhancing cross-cultural harmony and communication in the University student body and/or in the community at large. 

Japanese-Canadian Centennial Scholarship  
Program code: UPSO-255  
Value: $750  
Awarded: Fall  
Terms of reference: a Japanese-Canadian student residing in British Columbia and enrolled in the first year of study at Simon Fraser. Eligibility for this scholarship will be based on academic merit, character, promise of achievement and participation in extracurricular activities. Applications will be considered from first year students.

Howie Larke Sport Information Scholarship  
Program code: UEAA-052  
Value: $600  
Awarded: Fall  
Terms of reference: a full time undergraduate student involved in sport information. The scholarship will be based on academic merit.

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

Sulzer Bingham Pumps Inc. Undergraduate Scholarship  
Program code: UPSO-286  
Value: $1,000  
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.

Trans Mountain Pipeline Company Ltd  
Program code: UPSO-248  
Value: 2 @ $1,000  
Awarded: Fall and 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: $500  
Awarded: Spring  
Terms of reference: awarded to an undergraduate student in any Faculty based on scholastic merit.

Private scholarships for Applied Sciences students

Association of Professional Engineers and Geoscientists  
Program code: UPSO-275  
Value: $1,000  
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 Undergraduate Awards Adjudication Committee on the nomination of the School of Engineering Science Scholarship Committee.

Continental Communications Scholarship  
Program code: UPSO-285  
Value: $1,000  
Awarded: Spring  
Terms of reference: award is based on scholastic merit and will be awarded to an undergraduate student in his/her final year of study with the Co-op Program in the School of Communication and with a focus on marketing and/or public relations. The recipient of the scholarship may have an opportunity to work at Continental Communications as an intern over the summer or upon graduation for a period of at least three months. The award will be made by the Undergraduate Awards Adjudication Committee on the nomination of the Director of Co-operative Education.

Paul Coté Endowment Scholarship in Engineering  
Program code: UESO-213  
Value: $400  
Awarded: Spring  
Terms of reference: to an Engineering Science student registered in the Faculty of Applied Science. 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: $1,000  
Awarded: Spring  
Terms of reference: to Engineering Science students in the Faculty of Applied Science, who have successfully completed at least one year. Students will require a nomination from the Faculty, who will give consideration to academic standing as well as talent and interest expressed by the student in electro-optics, precision mechanics or instrumentation.

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

Hughes Aircraft of Canada Limited  
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.

Ken and Su Jang Scholarship for Women in Science  
Program code: UESO-276  
Value: $1,500  
Awarded: Fall  
Terms of reference: a female student enrolled in the Faculty of Science or the Management and Systems Science Program. Preference will be given to students in the Honors program. A recommendation from the Chair of the Department of Communication is required.

J. Newton Robinson Memorial Scholarship Endowment Fund  
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.

Scientific Atlanta Canada Inc., Nexus Division Scholarship  
Program code: UESO-239  
Value: 2 @ $500  
Awarded: Spring  
Terms of reference: 4th year engineering students whose studies include high frequency electronics and related disciplines. High academic achievement and a nomination from the applicable department is required.

Paul and Helen Trussell Science Scholarship Fund  
Program code: UESO-265  
Value: 1 @ $20,000 payable @ $5,000 for 4 consecutive yrs.  
Awarded: Fall  
Terms of reference: a student entering their last two years of undergraduate study at a BC university or college. The applicant must be a Canadian citizen or Permanent Resident, and have completed secondary schooling in the Kootenay-Boundary area (School Districts No. 1–13 inclusive). To qualify, a candidate must be pursuing an undergraduate program leading to at least a Masters or PhD degree in Natural or Applied Sciences, such as Agriculture, Engineering, Forestry and Fisheries. The award will cover the last two undergraduate years and the first two graduate years. Normally, a student must complete a minimum of 12 credit hours of graded course work each semester during tenure of the scholarship and maintain a 75% average.

University Women’s Club of Vancouver Scholarship  
Program code: UESO-260  
Value: $1,300  
Awarded: Fall  
Terms of reference: a female student enrolled in the Faculty of Science. The award is open to third or fourth year students majoring in Science or Applied Science programs. A recommendation from the Dean of Science and/or the Dean of Applied Science is required.

Vancouver Stock Exchange Scholarship  
Program code: UPSO-250  
Value: $1,500  
Awarded: Fall  
Terms of reference: a Co-op student entering their graduating year with a major in Computing Science or the Management and Systems Science Program with a demonstrated interest in business. If the student is in Computing Science, the student should have a minor in Business Administration or a double major in Computing Science and Business.
Private scholarships for Arts students

Father Michael Bach Memorial Endowment Fund
Program code: UESO-256
Value: $1,000
Awarded: Fall
Terms of reference: an undergraduate student enrolled in either the third or fourth year of the Humanities program. Friends, relatives and colleagues of the late Father Michael Bach have established an endowment fund to support one or more scholarships in the Humanities Program. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the department in recognition of outstanding scholastic ability.

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

Arthur and Eva Bell Award in Business Administration and Economics
Program code: UPSO-203
Value: 2 @ $500
Awarded: Fall
Terms of reference: students in 2nd, 3rd or 4th year of Business Administration and 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.

BOA Undergraduate Scholarship in Urban Studies
Program code: UESO-306
Value: $1,000
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: $1,000
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.

Edwards, Edwards and Maskell Scholarship
Program code: UPSO-218
Value: $500
Awarded: Spring
Terms of reference: an outstanding student in the Faculty of Arts who will be attending law school upon completing their BA degree. This award was established by J. H. Edwards.

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

Dr. Alfredo E. Hurtado Memorial Scholarship
Program code: UESO-274
Value: $550
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: Spring
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: $600
Awarded: Spring
Terms of reference: a full time female student enrolled in the Women's Studies program minor, certificate, post baccalaureate diplomas and/or joint major programs. Preference will be given to those students who have contributed to the department and/or to women's issues on campus or in the community. Please submit a letter outlining your contribution along with the application.

Jerry and Belle Lundie Memorial Scholarship
Program code: UPSO-231
Value: 2 @ $500
Awarded: Spring
Terms of reference: students in their second, third or fourth year of undergraduate study. One scholarship is available to a student majoring in Business Management and the other scholarship is available to an Economics major. Applicants must be Canadian citizens and residents of BC. Preference will be given to physically challenged students or students who demonstrate financial need. The scholarships are made available by the Credit Union Foundation of BC, in honor of Mr. and Mrs. J. Lundie, who were Credit Union pioneers.

Margaret J. Menzel Memorial Scholarship
Program code: UPSO-235
Value: tuition up to $1,000
Awarded: Spring
Terms of reference: a single parent enrolled in the Women Studies program, on the basis of academic achievement. The Women's Studies Co-ordinator will forward nomination(s) to Financial Assistance.

Robbie Robertson Scholarship
Program code: UPSO-273
Value: $1,000
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, V6B 5K3.

John Still Sykes Scholarship Endowment
Program code: UESO-245
Value: $125
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 Corporation Undergraduate Scholarship in Geography
Program code: UPSO-284
Value: $2,500 (divided into two disbursements)
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.

Private scholarships for Business Administration students

Bank of Montreal Undergraduate Scholarship in Business Administration
Program code: UPSO-283
Value: 2 @ $1,000
Awarded: 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 Beedle Scholarship
Program code: UESO-520
Value: $550
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 and Economics
Program code: UPSO-203
Value: 2 @ $500
Awarded: Fall
Terms of reference: students in second, third, or fourth year of Business Administration and Economics. Eligibility is based on need for financial assistance and high academic standing. Students must provide a copy of their current transcript with the application.
Certified Management Accountants Society of BC–William C.C. Easton Scholarship
Program code: UPSO-244
Value: $1,000
Awarded: Spring
Terms of reference: the student with the highest academic standing in Business Administration courses 324 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-292
Value: $1,400
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: $1,100
Awarded: Spring
Terms of reference: an undergraduate, upper-level student in the Faculty of Business Administration, whose area of study is Marketing. The award will be based on academic performance.

Deloitte & Touche Scholarship in Accounting
Program code: UPSO-247
Value: $1000
Awarded: Fall and Spring
Terms of reference: granted to a 3rd year Faculty of Business Administration student in the Accounting concentration who has the highest cumulative grade point average (cgpas). Financial Executives Institute Scholarship
Program code: UPSO-219
Value: $1,250
Awarded: Fall
Terms of reference: an undergraduate third or fourth year student in the Faculty of Business Administration concentrating in the area of finance. The scholarship is based on academic merit.

Honourable William M. Hamilton Memorial Scholarship
Program code: UESO-305
Value: $1,800
Awarded: Fall or Spring
Terms of reference: an undergraduate student who is entering the Faculty of Business Administration upon completion of 30 credit hours. The scholarship is based on academic merit.

Human Resources Management Association of B.C. Scholarship
Program code: UPSO-226
Value: $1,000
Awarded: Fall
Terms of reference: a student in the Faculty of Business Administration who has completed at least three of the Human Resources Management courses at the three hundred level, and is registered in or intends to complete, in the academic year in which the award is made, Human Resources Management courses at the 400 level.

ICABC Desmond O’Brien Memorial Scholarship
Program code: UPSO-227
Value: $1,500
Awarded: Spring
Terms of reference: a full-time undergraduate student in the Faculty of Business Administration. The student must have completed 75 to 105 semester credit hours inclusive, including the semester of application, and must have at least 9 semester hours of accounting courses. The award will be based on the academic performance of a student who is also financially deserving.

KPMG Peat Marwick Thorne Scholarship
Program code: N/A
Value: see Terms of Reference
Awarded: see Terms of Reference
Terms of reference: an accounting student in the Faculty of Business Administration entering the final year of study who anticipates embarking on a career in chartered accountancy. Applicants are required to have a high academic standing and, upon graduation, have completed the course offerings required for entry into the CA program. The recipient must be a Canadian resident and legally able to accept employment in Canada. The scholarship consists of three components. - Tuition fee payment for the final two semesters (eight months) of study at Simon Fraser University. - Offer of employment with the company (New Westminster office) for one semester (four months) during the year. - cash award of $1000

Maria Kuchar Accounting Scholarship
Program code: UESO-263
Value: $1,000
Awarded: Fall
Terms of reference: a third or fourth year undergraduate student in the Faculty of Business Administration who is majoring in Accounting. The scholarship is based on academic merit. When possible, preference will be given to a female student.

Robert H. Lee Scholarship in Business Administration
Program code: UESO-271
Value: $1,500
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: $2 @ $500
Awarded: Spring
Terms of reference: students in their second, third or fourth year of undergraduate study. One scholarship is available to a student majoring in Business Management and the other scholarship is available to an Economics major. Applicants must be Canadian citizens and residents of BC. Preference will be given to physically challenged students or students who demonstrate financial need. The scholarships are made available by the Credit Union Foundation of BC, in honor of Mr. and Mrs. J. Lundie, who were Credit Union pioneers.

Gil Moser Scholarship
Program code: UESO-238
Value: $1,400
Awarded: Spring
Terms of reference: a full time student in the Faculty of Business Administration on the basis of high academic standing. This endowment fund has been established in memory of the late Gil Moser who served Simon Fraser University on its Board of Governors.

Phillips, Hager & North Ltd Scholarship
Program code: UPSO-282
Value: $2,000
Awarded: Fall
Terms of reference: an undergraduate third or fourth year student within the Faculty of Business Administration with a Finance concentration. This scholarship is based on academic merit.

Robert Rogow Scholarship
Program code: UESO-527
Value: $500
Awarded: Spring
Terms of reference: granted, based on academic merit, to undergraduate students in the Faculty of Business Administration with a concentration in Human Resources Management. The recipient will have completed at least one SFU credit course offered by the Faculty of Business Administration in industrial relations or collective bargaining.

Shell Canada Limited Scholarship in Business Administration
Program code: UESO-264
Value: $1,400
Awarded: Fall
Terms of reference: a full-time undergraduate student enrolled in the Co-op Program of the Faculty of Business Administration.

Sunbrite Business Association Scholarship in Business Administration
Program code: UESO-525
Value: $250
Awarded: Spring
Terms of reference: award is based on scholastic merit and will be awarded to a full-time undergraduate student in the Faculty of Business Administration.

Lis Welch Scholarship in Marketing
Program code: UESO-522
Value: $500
Awarded: Fall
Terms of reference: granted to an undergraduate student in the Faculty of Business Administration with a concentration in Marketing, who is in 3rd or 4th year. The award will be based on academic merit. Preference will be given to a female student who is a Canadian citizen or landed immigrant.

Grant Wilson Memorial Scholarship
Program code: UESO-268
Value: $2,000
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, B.C.

Lorraine Wintrup Memorial Endowment Scholarship
Program code: UESO-251
Value: $200
Awarded: Spring
Terms of reference: An endowment fund has been established in memory of Mrs Lorraine Wintrup, available to a Business Administration student majoring in Business Management with preference being given to banking related courses. Please supply a copy of your transcript and indicate any Business Management and Banking related courses.

Mildred Wirtanen Scholarship in Business Administration
Program code: UESO-277
Value: $500
Awarded: Spring
Terms of reference: an undergraduate student in Business Administration who shows a significant contribution to the society, to the profession, and to the community.

Wolfe Chevrolet Oldsmobile Scholarship in Marketing
Program code: UPSO-258
Value: $750
Management and Systems Science Program.

The award will be granted by the Senate Undergraduate Adjudication Awards Committee on the recommendation of the Dean of Business Administration.

Private scholarships for Education students

Carol Chapman Memorial Education Scholarship

Program code: UESO-518
Value: $1,200
Awarded: Fall
Terms of reference: a full-time student in the Faculty of Education’s Professional Development Program, who has demonstrated high academic achievement. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the recommendation of the Dean, Faculty of Education.

Madge Hogarth Scholarships in Education

Program code: UESO-224
Value: $300
Awarded: Summer
Terms of reference: Mrs Madge Hogarth has established two scholarships to be awarded at the beginning of the summer semester. One scholarship will be awarded to a student who has completed EDUC 401/402 and is proceeding to EDUC 404. The second scholarship will be awarded to a student who has completed EDUC 405. Academic standing prior to entry into the Professional Development Program will be the primary consideration, although teaching performance may be considered.

Phi Delta Kappa Scholarship in Education

Program code: UPSO-276
Value: $1,000
Awarded: Fall
Terms of reference: five awards of $1000 each will be given in the Fall semester to undergraduate students pursuing a degree program in Education or the Professional Development Program. The scholarship will be granted to an outstanding student as judged by his/her academic accomplishments and contributions to the Department, to the University and to the community. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the recommendation of the Dean of the Faculty of Education.

Private scholarships for Science students

Biological Sciences Merit Award

Program code: UESO-205
Value: $1,100
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.

R. Bruce Coles Memorial Scholarship

Program code: UESO - 283
Value: $500
Awarded: Fall and 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 academic merit and will be awarded to a full-time 3rd or 4th year undergraduate student in Mathematics or the Management and Systems Science Program.

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.

MacKenzie and Feilmann 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: $200
Awarded: Spring
Terms of reference: is granted to a 3rd or 4th 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: $1,200
Awarded: Fall
Terms of reference: students who are enrolled in full course programs in the Faculty of Science, preferably to students who are in their first or second year of study and who have high academic standing will be considered. Preference will be given to students who are children of employees or former employees of the logging and pulp division of Canadian Forest Products Ltd. or its subsidiaries, affiliate companies or successors. In the event that no suitable candidates from the above are available, then children of persons engaged or formerly engaged in the logging or pulp industry in BC will be considered. Students must attach to the application form a resume including details of family service with the company and/or the industry.

Patrick Duncan McTaggart-Cowan Award in Physical Science

Program code: UESO-234
Value: $500
Awarded: Spring
Terms of reference: This scholarship fund was established in honour of Dr. Patrick Duncan McTaggart-Cowan. This fund will provide for a student in the physical sciences on the basis of academic achievement and potential, with consideration being given to financial need. Special consideration will be given to a student who plans to proceed to studies in meteorology or the atmospheric sciences or who has demonstrated interest or aptitude in these fields, and preference might be given to a third year student going into the graduating year in an honors program.

Evelyn and Leigh Palmer Scholarship

Program code: UESO-287
Value: $2,000
Awarded: Fall or Spring
Terms of reference: a student who has completed 60 credit hours towards a degree in the Physical Sciences and who has accumulated 30 hours in the two most recent semesters.

Trans-Canada Pipelines Research Scholarship

Program code: UESO-261
Value: $785
Awarded: Spring
Terms of reference: a student presently enrolled in a four year program leading to a BSc in Chemistry. The Department of Chemistry Scholarship Committee will nominate a candidate for the scholarship on the basis of the applicant’s potential for future work in research in chemistry related to the petrochemical industry and on the applicant’s interest in such work.

University Women’s Club of Vancouver

Program code: UESO-260
Value: $1,300
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.

Watson Wyatt & Company Scholarship in Actuarial Mathematics

Program code: UESO-516
Value: $2,000
Awarded: Fall
Terms of reference: an undergraduate student in the Certificate Program in Actuarial Mathematics who has successfully completed ACMA 310. The scholarship will also be based on high academic merit. A departmental nomination is required from the Chair of the Department or designate.

University administered bursaries for continuing students

Regulations

The following regulations govern all bursaries over which the University has jurisdiction.

• 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.

• Undergraduate students must be registered in a minimum of 9 semester hours of 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 9 semester hours or subsequently drop below 9 hours 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.

University bursaries for all students

Daycare Bursaries

Program code: UUBO - 700
Value: variable
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: UEOB-600  
Value: $800  
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 8 credit hours and have satisfactory academic standing.

**Simon Fraser University International Students’ Emergency Assistance Fund**  
Program code: UPBO-637  
Value: up to $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: UEOB-500  
Value: up to $800  
Awarded: Fall, Spring, Summer  
Terms of reference: must be registered in a minimum of 9 credit hours and have satisfactory academic standing.

### University administered private/ endowment bursaries

The following bursaries have been made possible by generous donations. Unless otherwise stated, the regulations are the same as those for University administered Bursaries.

**Private bursaries for all students**

**Alumni Scholarship and Bursary Endowment Fund**  
Program code: UEOB-584  
Value: up to $500  
Awarded: Fall, Spring and Summer  
Terms of reference: undergraduate and graduate students. The awards are based on financial need and satisfactory academic standing.

**David Armstrong Memorial Bursary**  
Program code: UEOB-599  
Value: $800  
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.

**Bel-Par Industries Limited Bursary**  
Program code: UEOB-664  
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 Bursaries**  
Program code: UPBO-551  
Value: $500 - $1,000  
Awarded: Fall and/or Spring  
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.

**BOMA Undergraduate Bursary in Urban Studies**  
Program code: UEBO-715  
Value: $2,000  
Awarded: Spring  
Terms of reference: granted on the basis of demonstrated financial need and satisfactory academic performance. Preference will be given to a student in the Certificate in Urban Studies program, or failing that, to a student in any faculty whose course work involves some aspect of real estate studies as their primary focus.

**L. Pierre Bonneau Memorial Bursary**  
Program code: UEOB - 662  
Value: $250  
Awarded: Spring  
Terms of reference: undergraduate students in any Faculty who have a satisfactory academic standing and financial need.

**The Honourable Angelo E. Branca and Mrs. Branca Bursary Endowment Fund**  
Program code: 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 have a minimum of 60 credit hours at Simon Fraser University, have maintained satisfactory standing, and are in financial need. In honor of the 50th wedding anniversary of the Honourable Angelo E. Branca and Mrs Branca, and on the occasion of his retirement from the bench, this bursary endowment fund has been established by the following donors, Confratellanza Italo - Canadese and friends, Mr. J. Diamond, Mr J. Segal, Mr Ben Wosk.

**Burnaby New Westminster Women’s Club**  
Program code: UPBO-672  
Value: $500  
Awarded: Fall  
Terms of reference: a mature female student who has continued her education after several years’ absence, and who has completed sixty credits with satisfactory academic performance as well as being a BC resident. This bursary is in memory of Caroline Velchko, a former member of the Burnaby-New Westminster Business and Professional Women’s Club.

**Burnard 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.

**Burnard Charitable Foundation Bursary**  
Program code: UEOB-587  
Value: $500  
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: up to $125 per child per month  
Awarded: Fall, Spring and 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.

**Canadian Federation of University Women - Coquitlam Bursary**  
Program code: UEOB-713  
Value: $500  
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.

**Chancellor’s Undergraduate Bursary**  
Program code: UEOB-709  
Value: $500  
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-687  
Value: $2,000  
Awarded: Fall  
Terms of reference: an undergraduate student in any Faculty. Bursaries will be granted on the basis of demonstrated financial need, demonstrated service to the community, and a satisfactory academic performance.

**Confratellanza Italo Canadese Bursary Endowment**  
Program code: UEOB-591  
Value: $500  
Awarded: Fall  
Terms of reference: undergraduate students with financial need and satisfactory academic standing. Preference will be given to Italian-Canadian students if they meet the criteria.

**Connell Lightbody Endowment Fund**  
Program code: UEOB - 649  
Value: $1,000  
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: UEOB-728  
Value: $200  
Awarded: Summer  
Terms of reference: to an undergraduate in any Faculty based on demonstrated financial need and satisfactory academic performance.

**Alfred William Davidson Bursary**  
Program code: UEOB-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-678
Value: $800
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 Endowment Fund
Program code: UEOB-592
Value: $800
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.

Erm Fiorillo - Hal Davis CKNW Orphan’s Fund Bursary
Program code: UEOB-651
Value: $3,000
Awarded: Fall
Terms of reference: an entering student from a secondary school in the Vancouver School District. In future the bursary may be offered to students graduating from secondary schools within the lower mainland. This award will be renewable for 4 academic years provided the recipient maintains a 2.00 grade point average and registers in 9 credit hours during the tenure of the award. This bursary is for a capable student whose family cannot provide financial assistance with the costs of post-secondary education because they are on welfare assistance. Students must be nominated by their secondary school Principals and all applications will be evaluated by a school district selection committee and the successful candidate will be recommended to the Simon Fraser University Senate Undergraduate Awards Adjudication Committee.

Alex W. Fisher Bursary
Program code: UEOB-596
Value: $200
Awarded: Spring

Lois M. Fisher Bursary
Program code: UEOB-597
Value: $200
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: UEOB-640
Value: $400
Awarded: Fall
Terms of reference: an undergraduate student in any Faculty. The student must have a satisfactory academic standing and demonstrate financial need.

Government of BC Women’s Equality Bursaries
Program code: UEOB-677
Value: $2 @ $500
Awarded: Fall
Terms of reference: To support women enrolled in full or part-time programs in Women's Studies or related coursework or fields in which women have not traditionally sought post-secondary training, which will lead to a degree, diploma or certificate. Satisfactory academic standing and financial need are also required. Apply on the Simon Fraser University Bursary application available at Financial Assistance. The deadline is the end of the second week of classes.

Dr. Ben Gullison Bursary
Program code: UEOB-840
Value: $500
Awarded: Fall
Terms of reference: second, third or fourth year students in any undergraduate program. In recognition of Dr. Gullison’s work, evidence of community service will be considered in making the award.

Hamber Foundation
Program code: UEOB-559
Value: $700
Awarded: Fall
Terms of reference: women students with satisfactory academic standing and need for financial assistance.

Madge Hogarth Bursaries
Program code: UEOB-674
Value: $1,000
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: UEOB-657
Value: $1,000
Awarded: Fall
Terms of reference: a third or fourth year student who is a single parent, pursuing a degree at Simon Fraser University. The bursary is also based on satisfactory academic performance and demonstrated financial need.

Arma Israel Bursary Endowment Fund
Program code: UEOB-598
Value: $100
Awarded: Fall
Terms of reference: financial need. An endowment fund in memory of Carma Israel has been established by Mrs. Katherine Leshgold.

Ken and Su Jang Entrance Bursary
Program code: UEOB-872
Value: $1,400
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.

Charles Chan Kent Golden Wedding Bursaries
Program code: UEOB-563
Value: $500
Awarded: Fall or 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.

Farida Lali and Jenny Kaderali Undergraduate Bursary
Program code: UEOB - 716
Value: $250
Awarded: Summer
Terms of reference: to a student in any Faculty on the basis of demonstrated financial need and satisfactory academic performance.

Harold Lauer B’naï B’rith (Lions Gate Lodge 1716)
Program code: UPOB-564
Value: $2 @ $750
Awarded: Fall

Terms of reference: undergraduate students, in any faculty, who have determined financial need and satisfactory academic standing.

Sue MacDonald Memorial Bursary Endowment Fund
Program code: UEOB-654
Value: $700
Awarded: Fall
Terms of reference: 2 or more bursaries will be awarded to undergraduate students in any faculty who have proven financial need and a satisfactory academic record.

Dorothy May Martin Endowment Bursary Fund
Program code: UEOB-648
Value: $500 - $1,000
Awarded: Fall
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: UEOB-708
Value: $250
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: $1,800
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.

Office of the Registrar Bursary for Physically Challenged Students
Program code: UEOB-665
Value: $500 - $800
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.

Evelyn J. Oliver Bursary
Program code: UEOB-682
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.

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academic standing. The Opsimath Club is an organization of senior (60 years) students.

Stephen Palmu Memorial Bursary
Program code: UPEB-566
Value: $100
Awarded: Fall
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 Mami E Palmu.

Permanent Bursary Endowment Plan
Program code: N/A
Value: accrued interest
Awarded: Fall, Spring, Summer
Terms of reference: Applications must be submitted on the Simon Fraser University Bursary Application form under the heading "Permanent Bursary Endowment Plan", these bursaries should not be listed individually. Permanent Bursary Endowments, to provide annual bursaries in perpetuity from the earned income, have been established by the following:
Belkin Packaging Limited Permanent Endowment Fund
Downs/Archambault
Ellen Mary Greenway
Gretta Bowmer Memorial
Estate of Hans Christiansen
Ted Cohen
Mark and Phae Collins Fund (Vancouver Foundation)
Jack Diamond Permanent Endowment Fund
Drop-in Centre Permanent Endowment Bursary
David A. Freeman
John R. Hecht
Stephen Hinrichs 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

IDO Evelyn Price Memorial Bursary
Program code: UPEB-641
Value: $2 @ $1,000
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.

Rotary Club of Vancouver Community Service Bursary
Program code: UPEB-568
Value: $3 @ $500
Awarded: Fall
Terms of reference: students in financial need with satisfactory academic standing.

Rotary Club of Vancouver Sunrise Entrance Bursary
Program code: UPEB-706
Value: $500
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: UPEB-636
Value: $2,500
Awarded: Fall
Terms of reference: a Saskatchewan secondary school student entering either Simon Fraser University in British Columbia or The University of Saskatchewan at Saskatoon in Saskatchewan. The award will alternate between Simon Fraser University and the University of Saskatchewan. For 1988-1989 (the first year of the award), the bursary was for a student attending Simon Fraser University. Selection will be made on the basis of financial need, the student's demonstrated contribution to his/her school and community, and leadership potential. Consideration may also be given to the student's academic record. Applications will be submitted to the Simon Fraser University Senate Scholarships, Awards and Bursaries Committee, in care of the Director of Financial Aid and awards at Simon Fraser University for students who plan to attend Simon Fraser University; and to the University of Saskatchewan Scholarships, Awards and Bursaries Committee, in care of the Registrar, for students planning to attend The University of Saskatchewan.

William and Jane Saywell Bursary
Program code: UPEB-682
Value: $1,500
Awarded: Fall or Spring
Terms of reference: a student who is a single parent and who has demonstrated a deep commitment to any field of study at Simon Fraser University and has financial need. A letter is required that outlines and discusses their extracurricular activities and interests that would demonstrate commitment to the chosen field of study.

Sceptre Investment Counsel Administrative/Union Pension Plan Bursary
Program code: UPEB - 721
Value: $100
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: UPEB-604
Value: $500
Awarded: Fall and Spring
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.

SFU Indo-Canadian Students’ Association Bursaries
Program code: UPAM-002
Value: $500
Awarded: Fall
Terms of reference: awarded to students with financial need who are also volunteers with a South Asian organization (South Asian refers to India, Pakistan, Bangladesh, Sri Lanka and Fiji). Applicants must provide back-up documentation such as a resume or letters of reference.

Stanley Sievenpiper Bursary Endowment Fund
Program code: UPEB-605
Value: $400
Awarded: Fall and Spring
Terms of reference: one award in the Fall and one in the Spring on the basis of financial need. Preference will be given to third and fourth year students. This fund has been established in memory of Stanley Sievenpiper.

Simon Fraser Student Society UCB Pub Bursaries
Program code: UPEB-571
Value: up to $800
Awarded: Fall
Terms of reference: students with special or emergency financial need with preference to those students who may not otherwise be able to attend Simon Fraser University. Applications are open to part or full time, beginning or continuing students as well as international students.

Simon Fraser University 10th Anniversary Endowment Bursary Fund
Program code: UPEB-504
Value: $300 - $1,000
Awarded: Fall, Spring and Summer
Terms of reference: This fund has been established to provide bursaries for students in financial need who maintain a GPA of 2.00.

Simon Fraser University Bursary Endowment Fund
Program code: UPEB-502
Value: variable
Awarded: Fall, Spring and 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 Memorial Annual Fund
Program code: UPEB-689
Value: N/A
Awarded: Fall, Spring and Summer
Terms of reference: awards will be based on satisfactory academic performance and demonstrated financial need. This fund was established at Simon Fraser University to receive donations from members of the community in memory of loved ones. Bursary awards will be granted from this fund in the name of the individual whose memory has been recognized by donors to Simon Fraser University.

Jennifer Allen Simons Bursary
Program code: UPEB-669
Value: $1,000
Awarded: Fall
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.

B and B Sivertz Bursary Endowment Fund
Program code: UPEB-656
Value: $600
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: UPEB-606
Value: $900
Awarded: Fall
Terms of reference: up to 3 bursaries will be awarded to students in any faculty who have completed at least 30 credit hours at Simon Fraser University. The awards will be based on financial need and satisfactory academic standing. Preference will be given to female students.

Merle L. Smith Bursary
Program code: UPEB-572
Value: $300
Awarded: Fall
Terms of reference: a physically challenged student in any faculty who is beyond first year studies. Initial preference will be given to wheelchair users.

Dorothy Sullivan Bursary
Program code: UPEB-690
Value: $800
Awarded: Fall
Terms of reference: an undergraduate student in any Faculty who has been a Federal or Provincial
Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance.

**Victor J. Sundberg Memorial Bursary in Engineering Science**

*Program code: UEOB-681*

Value: $1,000

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.

**Trans-Canada Glass International Incorporated Bursary**

*Program code: UEOB-644*

Value: 2 @ approximately $2,000

Awarded: Fall

Terms of reference: undergraduate students in any faculty. The bursaries will be granted to students with satisfactory academic standing and experiencing financial need in the continuing pursuit of their studies. Preference for one of the bursaries will be given to applicants who are sons, daughters, or legal dependants of employees of TCG International Inc.

**Trident Enrichment Society Bursary**

*Program code: UEOB-696*

Value: $250

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.

**University Women’s Club of Coquitlam Bursary**

*Program code: UPBO-573*

Value: approx. $1000

Awarded: Spring

Terms of reference: a mature female student who is continuing her education after several years of absence, and is in her first year of study

**University Women’s Club of Vancouver**

*Program code: UPBO-575*

Value: $600

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.

**Vancouver Canada China Friendship Association Bursary**

*Program code: UPBO-692*

Value: $1,000

Awarded: Spring

Terms of reference: - to a student in the Asia Canada Program, based on demonstrated financial need and satisfactory academic performance. The application should include a letter from the applicant expressing his/her interest in the area of Asia Canada studies. When possible, preference will be given to students in the area of Chinese studies.

**Vancouver Municipal and Regional Employees Union Bursary**

*Program code: UPBO-580*

Value: 75% of tuition, to a maximum of $2,300

Awarded: Fall

Terms of reference: awarded, in two disbursements for two semesters, to sons, daughters, and legal dependants of members, who at the time of application are either current members in good standing or retired members of the Union, and who demonstrate a primary attachment to the Union by holding Union membership through a minimum of six months employment for each of the two years prior to the date of enrolment, or the last two years prior to retirement. The Bursary will be awarded by Simon Fraser University in consultation with the VMREU to a qualified applicant who is beginning or continuing full-time enrolment at Simon Fraser. The award is based on financial need and satisfactory academic standing in previous studies. Note: Bursaries for members of the VMREU are administered entirely by the VMREU. VMREU members should apply for “Members Bursaries” directly to the Union.

**Western Businesswomen’s Association Bursary**

*Program code: UEOB-705*

Value: $500

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.

**Hugh Clark Memorial Bursary**

*Program code: UEOB-712*

Value: $500

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: UEOB-710*

Value: $500

Awarded: Spring

Terms of reference: undergraduate students in any Faculty on the basis of demonstrated financial need and satisfactory academic performance.

**Pacific National Foundation Endowment Bursary**

*Program code: UEOB-655*

Value: $2,000

Awarded: Fall

Terms of reference: granted to undergraduate students in the Faculty of Science of Applied Sciences. Preference will be given to students from the Greater Vancouver Regional District or the spouse or child of a person, who is a member of the Telecommunication Workers Union or of Van-Tel Credit Union.

**Professional Engineers of BC Hydro**

*Program code: UEOB-685*

Value: 2 @ $750

Awarded: Fall

Terms of reference: third and fourth year Engineering Science students who are in full-time studies with satisfactory academic standing and demonstrated financial need. A letter expressing job goals and direction should accompany the application form.

**Sierra Systems Bursary in Computing Science**

*Program code: UEOB-663*

Value: 2 @ $2,500

Awarded: Fall

Terms of reference: third or fourth year students in the School of Computing Science. Applicants must have demonstrated academic standing and financial need. One award will be given to a student from the Greater Vancouver Regional District and the other to a student from outside the Greater Vancouver Regional District.

**Victor J. Sundberg Memorial Bursary in Engineering Science**

*Program code: UEOB-681*

Value: $1,000

Awarded: Fall

Terms of reference: an undergraduate student in any Faculty. Whenever possible, preference will be given to a student majoring in Engineering Science in the Faculty of Applied Science. Applicants must have a satisfactory academic record and be in financial need in the pursuit of their academic studies. As well, special consideration will be given to community involvement and citizenship, evidence thereof to be provided in an accompanying letter or supporting documentation.

**Irene May Surbey Bursary**

*Program code: UEOB-723*

Value: $100

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 Scare Bursaries**

*Program code: UPBO-578*

Value: $500 - $1,000

Awarded: Spring
Awards: Fall, Spring

Terms of reference: full-time undergraduate and graduate students who have completed two years of post-secondary education. Areas of study include any of the following: Pre-Med program, Clinical Psychology, Kinesiology, Bio-medical Engineering, and Gerontology. Awards are based upon financial need and good academic standing.

Private bursaries for Arts students

BC Sugar Refinery, Limited Bursaries
Program code: UPBO-553
Value: $5 @ $1,000
Awarded: Fall
Terms of reference: undergraduate students, who 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.

BOMA Undergraduate Bursary in Urban Studies
Program code: UEBO-715
Value: $2,000
Awarded: Fall
Terms of reference: an undergraduate student who is in their third or fourth year of study at Simon Fraser University. To qualify students must have completed at least two years of study at Simon Fraser University and be focusing their studies on early BC History, namely 18th century forward. The bursary has been established by the Native Sons of British Columbia, Post #2.0

Robin Mercer Memorial Bursary in Archaeology
Program code: UEBO-675
Value: $600
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: $100
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: $2,500
Awarded: Fall
Terms of reference: an undergraduate female student in second, third or fourth year of study 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: $2,500
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: $500 - $800
Awarded: Fall
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 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: UEOB-700
Value: $100
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 Fund for Fine Arts (Vancouver Foundation)
Program code: UEOB-567
Value: $500 - $1,000
Awarded: Fall
Terms of reference: third year students enrolled in full-time studies in Fine Arts programs, who demonstrate financial need and satisfactory academic standing. Preference will be given to Fine Arts students from Vernon, BC. The School for the Contemporary Arts forwards nominations to Financial Assistance.

Donald H.M. Ross Faculty of Arts Bursary
Program code: UEOB-692
Value: $700
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 Selkner Linguistics Bursaries
Program code: UEOB-661
Value: $500 - $1,000
Awarded: Fall
Terms of reference: undergraduate students pursuing a linguistics program who have satisfactory academic standing, demonstrated financial need, and have completed 15 credit hours at Simon Fraser.

Vancouver Foundation Health Science Bursaries
Program code: UEOB-578
Value: $500 - $1,000
Awarded: Fall, Spring
Terms of reference: full-time undergraduate and graduate students who have completed two years of post-secondary education. Areas of study include any of the following: Pre-Med program, Clinical Psychology, Kinesiology, Bio-medical Engineering, and Gerontology. Awards are based upon financial need and good academic standing.

Private bursaries for Business Administration students

BC Bond Dealers Association Bursary
Program code: UEOB-689
Value: $500
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.

BC Sugar Refinery, Limited Bursaries
Program code: UEOB-553
Value: 5 @ $1,000
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.

Keith and Betty Beedie Foundation
Program code: UEOB-698
Value: $1,000
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.

Chien’s Cultural Foundation Bursary
Program code: UEOB-707
Value: $1,000
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: UEOB-884
Value: $1,000
Awarded: Fall
Terms of reference: a third year full-time student in Business Administration with a concentration in International Business.

Maurice S. Dodge Bursary
Program code: UEOB-720
Value: $1,250
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: UEOB-711
Value: $150
Awarded: Spring
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: UEOB-684
Value: $500
Awarded: Fall
Terms of reference: an 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 Flavell Memorial Bursary
Program code: UEOB-659
Value: $500 - $1,000
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: UEOB-688
Value: $1,000
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: UEOB - 722
Value: $100
Awarded: Spring
Terms of reference: granted to undergraduate students in the Faculty of Business Administration based on demonstrated financial need and satisfactory academic performance.

Pinkus and Chaja Huberman Bursary
Program code: UEOB-560
Value: $200
Awarded: Fall
Terms of reference: an entering undergraduate student who is physically challenged. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance.

terms of reference: awarded to an undergraduate student in the Faculty of Business Administration.

Institute of Chartered Accountants of British Columbia/Simon Fraser University Co-operative Education Program Award
Program code: UEOB-962
Value: $750
Awarded: Spring
Terms of reference: a full-time undergraduate student enrolled in the Faculty of Business Administration Co-operative Education program (CA stream), on the basis of the nominations received from the Faculty of Business Administration Co-operative Account program. The award will be based upon academic performance (consideration given to improved academic performance), reports of practicum work performance and the need for financial support. Candidates should have completed at least one practicum work semester after being accepted into the Co-operative Education Program, before eligibility is determined.

Laing Property Endowment Fund Bursary
Program code: UEOB-653
Value: $1,000
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: UEOB-834
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: UEOB-655
Value: $2,000
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.

Robert Rogow Bursary in Business Administration
Program code: UEOB-727
Value: $500
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 Fund
Program code: UEOB-683
Value: $1,500
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.

Sceptre Investment Counsel Ltd Bursary
Program code: UEOB-701
Value: $250
Awarded: Fall
Terms of reference: an entering undergraduate student who is entering or in the final year of studies in the Faculty of Business Administration.

Financial Assistance and Awards
Private bursaries for Education students

May Bennett Bursary Endowment Fund
Program code: UEBO-585
Value: $125
Awarded: Fall
Terms of reference: undergraduate female students in Business Administration who demonstrate satisfactory academic achievement and financial need.

Canadian Yugoslav Community Bursary in Education
Program code: UEBO-703
Value: $1,000
Awarded: Fall or Spring
Terms of reference: an undergraduate third or fourth year student in the Faculty of Education. The bursary will be granted on the basis of demonstrated financial need and satisfactory academic performance.

Faculty of Education Special Bursary Fund Permanent Endowment
Program code: UEBO-595
Value: $1,000
Awarded: Spring or Fall
Terms of reference: a student enrolled in the Professional Development Program who is also enrolled in a minor in Learning Disabilities, and who is entering EDUC 405 in either Spring or Fall semester. The bursary is awarded for the semester in which EDUC 405 is undertaken.

Learning Disabilities Association of BC Bursary
Program code: UPBO-593
Value: $200
Awarded: Fall
Terms of reference: a student in the Faculty of Education working toward a minor in Learning Disabilities. Preference will be given to a graduate from the Delta School District

Pacific National Foundation Endowment Bursary
Program code: UEBO-655
Value: $2,000
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.

Sylvia R.H. Rice Memorial Bursary
Program code: UEBO-660
Value: $1,400
Awarded: Fall
Terms of reference: a student who is in a Bachelor of Education degree program, or who is enrolled in the Professional Development Program. Applicants must be members or sons and daughters of members of the BC Teachers Credit Union which should be clearly documented. A photograph will be required from the recipient.

Vancouver Elementary School Teachers Association Bursary
Program code: UPBO-577
Value: $2 @ $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:
- Elizabeth Dobbins Memorial Bursary open to students entering third year in the Faculty of Education at Simon Fraser University
- Owen J. Thomas Memorial Bursary open to students entering fourth year in the Faculty of Education at Simon Fraser University

Private bursaries for Science students

BC Sugar Refinery, Limited Bursaries
Program code: UPBO-553
Value: 5 @ $1,000
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.

Peter and Elizabeth Belton Bursary in Biology
Program code: UEBO-729
Value: $500
Awarded: Summer
Terms of reference: to undergraduate students in the Faculty of Science majoring in Biology. The bursary is granted on the basis of demonstrated financial need and satisfactory academic performance.

Margaret Lawson McTaggart-Cowan Alumni
Program code: UEBO-600
Value: $500
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.

Ralph Kerr Memorial Bursary Endowment Fund
Program code: UEBO-599
Value: $800
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 is in the name of Ralph Kerr, a former member of Simon Fraser University and a former employee of the Physics Department.

Pacific National Foundation Endowment Bursary
Program code: UEBO-655
Value: $2,000
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.

Irene May Surbey Bursary
Program code: UEBO - 723
Value: $100
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: $900
Awarded: Fall
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 Action Association Bursary
Program code: UEBO-607
Value: $300
Awarded: Fall or 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.

Private bursaries for student athletes
Jane Norman Memorial Bursary
Program code: UEBO-652
Value: $650
Awarded: Fall or 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.

University administered awards
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.

Regulations for Academic and Service Awards
The following regulations govern all prizes, medals or awards over which the University has jurisdiction.

• In most cases, nominations are submitted directly to Financial Assistance. Both undergraduate and graduate students are eligible unless otherwise indicated.

• Undergraduate students must have achieved a minimum CGPA of 2.00 during the semester of their contribution and must not be on Academic Probation, or in the case of first semester or transfer students, must possess an equivalent secondary school or college standing.

• Undergraduates must be registered in a minimum of 9 semester hours of graded courses in the semester of eligibility. Challenge, audit, and credit free courses are not considered.

• Graduate students must be registered in an approved full time program in the semester of eligibility.

• Candidates must submit an application form to Financial Assistance or be nominated by a member (or members) of the Simon Fraser University faculty, staff, student body or alumni. Individuals nominating a student for an award must file the nomination form with Financial Assistance.

• Normally, only one intervening semester will be allowed between the semester in which the registered student made their contributions and the semester in which the award is adjudicated.

• Where contributions are over and above usual expectations, remunerated or assigned activities, such as course assignments or teaching duties, may be considered for recognition.

• Unless otherwise stated, awards are tenable only at Simon Fraser University for the semester indicated on the notice and may not be deferred.

University awards for all students
Jeans' Convocation Medals
Program code: UUAO-002
Value: Silver Medal
Awarded: May
Terms of reference: a graduating student from each faculty. The Dean of the respective faculty will recommend a student who is from the top 5% of graduating students within that faculty. The top 5% is defined by cumulative GPA. All nominations are to be forwarded to the Assistant to the Registrar.

Terry Fox Gold Medal
Program code: UUAO-001
Value: 1 @ $1,000 & 3 semesters' tuition
Awarded: May
Terms of reference: any person who has demonstrated those personal qualities of courage in adversity and dedication to society which have been exemplified by Terry Fox and his Marathon of Hope. All nominations should be made directly to Financial Assistance.

Governor General’s Silver Medal
Program code: UPAO-000
Value: $600
Awarded: May
Terms of reference: the Silver Medal will be awarded to the student whose record, in the opinion of the Faculties, is the most outstanding in the graduating classes in any faculty. Eligible candidates should have completed a minimum of 60 semester hours at Simon Fraser University. The award shall be made to the student who has maintained a high scholastic standing during not fewer than six semesters or the equivalent of 60 semester hours or more at Simon Fraser University and who, by participating in extracurricular activities, has shown outstanding qualities of character and unselfish devotion to Simon Fraser University. The award will be presented by His Excellency, the Governor-General of Canada.

Honor Roll
Program code: N/A
Value: see Terms of Reference
Awarded: see Terms of Reference
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:

• must have completed a minimum of 30 semester hours at Simon Fraser University by the end of the semester being evaluated

• must have completed at least 12 semester hours of credit in the semester being evaluated

• must achieve a minimum semester GPA of 4.00 calculated on all normally graded courses completed in the semester being evaluated

C.D.Nelson Memorial Prize
Program code: UEAO-019
Value: $500
Awarded: May
Terms of reference: a student, a faculty member or a staff member making an outstanding contribution other than academic, to Simon Fraser University. Nominations are to be made through Financial Assistance. This prize given as a Simon Fraser University award, will be in the form of a work of art purchased through a recognized art dealer. A small metal plaque bearing the title C.D. Nelson Memorial Prize may be affixed to the work of art. The prize is in memory of Professor C.D. Nelson, first Head of Biological Sciences, who gave so fully himself to the whole University community.

Gordon M. Strum Gold Medal
Program code: UPAO-002
Value: 1 Gold Medal and $500
Awarded: May
Terms of reference: an outstanding student in any faculty who has completed the requirements for the Bachelors degree during the preceding Summer, Fall or Spring semester.

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.

University awards for Arts students
Bice Caple Awards
Program code: UUAO-005
Value: up to 5 @ $1,000
Awarded: Fall
Terms of reference: outstanding contribution to the Fine Arts at Simon Fraser University during the previous year. During the tenure of the award each recipient must:

• be a registered student at Simon Fraser University

• pursue a course of studies and demonstrate academic competence

• continue to be active in Arts at Simon Fraser University

Normally, the award may be held only once, but in no case may any individual receive the award more than twice. Each recipient will be nominated by the Director of the School of the Contemporary Arts the award of $1,000, will be disbursed in two equal installments, one in the Fall semester and one in the Spring semester.

Simon Fraser University Service Awards
(Contemporary Arts)
Program code: UUAO-000
Value: variable
Awarded: Fall and Spring
Terms of reference: students in the School for Contemporary Arts who have made a significant contribution in their field of study. Candidates must have been registered in a minimum of 6 credit hours (hours with a calculated GPA) with satisfactory academic standing in the qualifying semester of contribution. Graduate students may also be recognized for these awards.

University awards for Education students
Professional Development Program Awards of Excellence
Program code: UUAO-003
Value: up to 5 @ $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 awards for student athletes

Regulations for Athletic Awards

The following regulations apply to Athletic and Recreation Awards:

- With the exception of new students, candidates must be currently enrolled as students in any faculty at Simon Fraser University. Students must have achieved a minimum 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. Ordinarily, recipients of Athletic Awards must be registered in 12 or more hours. Students who register in less than 12 hours or subsequently drop below 12 hours may have their awards cancelled.
- Suitable qualifying candidates will be nominated by the Department of Athletics or Recreation. Nominations also may be made by a member (or members) of the Simon Fraser University faculty, staff or student body.
- Applications should be submitted by mid-semester, prior to the semester of utilization, to the Director of Athletics.

Athletic and Recreation Awards

Program code: UUAO-100
Value: $1,400
Awarded: Fall and Spring
Terms of reference: in recognition of significant contributions to the athletic activities of Simon Fraser University, or in recognition of excellence in extraordinary amateur athletic activities.

Athletic Entrance Awards

Program code: UUAO-104
Value: 2 @ $2,000 (disbursed in 2 $1,000 installments)
Awarded: Fall
Terms of reference: students on the basis of their demonstrated leadership along with good academic standing in the school program. Students must be nominated by the Director of Athletics, maintain a CGPA of 2.00 and register in 12 hours during the tenure of the award.

Rick Hansen Athletic Award

Program code: UUAO-103
Value: 1 @ $1,400 (disbursed in 2 payments of $700)
Awarded: Fall
Terms of reference: a physically challenged student athlete who meets the general award requirements.

Recreation Leadership Awards

Program code: UUAO-101
Value: 8 @ $1,200 (disbursed over 2 semesters)
Awarded: Fall and Spring
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 eight awards of $1,200 each (disbursed over two semesters) are available to entering students on the basis of recommendations from secondary school and on the basis of their demonstrating leadership in the school program. Eight awards of $1,200 each (disbursed over two semesters) are available to students who have completed at least two semesters at Simon Fraser and have demonstrated consistent leadership skills and potential for further development. Students must be nominated by the Director of Athletics, maintain a cumulative 2.0 grade point average and register in 12 credit hours.

Simon Fraser University Recreation Awards

Program code: N/A
Value: N/A
Awarded: Fall and Spring
Terms of reference: students who have good academic records and demonstrate excellence, outstanding participation or high potential in recreational activities. Recreation Awards are available in activities including Varsity sports. In addition to these a limited number of awards will be available to academically eligible candidates who demonstrate excellence in an extraordinary amateur activity (e.g. figure skating), which ordinarily might not be considered in the recreational sports area. Awards are granted for a period of one semester, and vary in amounts but do not exceed a full semester's fees. Students may re-apply or be re-nominated for awards in subsequent semesters. Students may be considered for Recreation Awards in their first semester at Simon Fraser University. Enquiries regarding Recreation Awards should be directed to the Director of Athletics and Recreation.

University administered private/ endowment awards

The following awards have been made possible by generous donations. Unless otherwise noted, the same regulations apply as for University administered Awards.

Private awards for all students

Alumni Association Outstanding Student Leadership Award

Program code: UPAO-167
Value: $2,000
Awarded: Fall
Terms of reference: award will be 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.

Annual Corporate Appeal Fund

Program code: UPAM-003
Value: variable
Awarded: annually
Terms of reference: awards may be based on academic merit or financial need in keeping with the wishes of the donor. Awards will be granted from time to time from this fund in the name of corporate donors to the University.

B.C. Sugar Achievement Award

Program code: UEAO-526
Value: $4,000
Awarded: Summer
Terms of reference: granted to an SFU faculty, staff member, student or multiple of the same who meet the following criteria: national or international competition, or recipient of national or international prize or award; history of leadership in recipient’s field; accomplishment(s) relate 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.

BC Bearing Engineers Limited Award

Program code: UPAO-537
Value: $500
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.

Ned de Beck Undergraduate Award

Program code: UPAO-174
Value: $1,250
Awarded: Fall
Terms of reference: undergraduate students in any Faculty, on a competitive basis, and may be used to support research projects, co-op placements, internships or other activities directly related to the student’s interest in the public service or politics generally. Applications should include the student’s transcript, a letter of reference from an SFU faculty member, a statement regarding the proposed project or internship, and should be submitted through Financial Assistance in the fall semester for work to be undertaken in the following calendar year. Completed applications will be adjudicated by the Scholarship Committee of the Department of Political Science. The intent of these awards is to foster interest and research in public administration, policy and the parliamentary system. The awards will be made available by the President, SFU.

Alexander Fraser Award in Piping and Drumming

Program code: UEAO-011
Value: approx $500
Awarded: Spring
Terms of reference: these awards are made following a competition among the pipers and drummers on campus. A cash award will be made to the student judged best in each of the two categories. In addition, a cash award may also be made to the student who has contributed most significantly to the development of Highland tradition at Simon Fraser University.

Gandhi Essay Award

Program code: UPAO-304
Value: $350
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 – August) are 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 by May 31st. The award is made available under the auspices of the Gandhi Peace Trust fund of the India Club.

Stephen Harold Edward Herring Prize

Program code: UEAO - 048
Value: $1,000
Awarded: Summer
Terms of reference: The Herring Prize will honour the development of a device or innovative way to restore lost functions and provide increased independence for people who have been paralyzed. Submissions will be evaluated by the Herring Committee based on the originality of the research, keeping in mind the contribution of direct and effective research in alleviation and curing injuries made by impact that cause any paralysis. Eligible candidates will be graduate or undergraduate students at SFU in any faculty. The submission should include a description of the research, device or innovation to alleviate or cure injuries causing paralysis and two letters of support from faculty who know the student well and can attest to the originality of the research and role played by the student. Submissions should be sent to the Director, Student Academic Resources by April 15th. The Herring Prize will be awarded at the February Awards Ceremony in the following year.
The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Stephen Herring Prize Committee.

**Judy Kelly Humanitarian Award**  
Program code: UEAO-522  
Value: $200  
Awarded: Spring  
Terms of reference: an undergraduate student in any Faculty who has provided volunteer services to the university community. Particular preference will be given to students who have provided aid to students with physical disabilities. Applicants may apply for the award themselves, or may be recommended by a member of the university community.

**Barry and E. Anne Macdonald Asia-Canada Awards**  
Program code: UEAO-525  
Value: $1,200  
Awarded: Summer  
Terms of reference: awarded on a competitive basis to undergraduate students in the Asia-Canada Program, and may be used to support travel and/or living expenses for a student attending an Asian Field School (e.g., but not limited to, the Chinese Field School). From time to time, funds may be used to support the community outreach activities of the Asia-Canada Program. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Dean of Arts or his/her designate.

**Iain Omsaig MacKinnon Memorial Fund**  
Program code: UEAO-045  
Value: $1,500  
Awarded: Fall  
Terms of reference: an undergraduate student in any Faculty. The award is for a student who plays the bagpipes, either as a solo musician or as part of the Simon Fraser University Pipe Band or another pipe band, and who has maintained a 3.25 CGPA. Applications/nominations for this award should include a letter of reference from an appropriate individual discussing the applicant's contribution as a piper. If a piper is not identified in any given year the award could go to a student in the Music program in the School for the Contemporary Arts.

**Jonathan Mara Entrepreneurs Award**  
Program code: UPAO - 178  
Value: $3 @ $500  
Awarded: Fall, Spring, Summer  
Terms of reference: awarded to 2nd, 3rd, or 4th year or higher undergraduate students in any Faculty, and will be granted to students holding satisfactory academic records. Successful applicants will be selected on their contribution of time and energy to the ACE program (Association of Collegiate Entrepreneurs) at SFU.

**Marcia Scholarship in Electroacoustics**  
Program code: UEAO-130  
Value: $250  
Awarded: Spring  
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.

**Eileen Purkiss Memorial Endowment Award**  
Program code: UEAO-023  
Value: $100  
Awarded: Spring  
Terms of reference: graduate and undergraduate international students. In adjudicating the award, consideration will be given to the special contributions made by the student to the social and cultural exchange and development of international students at Simon Fraser University with specific reference to volunteer service, promotion of goodwill, and the organization of social, cultural and related events. Applications or nominations may be made through Financial Assistance with appropriate letters of reference. The endowment fund is established in memory of Eileen Purkiss.

**Simon Fraser University Pipe Band Memorial Award**  
Program code: UEAO-043  
Value: $1  
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 required from Pipe Band Major.

**Ted Sinnott Memorial Fund**  
Program code: UEAO-027  
Value: $500  
Awarded: Summer  
Terms of reference: a student who has made a contribution of a voluntary nature, to the University community, thereby reflecting positively the cheer and goodwill which the late Ted Sinnott generated at Simon Fraser University for so many years. Nominations or applications will be received by Financial Assistance.

**William A. (Bill) Stewart Volunteer Leadership Award**  
Program code: UEAO - 049  
Value: $100  
Awarded: Spring  
Terms of reference: to graduate or undergraduate students in any Faculty whose volunteer activities have made a significant contribution to the development and/or improvement of campus community life. The application should include a letter from the student outlining his/her volunteer activities and the impact those activities have had on campus life.

**Dr. Abe Unrau Memorial Co-op Prize**  
Program code: UEAO-039  
Value: $400  
Awarded: Summer  
Terms of reference: an outstanding co-op student in any faculty who, at the time of graduation, has the highest cumulative grade point average and who has successfully completed a minimum of four work semesters. A student from the School of Engineering Science Co-op program may also be considered if he/she has successfully completed three work terms and a research semester (the undergraduate thesis project) producing an undergraduate thesis. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director, Co-operative Education Program.

**Joan H. Walter Memorial Fund**  
Program code: UEAO-030  
Value: $100  
Awarded: Fall  
Terms of reference: 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 the University has been promoted with enthusiasm and accurate information. This fund has been established in memory of Joan H. Walter, formerly a Simon Fraser University Media and Public Relations employee and tour guide supervisor. A nomination from the Director of Student Recruitment is required.

**Roger G. Welch Alumni Prize**  
Program code: UEAO-172  
Value: $600  
Awarded: Summer  
Terms of reference: an alumna/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 on the wider community will also be considered. The granting of the prize will be based on evidence submitted by the applicant or by another person, group or association.

**Private awards for Applied Sciences students**

**Communication Alumni Endowment Award**  
Program code: UEAO-155  
Value: $1,000  
Awarded: Summer  
Terms of reference: a third or fourth year undergraduate student in Communication who submits the best essay in the field of Communication.

**Computing Science Graduation Award**  
Program code: UEAO-529  
Value: $500  
Awarded: Summer  
Terms of reference: top graduating student in Computing Science. If there are two students who qualify, the award will be given to the student who has demonstrated service to the computing science undergraduate student body or to the university. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director or the School of Computing Science.

**Engineering Science Undergraduate Student Project Award**  
Program code: UEAO - 535  
Value: $25 – $100  
Awarded: Fall, Spring, Summer  
Terms of reference: given annually for projects proposed by SFU Engineering Science undergraduate students. The project proposals submitted for consideration should contain a description of the project. Category as noted below, the benefits to Engineering Science students, the university or 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 project proposal - rating criteria: pragmatic, cost effective, visionary.  
- **Category C - Class** : projects that originated from an Engineering Science class or a special projects laboratory - rating criteria: originality, usability, team oriented.  
- **Category D - Miscellaneous** : travel and projects not covered under Category A through C and/or purchase of Lab Equipment 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: UEAO-812  
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 Awards Adjudication Committee on the nomination of the Director of the School of Engineering Science.

First Marathon Inc. Award in Kinesiology
Program code: UEAO-533
Value: $2,000
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 hours of course work towards a B.Sc. degree in Kinesiology usually with a 3.0 GPA. Candidates must already be in possession of CPR, RFA and preferably, an Industrial First Aid certification. The successful candidate will work under the supervision in the Tong Louie Human Performance Centre a minimal 5 hours per week in each of 2 semesters. Suitable candidates on completion of 2 semesters of supervised study will be offered an opportunity to work independently as a consultant in the Centre for the remaining semester of the award. Applications for the award will be received by the Director, School of Kinesiology in August each year. Selection will be made by the Director of the Tong Louie Human Performance Centre and the Director of the School of Kinesiology and announced on the 1st of September.

Glenayre Award in Engineering Science/Computing Science
Program code: UEAO-173
Value: $1,500
Awarded: Fall
Terms of reference: undergraduate students in the School of Engineering Science or the School of Computing Science. The Glenayre Awards will be granted to the best senior projects that show the students’ interest and aptitude in one or more areas pertaining to Glenayre’s business, including wireless data communications, embedded systems programming, communications protocol design, digital signal processing, applications of operating systems to real-time problems, communication network management, and communication systems hardware design. A letter of recommendation from the faulty member supervising the student’s senior project should be submitted with the application. The award will be made by the Senate Undergraduate Awards Adjudication Committee.

Radio Station CHMB AM1320 Award in Communication
Program code: UEAO-523
Value: $1,000
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 recent issues in Communication (e.g., relating to television or to the production of a video). The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director, School of Communication.

Kazuya Shinyaishi Memorial Award in Computing Science
Program code: UEAO-042
Value: $500
Awarded: Fall and/or 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 community in particular to the undergraduate Computing Science Student Society and/or the Computing Science undergraduate student body. Financial need may be taken into account if more than one student qualifies for the award. Applications for the award should be submitted to the Director of the School of Computing Science and will include a letter discussing university community involvement or involvement with the Society. Recommendations from any member may be submitted to the Director. The awards will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director of the School of Computing Science in consultation with the undergraduate Computing Science Student Society.

University Publishers Award in Engineering Program code: UEAO-536
Value: $400
Awarded: Fall
Terms of reference: a student in the School of Engineering Science based on academic merit and his/her participation in student government role as officer. The successful applicant may be involved as an Officer in the Engineering Undergraduate Student Society (EUSU) or in the campus-wide SFU Student Society. Departmental nomination is required.

Private awards for Arts students
Jane Austen Society Prize
Program code: UPAC-132
Value: $100
Awarded: Summer
Terms of reference: a student for the best essay by an upper-level undergraduate student on the subject of Jane Austen, her life, works, or closely related social history. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the recommendation of the English Department. Applications and/or nominations are to be forwarded to the Dean of Graduate Studies office for adjudication.

G.A.B.C. Chuck Bayley Memorial Award
Program code: UEAO-519
Value: $1,500
Awarded: Fall
Terms of reference: graduate or undergraduate students, full or part-time, who have through volunteer or paid work experience demonstrated an aptitude for and interest in the field of Gerontology. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Gerontology Alumni Chapter.

British Columbia Psychological Association Award
Program code: UPAC-005
Value: Certificate
Awarded: Summer
Terms of reference: a certificate of excellence will be awarded for outstanding achievement in the study of Psychology to a graduating student who has completed the requirements for a Bachelors degree over the previous Summer, Fall, or Spring semester.

Robert C. Brown Award
Program code: UEAO-195
Value: $2,000
Awarded: Summer
Terms of reference: a student in the Faculty of Arts who has completed a minimum of 60 credit hours at the University. The recipient will have demonstrated a combination of outstanding academic achievement and outstanding performance or leadership in another endeavours at Simon Fraser. This may be in athletics, in service to the University, or in representing the University to the community at large. The Robert C. Brown Endowment Fund was established to recognize the outstanding contributions of Dr. Robert C. Brown to Simon Fraser University, and particularly to the Faculty of Arts where, for fifteen years he was Dean. Nominations, including the nominee’s résumé, should be forwarded to Financial Assistance.

Bureau du Quebec Book Prizes in Quebec Studies
Program code: UEAO-531
Value: $0
Awarded: Spring
Terms of reference: to one top ranking undergraduate student and one top ranking graduate student in the Department of French having a concentration in Quebec studies within the Department’s French-Canadian course offerings, including Quebec literature and/or linguistics. The awards will be made by the Senate Undergraduate Awards Adjudication Committee and the Senate Graduate Awards Adjudication Committee on the recommendation of the Chair, Department of French. The Department of French reserves the right to withhold one or both prizes in any given year.

Laurence Mervyn Cox Internships in the Centre for Research in Academic Writing
Program code: UEAO-528
Value: $1,000
Awarded: Fall
Terms of reference: an internship may be granted to a 3rd or 4th year undergraduate student in the Department of English who has demonstrated an excellent command of written and spoken English. The applicant should be a Canadian citizen or a permanent resident of Canada. The application will include samples of at least two pieces of the applicant’s written work. When possible, preference will be given to students in financial need. The successful applicant(s) will intern in the Writing Centre for one semester. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the recommendation of the Chair, Department of English.

Downtown Vancouver Association Award in Urban Studies
Program code: UEAO-047
Value: $775
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 Eisenberg Gerontology Award
Program code: UEAO-041
Value: $500
Awarded: Fall
Terms of reference: an undergraduate mature student whose area of study is Gerontology. A departmental nomination is required from the Chair of Gerontology.
European History Book Prize
Program code: UEAO-174
Value: $200
Awarded: Summer
Terms of reference: the author of a superior undergraduate term report or essay on any topic concerning European history. Special consideration will be given for originality in analysis and treatment of the area. Essays are to be submitted to the History department by April 15th and must have been written in one of the three previous semesters. The department of History awards committee will make a nomination to the Senate Undergraduate Awards Adjudication Committee. The History department will undertake to publicize and adjudicate the essay competition.

Institute for the Humanities Travel-Study Award
Program code: N/A
Value: $1,500
Awarded: Spring or Summer
Terms of reference: third or fourth year students who are majoring in European History. Special consideration will be given to students who have returned to full-time studies subsequent to a substantial interruption of their academic career after secondary school.

Ingrid Nystrom Archaeology Award
Program code: UEAO-180
Value: $850
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.

Dr. M. Sheila O’Connell Prize for Children’s Literature
Program code: UPAO-020
Value: $1,500
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.

Margaret Ormsby History Prize Endowment Fund
Program code: UPAO-176
Value: $275
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 his 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.

Philippa Polsen Memorial Prize
Program code: UPAO-021
Value: $250
Awarded: Spring
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.

Prize of the Ambassador of Switzerland in Canada
Program code: UESO-281
Value: book prize
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).

Psychology Alumni Honors Prize
Program code: UEAO-037
Value: $500
Awarded: Fall or Spring
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’s annual 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: $250
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 Faculty Endowment
Program code: UEAO-026
Value: $0
Awarded: Summer
Terms of reference: The Department of History wishes to recognize and encourage academic excellence with the award of a medal to the best history student in each graduating year. The award will be based on the best grade point average for upper level work.

Robert L. Stanfield Book Prize
Program code: UEAO-028
Value: $50
Awarded: Spring
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: $65
Awarded: Summer
Terms of reference: a student majoring in the Centre for the Arts Visual Arts Program. The award will be based on a student’s contribution to the visual arts and the financial needs of the student. Nominations will be forwarded from the Centre for the Arts to the Senate Undergraduate Awards Adjudication Committee.

Winnie Topping Memorial Prize
Program code: UEAO-032
Value: $150
Awarded: Summer
Terms of reference: a female student in honors Anthropology or Sociology who shows the greatest promise of becoming both a scholar and a humanitarian. Applicants must submit a letter of nomination from a faculty member of the Department of Sociology and Anthropology.

Volunteers of the Burnaby Art Gallery Award in Visual Arts
Program code: UEAO-046
Value: $690
Awarded: Spring
Terms of reference: the most promising student in third year in the Visual Arts major program. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the School for the Contemporary Arts Departmental Awards Committee.

Brian Williamson Memorial Award in Archaeology
Program code: UEAO-015
Value: $550
Awarded: Spring
Terms of reference: the author of a superior undergraduate term report 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 15th, 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.

Financial Assistance and Awards
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.

Private awards for Business Administration students

Bob Ackles Sports Administration Scholarship
Program code: UEA0-001
Value: $2,000
Awarded: Summer
Terms of reference: the most 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: UEO-006
Value: $100
Awarded: Summer
Terms of reference: the two finalists in the Dean’s Medal competition. Students will be chosen by the Dean of Business Administration.

Cohen Fund in Business — J. Segal Prize
Program code: UEO-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.

SFU Accounting Club
Program code: UPAO-181
Value: $200
Awarded: Spring
Terms of reference: to a student in the Faculty of Business Administration with a concentration in Accounting. The award is based on academic merit and extra-curricular involvement. The successful applicant should have a minimum cgpa of 3.5. Extra-curricular interests can include active memberships in clubs, volunteer experiences, sports activities and community involvement. Along with the application, applicants should submit a personal letter outlining their extra-curricular interests and a supporting letter of reference.

University Publishers Award in Business Administration
Program code: UPAO-179
Value: $200
Awarded: Spring
Terms of reference: granted to a student in the Faculty of Business Administration based on academic merit and his/her participation in student government as an officer. The successful applicant may be involved as an Officer in the Business Administration Student Society (BASS) or in the campus-wide SFU Student Society. Applicants must submit a résumé and a letter documenting their involvement in BASS or the Student Society.

Private Awards for Education students

Jean G.K. Bailey Memorial Fund
Program code: UEO-004
Value: $0
Awarded: Summer
Terms of reference: a student who entered the Professional Development Program in September, and a student who entered in January. The awards will be a three year membership in the National Society for the study of Education.

Dr. Maxwell A. Cameron Memorial Medals and Prize
Program code: UPAO-007
Value: $100
Awarded: Summer
Terms of reference: awarded by the BCTF to the student in each of: the University of British Columbia, the University of Victoria and Simon Fraser University, completing the final year of the program leading to the Professional Basic Certificate for secondary school teaching who achieves the highest standing in academic and professional studies and first class standing in EDUC 405. A similar award is made on the same terms to the leading student in the final year of the program leading to the Professional Certificate for elementary school teaching. Students will be selected by the Faculty of Education. These awards commemorate the distinguished life and work of Dr. Maxwell A. Cameron (1907-1951), first director of the School of Education at the University of British Columbia and author of the Cameron Report on Education.

Claude E. Lewis Award in Education
Program code: UEO-015
Value: $50
Awarded: Summer
Terms of reference: students who attain the highest standing on completion of the Professional Development Program in the Faculty of Education.

Dr. M. Sheila O’Connell Prize for Children’s Literature
Program code: UPAO-020
Value: $1,500
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.

Private awards for Science students

Archeometry Prize Endowment Fund
Program code: UEO-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 Archeometry.

Chemistry Book Award — Dr. E.J. Wells
Program code: UEO-008
Value: $50
Awarded: Summer
Terms of reference: outstanding graduation grade point averages to graduating students in Chemistry, Chemical Physics or Biochemistry.

Chemistry/Biochemistry Award
Program code: UEO-173
Value: $900
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: UEO-009
Value: $245
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: UEO-013
Value: $600
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: UEO-040
Value: $250
Awarded: Spring
Terms of reference: a student completing their degree in the preceding Fall or 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 Campus co-ordinators placing MSSC students. The criteria will be academic achievement and contribution to the MSSC Program. A portion of the earned interest may be used to support undergraduate scholarships for students in the Program.

Mathematics and Statistics Endowment Fund
Program code: UEO-017
Value: $100
Awarded: Spring
Terms of reference: the most outstanding students in selected first and second year Mathematics and Statistics courses. From time to time, interest income may be used for the enrichment of the Mathematics program at the discretion of the Chair providing the expenditure is within the general intent of the endowment fund. The Chair of Mathematics and Statistics will forward nominations for awards and prizes to the Senate Undergraduate Awards Adjudication Committee. This fund has been established to provide awards to further mathematics
undergraduate education at Simon Fraser University and to encourage secondary school students to enter into the study of Mathematics.

Putnam Awards
Program code: UPAO-024
Value: $50
Awarded: Fall
Terms of reference: awarded by the Department of Mathematics and Statistics to Simon Fraser University students listed as top participants in the William Lowell Putnam Mathematical Competition. The winners will be determined according to the official list provided by the organizers of this competition. The ranking and the financial value of the award are as follows.

P (Putnam fellow) & $350
N & $300
H & $250

Webber Chemistry Co-op Book Prize
Program code: UPAO-031
Value: $50
Awarded: Spring
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 Coordinator.

Private awards for student athletes
Yolande D. Anderson Women's Basketball Award
Program code: UEAA-060
Value: $600
Awarded: Fall
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.

C.G. “Chuck” Arnold Golf Award
Program code: UEAA-002
Value: $500
Awarded: Fall
Terms of reference: a student who demonstrates outstanding ability in golf and meets the academic requirements. Preference will be given to residents of the Lower Mainland of BC.

Athletic Awards for continuing students
Program code: UEAO-170
Value: $500
Awarded: Fall
Terms of reference: athletes who meet the academic requirements and demonstrate outstanding athletic ability. The following donors have established endowments to provide awards in perpetuity from the earned income. BC Television Broadcasting System Ltd. BC Central Credit Union Best Cleaners and Contractors Canadian Airlines International Ltd Robert F. Harrison and Partners Keg Restaurants Limited McDonalds Restaurants of Western Canada Reed Shaw Stenhouse Limited Royal Canadian Legion Branch #2 Scott Paper Limited Dr. Gordon M. Shrum Team Skyline Limited Victor V. Spencer West Coast Reduction

Bank of Nova Scotia Football Award
Program code: UEAA-003
Value: $300
Awarded: Fall
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 Jockey Club Award
Program code: UPAO-001
Value: $600
Awarded: Fall
Terms of reference: 2 grant-in-aid awards will be awarded to students (male or female) who demonstrate exceptional accomplishment or promise and are active in intercollegiate sport. However, recipients must be additionally qualified in terms of good academic standing and character.

BC Lions Alumni Association Foundation
Program code: UPAO-002
Value: $300
Awarded: Fall
Terms of reference: a former BC secondary school football player who is an undergraduate student at Simon Fraser University in good academic standing.

BC Lions Athletic Award
Program code: UEAA-004
Value: $150
Awarded: Fall
Terms of reference: a maximum of four students, subject to the discretion of the Director of Athletics. To male students in any faculty on the basis of academic achievement in addition to outstanding ability in football. Interest from this endowment has been made available by the BC Lions Football Club in memory of the late Mr. Grant McConachie, one of the original members of the Board of Governors of the club.

BC Wrestling Association Alumni Award
Program code: UEAA-022
Value: $500
Awarded: Fall or Spring
Terms of reference: a student with demonstrated commitment to wrestling and who meets the academic requirements.

Beedie Construction Company Ltd
Program code: UEAA-032
Value: $1,000
Awarded: Fall
Terms of reference: a woman student who is a member of the Simon Fraser Women's Softball team. This scholarship is also based on academic merit.

Canadian National Railways
Program code: UEAA-005
Value: $500
Awarded: Fall
Terms of reference: a student who is registered in a program of study in any faculty at Simon Fraser 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: $1,000
Awarded: Fall or Spring
Terms of reference: a student active in wrestling at Simon Fraser University 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-064
Value: $500
Awarded: Fall
Terms of reference: a full-time student in good standing who is on the University wrestling team and who exhibits outstanding ability in the sport of football.

Clansmen Athletic Alumni Society Award
Program code: UPAO-172
Value: $500
Awarded: Fall or Spring
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.

Moira Colbourne Alumni Scholarship
Program code: UEAA-018
Value: $800
Awarded: Fall and Spring
Terms of reference: any active member of the Simon Fraser University Women's Field Hockey team, providing they meet the academic requirements.

W. Lorne Davies Athletic Excellence Award
Program code: UEAA-080
Value: $1,000
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.

W. Lorne Davies Senior Graduation Award
Program code: UEAA-079
Value: $1,000
Awarded: Fall
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 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.

Larry Davis/Penn-Gold Resources Inc. PNB Award in Golf
Program code: UEAA-061
Value: $250
Awarded: Fall
Terms of reference: a full-time student in good standing who is on the Golf team at Simon Fraser University.

Bill De Vries Athletic Award
Program code: UEAA-061
Value: $250
Awarded: Fall
Terms of reference: a student who exhibits outstanding academic achievement and athletic performance. The recipient should also possess the personal qualities of integrity and generosity.

Distinctive Travel Services Inc. Award for Excellence in Athletic Performance and Academic Achievement
Program code: UPAO-007
Value: $1,000
Awarded: Fall
Terms of reference: granted at the annual Athletics Banquet to the varsity athlete with the highest academic GPA standing entering their final year of eligibility as identified by the NAIA.

Les and Greg Edgelow Wrestling Award
Program code: UEAA-058
Value: $375
Awarded: Fall
Terms of reference: a first year student (preference given to a student from the BC interior) in good standing who is on the University wrestling team and who is registered full-time. The award is also based on athletic merit in wrestling.

Evergreen Sport Fund Golf Award
Program code: UPAO-009
Value: $1,600
Awarded: Fall
Terms of reference: an entering undergraduate student in any faculty who demonstrates outstanding ability in the sport of golf. Payable in two disbursements of $800.
Field Hockey Endowment Award  
Program code: UEAA-012  
Value: $500  
Awarded: Fall  
Terms of reference: awarded to students who have made contributions to the SFU Field Hockey Program

Jim Forsythe Olympic Award  
Program code: UEAA-069  
Value: $500  
Awarded: Fall  
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 with the University who has shown leadership qualities. The student must submit an application in writing and present their training procedures to the Jim Forsythe Olympic 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.

Dr. Peter Harmon Wrestling Scholarship  
Program code: UEAA-048  
Value: $500  
Awarded: Fall  
Terms of reference: undergraduate full or part-time students who are involved in the wrestling program and have maintained a good academic record.

Wayne Holm Football Scholarship Endowment Fund  
Program code: UEAA-023  
Value: $700  
Awarded: Fall  
Terms of reference: students exhibiting exceptional ability in football and meeting the academic requirements.

Indo-Canadian Wrestling Award  
Program code: UEAA-062  
Value: $150  
Awarded: Fall  
Terms of reference: a full or part-time student in good standing. The award is based on athletic merit in wrestling.

Intramural Involvement Award  
Program code: UEAA-086  
Value: $50  
Awarded: Fall  
Terms of reference: 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 Endowment Fund  
Program code: UEAA-053  
Value: $1,000  
Awarded: Fall  
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: $250  
Awarded: Fall  
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.

Nick Kiniski Wrestling Award  
Program code: UEAA-059  
Value: $200  
Awarded: Fall  
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  
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 of BC Limited Football Awards  
Program code: UEAA-008  
Value: $200  
Awarded: Fall  
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.

Labatt Breweries of BC Soccer Awards  
Program code: UPAA-003  
Value: $1,200  
Awarded: Spring  
Terms of reference: granted to one or more students exhibiting outstanding athletic merit in soccer and maintaining a satisfactory academic standing.

The Leon J. Ladner Athletic Award  
Program code: UPAO-120  
Value: $250  
Awarded: Fall  
Terms of reference: awarded usually for a period of two semesters, to a student of Simon Fraser University, regardless of faculty or semester, demonstrating exceptional accomplishment or promise in active competitive sport. However, recipients will be additionally qualified in terms of good academic standing and character, all as may be determined by the appropriate officials of the University. This scholarship has been donated from the proceeds of a fund donated by Mr. Leon J. Ladner, QC, LLD.

William McMahahony Trophy in Football  
Program code: N/A  
Value: $0  
Awarded: Spring  
Terms of reference: an outstanding football player who has a good record of scholastic achievement. This trophy will be presented at the Annual Athletics Awards Banquet during the Spring Semester. Trophy donated by William McMahahony.

Paul Nemeth Wrestling Scholarship  
Program code: UEAA-030  
Value: $1,000  
Awarded: Fall  
Terms of reference: a student who is maintaining good academic performance and who is a member of the Simon Fraser University wrestling team.

Northern British Columbia Softball Award in Women’s Softball  
Program code: UEAA-085  
Value: $200  
Awarded: Spring  
Terms of reference: an SFU student 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 2 years, and as well, be in good standing with Softball BC. The award may be renewed as long as the recipient is a member of the SFU Intercollegiate Softball Team. Preference will be given to applicants from Northern BC, but the award may be granted to other qualified applicants.

Pacific Custom Brokers Ltd. Softball Award  
Program code: UPAA-011  
Value: $1,500  
Awarded: Fall  
Terms of reference: a student softball player from out-of-province who is entering first year at Simon Fraser University.

Lui Passaglia Football Award  
Program code: UEAA-056  
Value: $500  
Awarded: Fall  
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.

Murray Pezim Football Scholarship  
Program code: UEAA-050  
Value: $600  
Awarded: Fall  
Terms of reference: a student involved in the football program. The award is also based on academic merit.

Rae/Suart Alumni Basketball Awards  
Program code: UPAO-014, 049  
Value: $1,000  
Awarded: Fall  
Terms of reference: BC students entering first year at Simon Fraser University on an athletic scholarship. The awards will be made on the basis of outstanding achievement in scholastics and basketball.

Richmond Centaurs Softball Award  
Program code: UPAO-157  
Value: $1,500  
Awarded: Fall  
Terms of reference: a student in good academic standing, who is active in Women’s softball at Simon Fraser University. Preference will be given to a student from the City of Richmond, BC.

Royal City Travel Limited Athletic Endowment Program  
Program code: UEAA-009  
Value: $200  
Awarded: Fall  
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.

Scotiabank Award in Soccer  
Program code: UPAA-008  
Value: $2,000  
Awarded: Fall  
Terms of reference: the award will be disbursed in two installments to an athlete on the soccer team at SFU.

Scott Paper Alumni Endowment Program  
Program code: UEAA-013  
Value: $500  
Awarded: Fall  
Terms of reference: outstanding athletic merit by a student competing for SFU in any sport, and will be awarded to full-time students with a minimum 2.5 cumulative GPA.

Simon Fraser University Alumni Soccer Award  
Program code: UEAA-063  
Value: $900  
Awarded: Fall or Spring  
Terms of reference: an undergraduate student involved in the University soccer program.

Simon Fraser University Alumni Student-Athlete Basketball Leadership Award  
Program code: UPAA-004  
Value: $100  
Awarded: Fall  
Terms of reference: entering or undergraduate students providing they can demonstrate outstanding athletic ability in the sport of basketball and are in good academic standing.

Simon Fraser University Soccer Scholarship  
Program code: UPAO-105  
Value: $500  
Awarded: Fall  
Terms of reference: a student who exhibits exceptional ability in soccer and meets the academic requirements of the University.

Simon Fraser University Swimming Alumni Endowment Fund  
Program code: UEAA-024  
Value: $1,200  
Awarded: Fall  
Terms of reference: students who exhibit exceptional
ability in swimming and meet the academic requirements.

Simon Fraser University “The Challenge” Golf Award
Program code: UPAA-010
Value: $2,000
Awarded: Fall and Spring
Terms of reference: recipient must be a full-time student in good standing and a member of Simon Fraser University’s Men’s Varsity Golf Team. He must be a graduate of Canadian junior golf and maintain throughout his four years of eligibility a level of play comparable with that of the top six team members. If a recipient forfeits Year 2-4 portion of the award, the remaining portion may be awarded to another member of the Golf Team on the nomination of the Head Golf Coach. The award schedule will be as follows: Year 1 - $5,000, Year 2 - $4,000, Year 3 - $3,000, Year 4 - $2,000

Simon Fraser University Track and Field Alumni Scholarship
Program code: UEAA-042
Value: $500
Awarded: Fall
Terms of reference: a student who is a member of the Simon Fraser University track and field team and who meets the academic requirements.

Simon Fraser University Women’s Soccer Endowment Fund
Program code: UEAA-064
Value: $150
Awarded: Fall
Terms of reference: based on outstanding athletic merit, to a student playing women’s soccer at the University. The award will be granted to a full-time student in satisfactory academic standing.

Softball Associations Presidents’ Award in Women’s Softball
Program code: UEAA-081
Value: $100
Awarded: Fall
Terms of reference: full- or part-time student in good standing who is attending Simon Fraser University and who is a member of the SFU Women’s Intercollegiate Softball Team. The recipient must also have been a member of one of the sponsoring associations for at least 2 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-053
Value: $1,500
Awarded: Fall
Terms of reference: students who are members of the Simon Fraser wrestling team and who meet the academic requirements.

Bob Spray Rugby Endowment
Program code: UEAA-025
Value: $500
Awarded: Spring
Terms of reference: rugby players enrolled at Simon Fraser University. This award is offered in recognition of significant contributions to the Simon Fraser University rugby team, or in recognition of excellence in 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.

Stranco Systems Limited Swimming Scholarship
Program code: UEAA-041
Value: $500
Awarded: Fall
Terms of reference: a student who is a member of the varsity Simon Fraser University Swim team. The award is based upon academic merit and exceptional ability in swimming.

Annis Stukus Football Scholarship
Program code: UEAA-040
Value: $500
Awarded: Fall
Terms of reference: a student who is a member of the Simon Fraser University football team and who meets the academic requirements.

Lynn and Florence Sully Women’s Basketball Award
Program code: UEAA-043
Value: $600
Awarded: Fall
Terms of reference: based on academic and athletic merit, the award will be awarded to a student who is a member of the SFU Women’s Basketball team

Florence and Lynn Sully Basketball Scholarship
Program code: UEAA-021
Value: $500
Awarded: Fall
Terms of reference: athletes who exhibit exceptional ability in basketball and meet the University academic requirements.

Lynn K. Sully Athletic Award
Program code: UEAA-010
Value: $200
Awarded: Fall
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.

Brit Townsend Women’s Track and Field Award
Program code: UEAA-083
Value: $200
Awarded: Fall
Terms of reference: a full-time student in good academic standing and based on outstanding athletic merit in track and field (preferably distance running)

Barbara J. Towriiss Women’s Basketball Award
Program code: UEAA-039
Value: $1,200
Awarded: Fall
Terms of reference: a woman student who is a member of the Simon Fraser University women’s basketball team and who has a good academic performance.

Jay Triano Basketball Award
Program code: UEAA-057
Value: $300
Awarded: Fall
Terms of reference: a full or part time student in good standing. The award is based on athletic merit in basketball to a student who is on the Simon Fraser University basketball team.

University Publishers
Program code: UEAO-125
Value: $300
Awarded: Fall
Terms of reference: an athlete involved in the golf program who meets the academic requirements.

Valley Royals Award in Track and Field
Program code: UEAA-014
Value: $2,000
Awarded: Fall
Terms of reference: to an SFU student who exhibits outstanding athletic merit on the SFU Track and Field team and who maintains a satisfactory academic standing. $2,000 in total will be awarded annually in two installments. Preference will be given to students who are members of the Valley Royals Track and Field Club. If a suitable candidate from the Valley Royals Club is not found in a given year, the Award may be granted to a student on the SFU Track and Field team who is from the Fraser Valley region (Zone 3) that includes Maple Ridge, Langley, Abbotsford, Mission, Agassiz, Coquitlam, Port Coquitlam and Hope. If neither a Valley Royals Club member nor a student from Zone 3 is available, the Award may be granted to a Track and Field team member from British Columbia or from Canada. The recipient may be granted the Valley Royals Award more than one time provided all criteria noted above are met.

Vancouver Golf Club/MCL Motors Golf Tournament Award in Golf
Program code: UEAA-006
Value: $100
Awarded: Fall
Terms of reference: granted to a full-time student in good standing who is on the Golf team at Simon Fraser University.

Vancouver Ski Club
Program code: UEAA-011
Value: $500
Awarded: Spring
Terms of reference: Students should apply through Financial Assistance and should seek a nomination through the Director of Athletics.

Water Polo Award
Program code: UEAA-082
Value: $250
Awarded: Fall
Terms of reference: a full-time male student in good academic standing and based on outstanding athletic merit in the Water Polo Club.

White Rock Renegades Women’s Softball Awards
Program code: UEAA-045
Value: $500
Awarded: Fall
Terms of reference: a member of the Simon Fraser University Women’s intercollegiate softball team and must be a student at Simon Fraser University. The recipient must have been a member of the Renegade softball organization (South Surrey White Rock) for at least two complete seasons. The award will be made by the Senate Undergraduate Awards Adjudication Committee on Scholarships, Awards and Bursaries on the recommendation of the Women’s Softball coach and the Director of Athletics.

University administered loans
Student Emergency Loan Fund
Regulations
The following regulations govern all loans for continuing students over which the University has jurisdiction.

• Short term emergency funds are available to students who urgently need money while awaiting other sources of funding.

• Emergency loans are interest free for a period of 60 days.

• Students must have a demonstrated financial need and source of repayment.

• Normally, undergraduate students must be registered in a minimum of 9 semester hours of graded courses in the semester of application. Challenge, audit, and credit free courses will not be considered.

• 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. It is the responsibility of the student to make application and enquiry through the appropriate agency as indicated in the Calendar entry.

External entrance scholarships for all students

Awards Administered by the University of British Columbia Tenable at Other Institutions

The University administers a number of awards which are tenable at other institutions in British Columbia. Students should consult the award descriptions for details of the awards, including the eligible institutions in each case. Please note that the application must be made to the University of British Columbia, Student Awards Office or local post secondary institution.

- B'nai Brith Women Centennial Chapter 1022 Scholarships
- British Columbia Forest Products Limited Bursaries
- British Columbia Forest Products Limited Entrance Scholarships
- CIP Forest Products Incorporated, Tahsis Pacific Region Scholarship
- Dairy Industry Credit Union Scholarship
- William L Hurford Memorial Scholarship
- International Longshoremen's and Warehousemen's Union Entrance Scholarships
- Earl Kinney Memorial Scholarship
- Thomas P Mayes Memorial Scholarship
- Piping Industry Journeyman Training and Industry Promotion Fund
- Real Estate Board of Greater Vancouver Entrance Scholarships
- Retail Clerks Union, Local 1518, Scholarships
- Retail Wholesale Union Local 517 Bursary
- Retail Wholesale Union Local 580 Bursaries
- Telecommunications Workers Union Scholarships
- Telecommunications Workers Union, Thomas Ward Stanley Memorial Scholarship
- United Association of Plumbers & Steamfitters, Local 170 Scholarships
- Vancouver Sun Scholarship for Sun Carriers
- Vancouver Sun Special Scholarship for Sun Carriers
- Vancouver Sun Regional College Entrance Scholarship for Sun Carriers
- Van-Tel Credit Union-Les King Memorial Bursary
- Van-Tel Credit Union-Lee Morris Memorial Bursary
- Anne Wesbrook Scholarship
- White Spot Limited Bursaries

Association of Universities and Colleges of Canada Awards

Deadline: June 1st

Terms of reference: The Association of Universities and Colleges of Canada (AUCC) administers a number of entrance awards. Students may apply for many of the awards by virtue of their parents' employment with the relevant donor companies. All awards are tenable for any recognized full-time degree course at any AUCC university or college. Candidates must be prepared to enter university in the year of competition. The closing date for receipt of completed applications is June 1st. Candidates must have an average of at least 70% in each of the last two years of secondary school and must send these results to the AUCC as soon as they are available.

Contact: Candidates for the AUCC awards should write directly to the Supervisor, Candidate Assessment International Relations and Scholarship Administration, AUCC, 800-350 Albert Street, Ottawa, Ontario K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745

British Columbia Forest Products Limited Scholarships

Deadline: May 15

Terms of reference: Six one-year scholarships of $1,200 each are available each year to the qualified legal dependants of employees. These scholarships are open to students proceeding in the Fall of Grade 12 to a full course of studies at the University of British Columbia, Simon Fraser University or University of Victoria for the first time and for dependants of Alberta employees at these universities or an approved university in Alberta. Scholarships will be awarded to the six candidates with the highest records of scholastic achievement in their final two years of high school. No award will be made, however, to an applicant with an overall average less than 70%. Applicants for these scholarships must complete the application for Scholarships and Bursaries form, which may be obtained from the University Awards Office, University of British Columbia or any other post secondary institution. This application must be received by the institution not later than May 15 and must contain the necessary details of family service with the company. A transcript of high school marks must be submitted with the application.

Contact: Applicants for these scholarships must complete the application for Scholarships and Bursaries form, which may be obtained from the University Awards Office, University of British Columbia or any other post secondary institution.

Canada Trust Scholarships for Outstanding Community Leadership

Deadline: November 6

Terms of reference: The Canada Trust Scholarships for Outstanding Community Leadership, established by Canada Trust in 1995, honour young Canadians who have demonstrated outstanding and consistent caring for the improvement of the community around them. The student will have identified a significant need in the community (for instance, among fellow young people, the elderly, the sick, the disadvantaged, or regarding the environment, the arts, or any other special area) and shown outstanding initiative in taking effective steps toward addressing it. Each Canada Trust Scholarship consists of:

- full tuition for up to four years of undergraduate study at any accredited college or university in Canada;
- $3,500 a year toward living expenses for up to four years while attending college or university; and
- guaranteed offer of summer employment at Canada Trust during the years of the scholarship

The scholarships are open to:

- students across Canada who are in their final year of high school (outside of Quebec) or final year of CEGEP (in Quebec);
- students who have demonstrated outstanding community leadership (either in their school community, the community at large, or both); and
- students who have the academic skills to successfully enter and complete college or university.

The personal circumstances of applicants will also be considered, as it is recognized that doing good for others when one's own particular circumstances are challenging is evidence of particularly outstanding commitment.

Contact: Application forms are available at Canada Trust branches and at high schools and CEGEPs across Canada or contact: Canada Trust Scholarship Program, 161 Bay Street, 33rd Floor, Toronto, Ont. M5J 2T2; Tel: 1-800-308-8006; Fax: (416)361-4641

Canadian Merit Scholarship Foundation

Deadline: unknown

Terms of reference: The Canadian Merit Scholarship Foundation (CMSF) annually awards three types of scholarships to students entering university from secondary school who have demonstrated academic excellence and the qualities of character, leadership and service to their school and the community. The CMSF National Award includes a cash grant of $3,250 per year (for a maximum of four years) from the Foundation and full tuition from one of the participating universities. The CMSF-Jostens Regional Award is a non-renewable grant of $1,000 offered to a student attending one of the participating universities. The CMSF-Jostens Provincial Award is a non-renewable grant of $500 offered to a student attending any university in Canada.

Contact: Applications forms are available through secondary schools in all provinces and CEGEPs in Quebec.

Dairy Industry Credit Union Scholarship

Deadline: May 15

Terms of reference: A scholarship of $500 is offered annually by the Dairy Industry Credit Union to a student who is proceeding to the University of British Columbia or Simon Fraser University from Grade 12 in a full program of studies leading to a degree in any field. An applicant must be the son, daughter, grandson or granddaughter of an active member of the Dairy Industry Credit Union. The Dairy Industry Credit Union Scholarship will be awarded to the candidate who, in the opinion of the University, in consultation with the Credit Union, is best qualified in terms of academic merit and financial need. An additional award of $500 is available for attendance at the British Columbia Institute of Technology or a BC Regional College.

Contact: Apply to Awards Office, University of British Columbia, or any other college of post secondary institution.

Terry Fox Humanitarian Award

Deadline: February 1st

Terms of reference: In keeping with the spirit of his achievements, the Terry Fox Humanitarian Award Program is intended to encourage Canadian youth to seek the high ideals represented by Terry Fox by the granting of commemorative scholarships for the pursuit of higher education. The Terry Fox Scholarship is a renewable award, subject to satisfactory progress, and is tenable at any Canadian university of college. The value of the award is $4,000 annually, for a maximum of four years or until a first degree is obtained. For candidates attending an educational institution in provinces where no tuition fee is applicable, the award value is $2,500. The awards will be of particular interest to graduating secondary level students and those currently studying towards a first degree of diploma in a Canadian university or college. Scholarship candidates must be Canadian citizens or have landed immigrant status. They must not exceed 25 years of age. The field of study is open and at the discretion of the successful candidate.
Demonstration of the highest ideals and qualities of citizenship will be criteria for selection of recipients. Further relevant qualities are courage in overcoming obstacles, involvement in humanitarian service and participation in academic, sports and community service. Applications will be considered either directly or through academic institutions. Recommendations for scholarship assistance made by institutions will be an important factor in the final selection process. Successful Terry Fox scholars are expected to participate in Program activities such as volunteer service, recipients yearly meeting and annual reports.

Contact: Applications and further information: Terry Fox Humanitarian Award Program, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A 1S6, Fax: (604)291-3311

Dr. L. M. Greene Scholarship
Deadline: May
Terms of reference: A scholarship in the amount of $500 and is awarded annually to a former Prince Rupert Senior Secondary School student who is interested in pursuing a vocation in any of the health care fields. Applications will normally be considered in May or June.

Contact: Apply to Prince Rupert Regional Hospital, 1905 Summit Avenue, Prince Rupert, BC V8J 2A8.

William L. Hurford Memorial Scholarship
Deadline: before May 15
Terms of reference: A scholarship of $1,000, offered in memory of William L. Hurford by the BC Maritime Employers Association, is open to sons and daughters of members, in good standing, of the International Longshoremen and Warehousemen’s Union. The scholarship will normally be awarded to a candidate who is proceeding in the Fall to a full first year program of studies at the University of British Columbia, the University of Victoria, Simon Fraser University, the BC Institute of Technology, or a regional college in British Columbia.

Contact: Apply at University of British Columbia, Student Awards Office, or any other college or post secondary institution.

Imperial Oil Higher Education Awards
Deadline: unknown
Terms of reference: The Higher Education Awards program provides full tuition and compulsory fees for sons and daughters of Imperial Oil Limited employees, cadets, or deceased employees. The applicant must begin their education within six years of starting secondary school (grade nine) and must have an average of 70% or more in the subjects required for admission by the institution. Once an award is granted, the student must pass all subjects and complete a full workload each year.

Contact: For further information, please contact: Administrative Management Services, Awards Division, P.O. Box 414 Pickering Ontario, L1V 2R6. Phone (416) 420-0642.

International Longshoremen’s and Warehousemen’s Union Entrance Scholarships
Deadline: before May 15
Terms of reference: Five scholarships of $500 each are awarded to members, and sons and daughters of members, in good standing, of the International Longshoremen’s and Warehousemen’s Union. They will normally be awarded to the candidates who are proceeding in the Fall to a full first year program of studies at the University of British Columbia, University of Victoria, Simon Fraser University, the BC Institute of Technology, or a regional college in BC. The donors reserve the right to withhold awards if the academic standing of candidates is not sufficiently high, or to re-award the scholarships if winners receive other scholarships of substantial value.

Contact: Apply at University of British Columbia, Student Awards Office, before May 15th

Navy League of Canada University Entrance Scholarship Program
Deadline: on or before August 15th
Terms of reference: The Navy League of Canada annually awards scholarships to Royal Canadian Sea Cadets, former Cadets, Navy League Wrennetes or former Wrennetes, entering a university or college course of study leading to a degree. Each scholarship is valued at $400. These scholarships may not be granted where candidates enrol in the Canadian Forces on a basis whereby the Government provides free tuition or grants. The value of the scholarship is made payable to the university or college and is sent to successful candidates between September 1st and 15th.

Requirements are:

- Personal letter of application from candidate indicating field of interest and location of the university or college to be attended and the course of study to be taken.
- Original certificate, or certified copy thereof, as issued by the responsible educational authorities which records examination results, by subjects, upon which admission to university or college is based. (Certificate will be returned.)
- Letter from Commanding Officer of Corps attended by candidate including proof that candidate was a Royal Canadian Sea Cadet, or Navy League Wrenette, in good standing for at least 12 months, name and location of Corps, and recommendations.
- Recommendation of Branch President responsible for Corps. - Recommendation of Division President responsible for Corps.

Contact: Applications to be submitted through the Navy League Branch responsible for the Corps of which the candidate was a member, to the responsible Division, to the National Office, Navy League of Canada. Applications and all supporting documents must be received at the National Office on or before August 15th. Adjudication will be complete and all candidates advised during the first week in September.

Piping Industry Journeyman Training and Industry Promotion Fund
Deadline: before May 15th
Terms of reference: Two scholarships of $500 each, provided by the trustee board of the Journeyman Training and General Industry Promotion Fund, are offered annually to students entering the first year at the University of British Columbia or Simon Fraser University, and proceeding to a full program of studies leading to a degree in any field. To be eligible, a candidate must be (a) the son, daughter or legal dependent of a member of the United Association of Plumbers and Steam- fitters, Local 170, who is employed by a firm which is a contributor to the Fund and which employs members of the United Association of Plumbers and Steamfitters, Local 170, or (b) the son, daughter or legal dependent of an employer who is a contributor to the Fund.

Contact: Apply at Student Awards Office, University of British Columbia, local college or post secondary institution.

Real Estate Board of Greater Vancouver Entrance Scholarships
Deadline: before May 15th
Terms of reference: Five scholarships of $750 each are offered in competition by the Real Estate Board of Greater Vancouver for students entering full time studies in the Fall in a course of at least two years duration leading to a recognized degree, diploma, or certificate at the University of British Columbia, Simon Fraser University, Vancouver Community College, Douglas College, Capilano College, or the BC Institute of Technology. The parent or legal guardian of the applicant must be an Active Member, or a Member of the Salesmen’s Division of the Board, and have been such for a period of not less than two years at the time the application is made. Candidates with an overall average of less than 75% will not be considered. The successful applicants will be selected primarily on the basis of academic standing.

Contact: Apply at University of British Columbia, Student Awards Office, local college or post secondary institution.

Retail Clerks Union, Local 1518, Scholarships
Deadline: before May 15th
Terms of reference: Retail Clerks Union, Local 1518, offers five scholarships of $800 each to students beginning or continuing studies in a full academic program of studies at the University of British Columbia, University of Victoria, Simon Fraser University, BC Institute of Technology, or at a Regional College in British Columbia. Normally, the awards will be made to the applicants with the highest standing in the final examinations. Students entering from Grade 12 must write a full set of examinations conducted by the Department of Education. To be eligible, a candidate must be a member, or the son, daughter, or legal ward of a member of the Union in good standing. Those who wish to be considered must give full details of their own or their parent’s membership in the Union. Three awards are available for students entering university, and two for a student continuing their university studies.

Contact: Apply through the Student Awards Office, University of British Columbia, local college or post secondary institution.

Retail, Wholesale Union, Local 517, Scholarship
Deadline: before May 15th
Terms of reference: This scholarship of $250 is offered to dependants or legal wards of members of Local 517. It is open in competition to applicants who are proceeding from Grade 12 to any accredited university or college in BC, in a full program leading to a degree or diploma. To be eligible for consideration, an applicant must have a satisfactory academic standing (normally 75% or higher average). In the selection of the winner, the basic factor will be the academic standing of the applicant. Should there be a tie, the financial need of the applicant and his/her family shall be the deciding factor. The winner will be selected in consultation with the Union.

Contact: Apply through the University of British Columbia Student Awards Office, local college or post secondary institution.

Telecommunications Workers Union Scholarships
Deadline: before May 15th
Terms of reference: Three scholarships in the amount of $750 each are made available by the Telecommunications Workers Union, for sons and daughters of members, with at least 12 months continuous service (or of deceased members) with the same service. They are open in competition to students proceeding in the Fall from Grade 12 to a full program of study at the University of British Columbia, the University of Victoria, Simon Fraser University or the BC Institute of Technology. To be eligible for consideration, a candidate must have an overall average of at least 75%. Candidates will be considered either on the basis of their high school transcript, or on the basis of the January or June government examinations conducted by the BC Ministry of Education. The winners will be selected by the University of British Columbia in consultation with the Union, from those who so qualify. In the final selection, a major factor will be the financial circumstances of applicants and their families. Applications must contain details of family service with the Union and other information.

Contact: Apply at University of British Columbia Student Awards Office, local college or post secondary institution.

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Telecommunications Workers Union Scholarship
Deadline: before May 15th
Terms of reference: Thomas Ward Stanley Memorial Scholarship - The Telecommunications Workers Union offers scholarships of $1,000 to sons and daughters of members (with at least 12 months continuous service) or of deceased members (with the same length of service). It is open in competition to students proceeding in the Fall from Grade 12 of secondary school to a full program of studies at the University of British Columbia, University of Victoria, Simon Fraser University, BC Institute of Technology, or any accredited regional college in BC. To be eligible for consideration a candidate must have an overall average of at least 75% in the subjects of the grade in which he or she is registered. Candidates will be considered on the basis of either standing received by high school graduation or in the January or June scholarship examinations conducted by the Ministry of Education. The winner will be selected by the University of British Columbia in consultation with the union, from those who so qualify. In the final selection, a major factor will be the financial circumstances of applicants and their families. Appointments must contain details of family service with the Union and other pertinent information. The successful applicant will not be eligible for any other Telecommunications Workers Union Scholarships.

Contact: Apply at Student Awards Office, University of British Columbia, local college or post secondary institution.

Vancouver Sun Special Scholarship for Carriers
Deadline: before May 15th
Terms of reference: The Vancouver Sun offers annually a scholarship of $500 to a student proceeding in the Fall from Grade 12 to the first year at the University of British Columbia, the University of Victoria, or Simon Fraser University, in a full program leading to a degree in any field. To be eligible, an applicant must have been a carrier for The Vancouver Sun for at least two years, and must have obtained an overall average of at least 75% based on the final secondary school transcript. The scholarship will be awarded to the eligible applicant who, in the opinion of the Selection Committee, is the most outstanding in combining high scholastic attainment with achievement in one or more areas such as: service to the school and community; writing, drama, fine arts; debating and public speaking; sports. A winner who, in successive years of his undergraduate studies, obtains and maintains a 75% standing overall will be eligible for renewals of $500 a year until graduation, not exceeding a total of five payments in all. Holders of this scholarship will not be precluded from enjoying the proceeds of other awards, however, a student may not simultaneously hold this scholarship and the Vancouver Sun Special Scholarship for Carriers.

Contact: Apply by letter to the Student Awards Office, University of British Columbia, Vancouver, BC, or a local college or post secondary institution. The letter of application must be accompanied by the service certificate of The Vancouver Sun.

Externally administered scholarships for continuing students
For scholarships in this section students must apply through the appropriate agency as indicated.

External scholarships for all students
Jim Allard Broadcast Journalism Scholarship
Deadline: June 30th
Terms of reference: Aspiring broadcasters enrolled in a broadcast journalism course at a Canadian college or university are eligible to apply for this $2,500 scholarship. To qualify, simply explain on a separate paper why you’re interested in broadcast journalism, what your career goal is, and how this scholarship can help you attain that goal. Complete the application and attach it to your 500 word outline, and submit it to the course director of your educational institution. Each college/university is limited to three entries. In seeking the student who “best combines academic achievement with natural talent”, the judging committee also will look for evidence of: strong 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: The Canadian Association of Broadcasters, P.O. Box 627, Station “B”, Ottawa, ON K1P 5S2.

ARC Arts Council Individual Grants program
Deadline: May 31st
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). The Individual Grants Program is designed to support further education in the fine and performing arts by providing financial assistance to selected recipients. The grants are intended to assist with the cost of tuition and related educational expenses and may not be used for capital costs or equipment or production costs. Applicants must reside in School District #43 and be registered in, or plan to register for formal study in the fine or performing arts at a recognized educational institution or in a recognized program of study in 98/99. Applications must be completed in full, with two letters of reference attached. Contact: ARC Arts Council Awards & Scholarship Committee, 2425 St. John’s Street, Port Moody, BC V3H 2B2. Tel: (604) 931-8255.

Dr. Aimee August Scholarship
Deadline: November 30th
Terms of reference: The Dr. Aimee August Scholarship is awarded annually to a SCES/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 (3 courses or more). The award is restricted to students who have successfully completed a minimum of 24 credit hours in the SCES/SFU program. Candidates will be evaluated according to the following criteria: 1) Applicants must have a cumulative GPA of 3.0 or more. Students must further manifest the qualities of hard work, dedication and commitment to their studies. 2) Applicants must show a strong commitment to their studies. The Committee will weigh such factors as parental and marital status, part-time employment and Band assistance. 3) Applicants must demonstrate sensitivity to the unique cultural and linguistic traditions of Native people. The Committee will consider such criteria as evidence of 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 1st
Terms of reference: The Austrian Embassy has provided a scholarship for study at a fine arts institution in Austria. 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 of age. The award at the beginning of the academic year (1 October) is decisive. Applicants must successfully complete a minimum of four semesters at a university or at an institution of higher education in the field of fine arts, and have good qualifications attested to by diplomas and references. All applicants for a scholarship to an Austrian university or art institute must present an attestation equivalent to the Austrian school-leaving certificate or similar certificate of education, appropriately translated into German and authenticated. The applicant must take into account that his/her application will be processed according to the terms of the Austrian Access to Information Law. To register, applicants must have good working knowledge of German. A language certificate attesting to the student’s knowledge of German is an absolute prerequisite. Scholarships can only be granted after the candidate is accepted by the designated institution of higher learning. If possible a written commitment of an Austrian university teacher to look after the student or a necessary approval for carrying out a certain project. Applications for scholarships for studies in Applied Arts, Music and Architecture must submit special works.

Contact: Austrian Embassy, 445 Wilbrod Street, Ottawa, ON K1N 6M7. Tel: (613) 789-1444.

BC Hydro Native Scholarship
Deadline: November 1
Terms of reference: The applicant must be at least a second year student and demonstrate relevancy of discipline to B.C. Hydro careers. Applications must include a transcript, reference letter, letter stating financial need and academic goals, and completed application form. Five scholarships are available all in the amount of $1,000 each.

Contact: Aboriginal Scholarship Program, B.C. Hydro, People Resources, 10th Floor, 333 Dunsmuir Street, Vancouver, B.C. V6B 5R3, (604) 528-1857

B’Nai B’rith Women Centennial Chapter 1022 Scholarships
Deadline: May 15th
Terms of reference: A scholarship of $250 is offered annually to members of the Hillel or sons and daughters of B’nai B’rith members. It is open to competition to students who have successfully completed at least one year at Simon Fraser University, the University of British Columbia or Vancouver Community College (Langara) by June 30th and are continuing studies at any of the three institutions. To be eligible for consideration a candidate must have an academic average of at least 75% with clear standing in each subject. The
application must be accompanied by a transcript of all post-secondary studies completed.

Contact: Apply at your local college or university.

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, outpatient nursing or midwifery, graduate nurses already serving in isolated communities who are accepted into one of the above mentioned programs; those who are currently 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, 3rd Floor, Ottawa, ON K1N 5M3 Tel: (613) 241-1864, Fax:(613) 241-1542

The BBM Scholarship (Bureau of Broadcast Measurement)

Deadline: June 30th

Terms of reference: The BBM has created a scholarship, valued at $2,500, for students wishing to study Communications. Applicants must be enrolled in a graduate studies program, or be in the final year of 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 audience research. The applicant may also submit a copy of any course project or paper on research he/she has previously completed. The applicant should attach to his/her application three (3) references/recommendations from appropriate sources. One (1) should be from his/her course director or advisor.

Contact: The Canadian Association of Broadcasters, P.O. Box 627, Station "B", Ottawa, ON K1P 5S2.

BC Hydro Scholarships

Deadline: November 1st

Terms of reference: BC Hydro is offering $1,000 scholarships to Environmental/Resource Science and Commerce students. As well, a $1,000 Power Smart scholarship is available for a student in any faculty who has completed an energy conservation project/paper. BC Hydro's Scholarship Committee will select candidates who have/are:

• completed second year in good academic standing
• a balanced lifestyle
• good written communication skills
• innovative
• committed to the protection of the environment and efficient and safe use of electricity.

Contact: Application forms may be obtained from the applicable department. Send the completed form, transcript and reference letter to BC Hydro by November 1st.

BC Paraplegic Foundation Scholarships/ Bursaries

Deadline: July 15th

Terms of reference: Each year the BC Paraplegic Foundation gives out a number of scholarships and bursaries to needy students with disabilities attending post secondary institutes in British Columbia. The awards are available to members of the BC Paraplegic Association who have a physical disability and will be awarded on academic standing, merit and the basis of financial need. Recipients must be residents of British Columbia, Canadian Citizens, or Landed Immigrants. The monies for individual awards vary from year to year, dependent upon interest from investments. Therefore, the values of the scholarships and bursaries are adjusted annually according to the availability of funds. Completion of an application form will ensure the applicant is considered for each scholarship or bursary they are eligible for.

Contact: Scholarship and Bursary Awards Committee, c/o BC Paraplegic Association, 780 S.W. Marine Drive, Vancouver, BC V6P 5Y7, Tel: (604) 324-3611

Calvery Estate Scholarship Fund

Deadline: before the second week of August and the second week of October.

Terms of reference: Scholarships in the amounts of $300 are to be awarded to non-status Aboriginal applicants who have lived in B.C. for the last six months and must be active members of the United Native Nations 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 UNN Local President, Chief, Council, Band Manager, school counsellor, teacher or principal), a personal profile, a letter stating career goals, personal trials/characteristics and involvement with UNN.

Contact: United Native Nations, 8th Floor, 736 Granville Street, Vancouver, BC V6Z 1G3, tel: (604) 688-1821, fax: (604) 688-1823

CanWest Global System Scholarship-Internship Award for a Canadian with a Physical Disability

Deadline: May 31st

Terms of reference: This annual Scholarship-Internship Award is offered to a Canadian student with a mobility impairment, and provides educational assistance as well as a challenging opportunity to work in private television, in pursuit of a career in broadcasting. The Award, valued at up to $15,000, covers all tuition fees and textbooks, for one full scholastic year of a radio and television arts program or journalism program at a recognized Canadian university or college, commencing in the Fall. The Award also includes a three of four month Internship at the Global Television Network, in Don Mills (Toronto), for the summer, and moving expenses associated with the Internship.

Eligibility criteria:

• Canadian citizen with a mobility impairment.
• secondary school graduate with a grade average suitable for admission to a radio and television arts or journalism program at a recognized Canadian university or college; or a mature student eligible for admission to a radio and television arts or journalism program at a recognized Canadian university or college.
• strong English language communications skills.

Application requirements:

• completed application form
• copy of secondary school transcript of marks, or date when transcript will be sent directly to the CanWest Global System.
• one-page written statement, 500 words or less, outlining Applicant’s educational and career goals, interest in broadcasting, and reasons for applying for the Scholarship-Internship Award.
• 3 letters of reference (e.g. teacher, employer). Contact: CanWest Global System, Broadcasters of the Future Awards, 81 Barber Greene Road, Don Mills, ON M3C 2A2

Canada 200 Scholarship

Deadline: unknown

Terms of reference: Scholarships of $200 are available to support Canadians who contribute through their actions to Canada’s betterment. This is a competition open to full-time Canadian university and college students. Applicants must: be Canadian citizens or permanent residents; demonstrate good academic standing; provide two letters of reference and submit a one page report on their contribution to Canada (e.g. local, provincial and/or national level).

Contact: Canada 200 Scholarship, c/o Dr. Alexander Katsabouris, Scholarship Coordinator, 36 Yorkminster Road, Unit #1, Willowdale, ON M2P 2A4

Canadian Cambridge Scholarships

Deadline: October 11th

Terms of reference: The objective of the Canadian Cambridge Scholarships is to provide a unique opportunity for outstanding Canadian undergraduate students to attend Cambridge University with the hope that they will return and contribute 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, reasonable living expenses and return travel from Canada to Cambridge once a year.

Contact: For application forms and further information: Canadian Cambridge Scholarships Secretariat, 13 Hazelton Avenue, Toronto, ON M5R 2E1, Tel: (416)964-2569, Tel: Ontario (800)387-5603, Tel: Canada (800) 387-1387, Fax: (416) 964-3416

Canadian Printing Industries Scholarship Trust Fund

Deadline: unknown

Terms of reference: The amount of each scholarship is $1000 per year, this represents the approximate cost of tuition for an approved program. These courses have titles such as graphic arts management, printing technology, graphic
students who may not have the minimum academic requirements for law school. Francophone 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, tuition fee, medical insurance for the period of the scholarship. 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 post-graduate 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, B.A., B.Sc., or PhD or have obtained one of the preceding by June 30, and must be 35 years of age or younger. The scholarship consists of a monthly allowance of 1,200.00 lire, plus Italian medical insurance for the period of the scholarship. Candidates are also entitled to pre-paid airfare but airfare will not be paid cash or will be refused if 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; and
- 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: Italian Cultural Institute in Vancouver (604) 698-0809 or Italian Consulate in Vancouver (604) 684-7288

Orville Erickson Memorial Scholarship Fund Deadline: Last working day before May 25 or November 25

Terms of reference: The purpose of the Fund is to provide financial assistance to students pursuing higher education in the fields of architecture and conservation. Eligible applicants must be competent, full-time students registered in a recognized Canadian educational institute and be citizens of 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. All scholarships cover a regular academic year. Each scholarship is divided into two equal units. One unit is issued in September; the other, in January. Applications may be made for a summer or other sessions. Amount of award up to $3,000.

Contact: Applications for a scholarship must be made on an OMSF form. Please forward your request for an application to: Orville Erickson Memorial Scholarship c/o Secretary Canadian Wildlife Foundation, 2740 Queen's View Drive, Ottawa, Ontario K2B 1A2

Terry Fox Humanitarian Award Deadline: February 1st

Terms of reference: In keeping with the spirit of his achievements, the Terry Fox Humanitarian Award Program is intended to encourage Canadian youth to seek the high ideals represented by Terry Fox by the granting of commemorative scholarships for the pursuit of higher education. The Terry Fox Scholarship is a renewable award, subject to satisfactory progress, and is tenable at any Canadian university or college in an undergraduate or graduate degree program, at the discretion of the successful candidate. The deadline is April 30. Demonstration of the highest ideals and qualities of citizenship will be criteria for selection of recipients. Further relevant qualities are courage in overcoming obstacles, involvement in humanitarian service and participation in sport, fitness and community service. Applications will be considered either directly or through academic institutions. Requirements for scholarship assistance made by institutions will be an important factor in the final selection process. Successful Terry Fox scholars are expected to participate in Program activities such as volunteer service, recipients yearly meeting and annual reports.

Contact: Applications and further information: Terry Fox Humanitarian Award Program, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A 1S6, Fax: (604) 291-3311

The Keith Gilmore Foundation Deadline: July 1

Terms of reference: The Foundation was established to provide scholarships to worthy applicants taking secondary education in the fields of agriculture and journalism and for those schools that offer it, agricultural journalism. There are 3 $1,500 scholarships for individuals in an undergraduate or post-graduate degree program in agriculture, journalism or communications at a recognized university. There are 3 $500 scholarships offered to individuals enrolled in a recognized diploma program in agriculture and/or journalism or related courses. The successful applicant will have already completed a minimum of one year in a diploma program.

Contact: The Keith Gilmore Foundation, 5160 Skyline Way N.E., Calgary, AB T2E 6V1, tel: 403-275-2662, fax: 403-295-1333

Jospeh Golland Memorial Scholarship Fund Deadline: May 5

Terms of reference: Scholarships of up to $1,000 will be awarded to applicants who are residents of and whose majority educational history has been in B.C. However, there are no restrictions as to their choice of province for advanced study. Applicants for this scholarship must be advanced students or professionals who have committed themselves to expanding their creative potential as performers, writers, directors, technicians, designers, camera crew, in the creative arts.
Contact: Joseph Golland Memorial Scholarship Fund, c/o L. Chwin, #106-15439-100th Avenue, Surrey, B.C. V3R 0K4, tel: 604-581-8800, fax: 604-581-8800

Canadian Labour Congress - A.A. Heaps Scholarships

Deadline: May 30

Terms of reference: The award is open to applicants undertaking full-time undergraduate or graduate studies at a Canadian university or college during the academic year 1997-98. Those eligible are Canadian citizens or landed immigrants of any age who, through their work or involvement in the community, have demonstrated maturity and a commitment to the social ideals which characterized the life of A.A. Heaps. The student must submit a typed essay of 500-1,000 words outlining his/her education, employment history, background in community work and commitment to social ideals. Essay should also show a knowledge regarding the contribution which A.A. Heaps made in the field of social reform. The applicant’s financial circumstances should also be indicated since the award will take into account financial need.

Contact: A.A. Heaps Scholarship Committee, Canadian Labour Congress, 2841 Riverside Drive, Ottawa, ON K1V 8X7, fax: 613-521-4655.

Home Oil Aboriginal Scholarship Program

Deadline: August 31st

Terms of reference: These awards, valued at $1,500-$2,000, are given to First Nations students (status, non-status, Inuit and Metis) who have lived in B.C., Alberta, Saskatchewan, Manitoba, Yukon or the Northwest Territories for a minimum of 12 months prior to application. Applicants must show proof of acceptance to one of the eligible post-secondary institutions, pursue studies relevant to the petroleum industry, maintain a full course load and be in need of financial assistance. Applications should also include a completed application form, a copy of registration and transcripts.

Contact: Human Resources Department, Home Oil Company Ltd., 1600 Home Oil Tower, 324 - 8th Avenue S.W., Calgary, Alberta T2P 2Z5, Tel: (403) 222-7100.

Imasco Scholarship for Disabled Students

Deadline: June 1st

Terms of reference: Valued at $2,000 annually, this scholarship has been created to encourage Canadian disabled students to pursue university studies with the ultimate objective of obtaining a first university degree. The criteria are as follows: for an undergraduate program in any field of study; candidates must meet the following definition: “A disability is a functional limitation resulting from a physical, sensory, or mental impairment, which, for an indefinite period, affects the ability of the student to perform the activities necessary to participate fully in post-secondary learning”; must be Canadian citizens or permanent residents; must be entering or currently enrolled in a first undergraduate degree program in a Canadian post-secondary institution; holders of an undergraduate degree are not eligible for the scholarship. The award is for one academic year which may be renewed upon application. The holder of an Imasco Scholarship is eligible to apply in subsequent years provided he/she submits a new application and all pertaining documents. The applicant, in a final year of study and required to attend only one academic term before graduation, is eligible to apply for a $1,000 scholarship provided all other criteria are met. Note: Students who re-apply for further awards will be considered in competition with all other applicants. A student can receive the award for a total of four year maximum.

Contact: For further information and application forms: Canadian Awards Program, Association f Universities and Colleges of Canada (AUCC), 350 Albert Street, Suite 600, Ottawa, Ontario, K1R 1B1, Tel: (613)563-1236, Fax: (613)563-9745

Indian/Inuit Professional Health Careers Program

Deadline: unknown

Terms of reference: Scholarships are available for students of Indian/Inuit ancestry who wish to pursue education and job opportunities leading to professional health careers. There are four $1,000 awards for the province of B.C.

Note: You are not eligible for this funding if you get money from any other government source (including Indian and Northern Affairs Canada). You should have an average grade of at least 80% for the scholarship and have financial need for the bursary. You must be working toward a professional health career.

Contact: National Coordinator, Indian/Inuit Health Careers Program, Medical Services Branch, Health and Welfare Canada, 10th Floor, Room 1010, Jeanne-Mance Building, Tunny's Pasture, Ottawa, ON K1A 0L3 or Regional Advisor, Indian/Inuit Health Careers Program, Medical Careers Program, Medical Services Branch, Health and Welfare Canada, 540-757 West Hastings Street, Vancouver, BC V6C 3E6, tel: (604) 666-7983

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: Apply to: The Chairman, I.L.A. Scholarship Committee, #202-623 Victoria St., Kamloops, B.C. V2C 2B3, tel: 374-7373, fax: 374-0700

Earl Kinney Memorial Scholarship

Deadline: before May 15th

Terms of reference: This scholarship in the amount of $750 has been made available by the Graphic Communications International Union, Local 525, to students enrolled in a full academic program of studies related to print communication at the University of Victoria or Simon Fraser University at the second year level or higher. To be eligible, an applicant must be a member, or the son, daughter or legal ward of a member in good standing of the Union. Those who wish to be considered must give full details of their parents membership in the Union. The award will normally be made to the applicant with the highest standing as determined by the Awards Office, University of British Columbia or local college or post secondary institution.

Contact: Apply at the University of British Columbia.

Laidlaw Foundation Children at Risk, Aboriginal and Black Scholars Programs

Deadline: unknown

Terms of reference: The foundation will assist university students from First Nations and black communities who have demonstrated academic and leadership qualities in areas related to the Foundation’s Children at Risk Program. Eligible applicants are full-time students registered in a degree program at a Canadian university who are interested in the processes that contribute to the creation, maintenance and overcoming of conditions that diminish the life quality and life chances of children.

Undergraduate Awards: First Nations students enrolled in a third or fourth year undergraduate program at a Canadian university may apply for a limited number of awards of up to $2,000 each for research relating to the Children at Risk Program. To be eligible, undergraduate students must be nominated by faculty. First Nations students enrolled in an undergraduate program at a Canadian university leading to a professional degree in a field relevant to the Children at Risk Program may also apply for an award of up to $500. Eligible candidates must be nominated by community leaders, employers or faculty.

Transitional Year Programs: Promising First Nations students accepted into an undergraduate or graduate transitional year program at a Canadian university may apply for a Laidlaw scholarship of up to $500 if enrolled in a transitional year program leading to an undergraduate degree; up to $1,000 if enrolled in a transitional year program leading to a graduate degree. Consideration will be given to assisting promising scholars and practitioners nominated by faculty, community leaders, or employers. Applicants must indicate a course of study related to the Foundations’ Children at Risk Program.

Contact: Nathan Gilber, Executive Director, Laidlaw Foundation, 950 Yonge Street, Toronto, ON M4W 2J4, Tel: (416) 964-3614

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: For further information and application form please contact: Law Foundation of Newfoundland, Murray Premises, P.O. Box 5907 St. John’s, Newfoundland, A1C 5X4, tel: 754-4424, fax: 754-4320

Legal Studies for Aboriginal People Grants and Scholarships Program

Deadline: unknown

Terms of reference: check with contact

Contact: Program Administrator, Legal Studies for Aboriginal People Program, Department of Justice Canada, 222 Queen Street, 10th Floor, Ottawa, ON K1A 0H8

Lotus Light Charity Society Scholarship

Deadline: June 30

Terms of reference: Any student who is attending a college, university, or technical institution may be eligible to receive a $200 scholarship to assist in his/her studies. Preferences will be given to single parents with children under 11 years of age, or students who are working part-time. There are 10 awards to be given.

Contact: Lotus Light Charity Society, #200-357 East Hastings Street, Vancouver, B.C. V6A 1P3

Magna For Canada Scholarship Fund

Deadline: June 30

Terms of reference: The Scholarship Fund will provide annual awards beginning this year to ten Regional Winners from across the country, one of whom will be declared the National Winner. Applicants must be full-time students at an accredited Canadian college or university. An award of $5,000 will be awarded to each Regional Winner and an additional $5,000 to the National Winner. An award of $10,000 will be granted to the college or university of the National Winner. Please submit a maximum 2,500-word proposal on type-written, 81/2 x 11 paper, in either official language, responding to the question: “If you were the Prime Minister of Canada what would you do to improve living standards and unify the country?”. Also to be submitted is your full name, address and telephone number; college or university; area and year of study; extra-curricular activities; maximum 30-word description of why you wish to participate in this competition; an official transcript of your grades.

Contact: Magna For Canada Scholarship Fund, 36 Apple Creek Boulevard, Markham, ON L3R 4Y4
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 Maritime provinces, that will complement the successful candidate’s field of study. The applicant must be a resident of either N.S., N.B., or P.E.I.; currently attending a post-secondary education institution within Canada; completed at least 2 years of post-secondary education and currently enrolled in a program that has application to the dairy industry; applicant must show professional and academic promise and a commitment 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 completion of years in post-secondary education, and three reference letters must be available (at least one from a professor). Selection will be based on application requirements, academic standing, and potential contribution and commitment to the dairy industry.
Contact: The Maritime Dairy Industry Scholarship Committee, c/o Milk Marketing Inc., 1133 St. George Blvd., Suite 340, Moncton, New Brunswick, E1E 4E1

Robert Markle Scholarship
Deadline: November 30
Terms of reference: Award of $1,200 amount given to a First Nations student of a visual arts program at a post-secondary institution. Application must include a resume: background and heritage; selection of colour slides and/or black and white photographs or a small portfolio of recent work; letter of recommendation from instructor. All entries will be returned to the sender.
Contact: Robert Markle Fund, c/o Woodland Cultural Centre, 184 Mohawk Street, P.O. Box 1506, Brantford, ON N3T 5V6

Mattinson Endowment Fund Scholarship for Disabled Students
Deadline: June 1st
Terms of reference: Value at $2,000 annually, 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 that govern the offering of the scholarship are as follows: for an undergraduate program in any field of study; candidates must meet the following definition: “A disability is a functional limitation resulting from a physical, sensory, or mental impairment, which, for an indefinite period, affects the ability of the student to perform the activities necessary to participate fully in post-secondary learning”; must be Canadian citizens or permanent residents; must be entering or currently enrolled in a first undergraduate degree program in a Canadian post-secondary institution; holders of an undergraduate degree are not eligible for the scholarship. The award is for one academic year which may be renewed upon application. The holder of an Imasco Scholarship is eligible to apply in subsequent years provided he/she submits a new application and accompanies it with a new personal statement. The applicant, in a final year of study and required to attend only one academic term before graduation, is eligible to apply for a $1,000 scholarship provided all other criteria are met. Note: Students who re-apply for further awards will be considered in competition with all other applicants. A student can receive the award for a total of four year maximum.
Contact: For further information and application forms: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert Street, Suite 600, Ottawa, Ontario, K1R 1B1, Tel: (613)563-1236, Fax: (613)563-9745

The William McCullum Memorial Scholarship
Deadline: May 1
Terms of reference: This scholarship is awarded annually to a graduate of Dawson College entering, or already studying Law. The scholarship is renewable in the amount of $500 per year, for a maximum of four years. It will be awarded to students who show high probability of both responsible citizenship and academic and professional success. The basis for selecting winners is scholarship, character, leadership, and community involvement.
Contact: Dawson College Awards Office, 3040 Sherbrooke St. West, Room 4A.1, Westmount, Quebec H3Z 1A4, tel: 514-931-8731, local 1348 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 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: Conditions, application forms and further information may be obtained by corresponding to: the McEuen Scholarship Foundation Inc., Suite 1000, 60 Queen Street, Ottawa, Ontario K1P 5Y7

Mensa Canada Scholarship
Deadline: February 28
Terms of reference: Mensa offers two awards that will be made on the basis of applicants’ essays. Your essay should describe the specific goals that the Scholarship will help you to achieve. State steps taken and future steps you have planned towards your goal, as precise as possible. Membership in Mensa is not required. The sole eligibility requirement is that the applicant be enrolled in a full-time program at an accredited post-secondary college in the academic year. Winners must provide proof of acceptance or enrollment, and may be required to provide two letters of reference. Maximum essay length is 500 words. Those not at or near the top of their fields need not apply. We are looking for excellence.
Contact: For further information please contact: Coordinator, Mensa Canada Scholarship Program, P.O. Box 1025, Station O, Toronto, ON, M4A 2V4

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 are for graduate students. The length of this scholarship is one and a half or two years.
Contact: For more information and application forms: The Consulate General of Japan, 900-1177 West Hastings St., Vancouver, B.C., V6E 2K9, tel: 684-5868, ext. 370, fax: 684-8939, email: japvangc@istar.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 Street, Ottawa, ON K1S 3W4, tel: 613-233-5563

National Access Awareness Week Student Awards Program
Deadline: March 15
Terms of reference: This scholarship is to encourage Canadian students with disabilities to pursue a university or college education which will ultimately prepare them to become active members of Canada’s labour force. The applicants can be enrolled at the undergraduate, graduate and diploma programs in any field of study. Each full-time scholarship is valued at $3,500 annually; part-time scholarships will be based on percentage of full-time course load.
Contact: Application forms may be obtained from the: Canadian Awards Program, Awards Division, Association of Universities and Colleges of Canada (AUCC), 350 Albert Street, Suite 600, Ottawa, Ontario, K1R 1B1, tel: 613-563-1236, fax: 613-563-9745

National Congress of Italian-Canadians, Pacific Regions
Deadline: May 1
Terms of reference: The NCIC Pacific Region offers up to five scholarships yearly of $1,000 each to students in the Italian-Canadian ethnic-cultural 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 a transcript of grades, letter of recommendation, one-page letter by candidate regarding career goals.
Contact: NCIC, c/o 1191 East 51st Avenue, Vancouver, B.C., V5X 4P7

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 Street, Ground Floor, Ottawa, ON K1N 9E5, tel: 613-993-5415, fax: 613-990-8701

Nuu-Chah-Nulth Post Secondary Scholarships
Deadline: August 31
Terms of reference: A scholarship in the amount of $500 is awarded to students of Nuu-chah-nulth ancestry who have completed a minimum of 8 months of post-secondary work and will be enrolled in full-time (4 courses and/or 12 credit hours) post-secondary studies. Send an application form, a transcript of last year’s grades, a letter of acceptance for the next school year and a minimum of one-page essay on the importance of post-secondary education for Nuu-chah-nulth.
Contact: Nuu-Chah-Nulth Tribal Council, Box 1383, Port Alberni, BC V9Y 7M2, tel: 604-724-5757, fax: 604-723-0463
The Pisapio Scholarships

Deadline: September 25

Terms of reference: Scholarships in the amount of $1,000 are available each year. The number and the value of each award may be changed from time to time at the discretion of the Trustees. Applicants must meet the following criteria:

a) applicant must be accepted for admission to a university.

b) applicant must be a full-time student working toward an undergraduate degree or graduate degree from the university.

c) the applicant must have completed a minimum first year of university studies.

d) the awards will be given: first to eligible applicants who are residents of the City of Nelson; second, to eligible applicants who are residents of an area within a 50 mile radius of City of Nelson; and third, to eligible applicants who live in the East or West Kootenay regions.

Contact: The Pisapio Scholarships Trust, 421 Baker St., Nelson, B.C., V1L 4H7

Professional Native Women’s Association Scholarship

Deadline: unknown

Terms of reference: Scholarships awarded twice a year – one for the Winter and one for the Spring term. The successful applicants must be of First Nations ancestry and be registered as a full-time student. Applications must include a transcript, a professional reference, a personal reference and proof of registration at a post-secondary institution with your application.

Contact: Professional Native Women’s Association, 1-245 East Broadway, Vancouver, B.C. V5T 1W4, tel: 604-873-1833, fax: 604-872-1845

Public Works Association of British Columbia Scholarship

Deadline: June 30

Terms of reference: This scholarship in the amount of $1,000 is open to any applicant planning full-time study at an educational institution in B.C. However, in an effort to encourage women in the public works field, preference is given to female candidates. Applicants will be in a Public Works field. Applications must be accompanied by a letter of Reference from a B.C.P.W.A. member. Preference will be given to applicants returning to an educational institution from the workforce or applicants who have completed at least one year of study in their proposed field.

Contact: Applications should be submitted to: Public Works Association of B.C., Scholarship Committee, 16705 Fraser Highway, Surrey, B.C. V3S 2X7

Gillis Purcell Memorial Journalism Scholarship for Native Canadians

Deadline: December 31

Terms of reference: The scholarship is in the amount of $4,000 annually for a native Canadian who is studying journalism at a Canadian institution.


Queen Elizabeth Silver Jubilee Endowment Fund

For Study in a Second Official Language Award Program

Deadline: January 17th

Terms of reference: The purpose of the award is to encourage young Canadians who wish to improve their proficiency in their second official language to pursue studies, on a full-time basis, at another university which functions in the other official language and in a milieu in which that language predominates. The criteria for the award are: Field of Study: All disciplines - are eligible. Students must continue studies in the discipline in which they are enrolled at their home university.

Value: $5,000

Conditions:
- Candidates must be Canadian citizens or permanent residents of Canada
- must be currently enrolled in the 2nd or 3rd year of their first undergraduate university program.
- in addition, they must have sufficient ability in their second official language to pursue their studies in that language
- must have good academic standing, and be well-motivated and adaptable

Other Awards: a recipient may not concurrently hold any other major award

Contact: Canadian Awards Program, International and Canadian Programs Division, Association of Universities and Colleges of Canada, 350 Albert Street, Suite 600, Ottawa, Ontario K1R 1B1, Tel: (613)563-1236 Fax: (613)563-9745, email: mleger@aucc.ca, Internet: http://www.aucc.ca

Queen Elizabeth II British Columbia Centennial Scholarship

Deadline: March 31

Terms of reference: One major scholarship with a total value of $20,000 is available each year. In addition to the major scholarship, two minor scholarships of $4,000 each are available for the top runners-up to the major winner each year. The scholarship will be awarded each year on a competitive basis to a graduate:
- a) who has obtained an undergraduate degree from a British Columbia public university;
- b) whose domicile or ordinary residence is in the Province;
- c) who is a Canadian citizen;
- d) who, in the opinion of the Advisory Committee, is a person of unusual worth and promise, and qualifies under the regulations; and
- e) who proposes to conduct the studies for which the scholarship is awarded at an institution in any British Commonwealth country, except Canada.

The Advisory Committee will make its recommendations on the basis of academic achievement, demonstrated aptitudes, personal qualities and character, interest and participation in university and community affairs, and proposed programs of study.

Contact: All enquiries, applications and documents pertaining to this scholarship must be sent to: Protocol and Events Branch, Ministry of Finance and Corporate Relations, 553 Superior Street, Room 215, Victoria, B.C, V8V 1X4, Phone: (250)356-8285, Fax: (250)356-2814

The James Craig Reid Memorial Scholarship

Deadline: unknown

Terms of reference: To be awarded annually to a male or female student who must have graduated from a secondary school in District 69 (the Parksville/Qualicum area) or have lived in the area for at least one year. The scholarship is awarded on a competitive basis to a graduate:
- a) the awards will be given: first to eligible applicants who are residents of the area; 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 James Craig Reid Memorial Scholarship Trust, 467 Rowan Dr., Qualicum Beach, BC V9K 1K1

Rhodes Scholarships

Deadline: October 25th (in Financial Assistance)

Terms of reference: Eleven scholarships are open for male and female Canadian students and will be awarded annually in late November. These scholarships are tenable at the University of Oxford, England, and the value is at least 10,000 pounds per year. A maintenance allowance of a least 3,810 pounds per year is provided to the scholar, in addition to which all fees are paid directly to the University and the scholar's College. Reasonable travel expenses to and from Oxford are also provided. They are granted for two years, with the possibility of a third year. Scholars may follow courses of study of their own choice. They are required to go to Oxford in October of each year. Selection is made on the basis of school and college records without written examinations. The qualities which will be considered in making the selection are: literary and scholastic attainment; fondness of, and success in outdoor sports; qualities of truthfulness, courage, devotion to duty, sympathy for and protection of the weak, kindliness, unselfishness, and fellowship; exhibition or 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 a person domiciled in Canada; have been born between October 2, 1972 and October 1, 1978; except for medical students, have received an undergraduate degree before taking up the scholarship. 

Candidates may compete in a province prescribed under either (a) or (b) below:

(a) The province in which they are ordinarily resident. If a candidate is ordinarily resident in the Northwest Territories application may be made in a province under (b) or, if there is no such province, in Manitoba, Saskatchewan or Alberta. If ordinarily resident in New Brunswick, Nova Scotia, or Prince Edward Island, application may be made in a province under (b) or, alternatively, in the Maritime Region.

(b) Any province in which they have attended a university, provided that a candidate is ordinarily resident outside Newfoundland, an application may not be made in that province. Summer courses do not qualify as attendance at a university. Subject to ratification by the Rhodes Trustees, Selection Committees are responsible for deciding whether candidates comply with the foregoing conditions, and for making the nominations.

Contact: Further information and application forms may be obtained from Financial Assistance, from the Office of the General Secretary for the Rhodes Scholarships in Canada, PO Box 48, Toronto-Dominion Centre, Toronto M5K 1EB or from the Provincial Secretaries.

Father Emmanuelle Rosaia Scholarship

Deadline: August 26

Terms of reference: A scholarship in the name of Father Emmanuelle Rosaia has been set up by the Italian Cultural Centre Society to pay tribute to this special man whose charitable Franciscan spirit has cheered many a soul. This scholarship is in the amount of $850.

Selection criteria:
1) Applicants must be Roman Catholic and of Italian-Canadian origin.
2) Applicants must be residents of the Lower Mainland
3) Applicants must be Grade 12 students who expect to graduate with a 3.0 (B) grade point average or higher. An official transcript of final marks from the applicant’s school must accompany the application, along with an official B.C. Ministry of Education Transcript of Marks.
4) Applicants are expected, upon, high school graduation, to attend a university or community college where studies will lead to a university degree in Canada or in another country.

5) Applicants are asked to submit a typewritten letter of no more than 400 words, double spaced, explaining why he/she deserves to obtain the scholarship.

6) Applicants are asked to submit no less than three letters of reference - one of which must be written by the applicant’s parish priest.

The selection committee will put particular focus on strong academic achievement, the strength of Christian character of the candidate, especially leadership and citizenship qualities, as well as community services rendered within the candidate’s own community and school, and applicants who in their studies have a leaning towards the humanities: language, literature, philosophy, history, psychology, fine arts etc. (This does not however, exclude applicants whose academic focus is in the sciences).

Contact: Italian Cultural Centre, Fr. Rosasia Scholarship, 3075 Slocan Street Vancouver, B.C. V5M 3E4, tel: 430-3337, fax:430-3331

Rotary Foundation Scholarships

Deadline: unknown

Terms of reference: Undergraduate scholarships, the newest educational activity of the Rotary Foundation, are awarded to outstanding young men and women for one academic year of undergraduate study abroad. A candidate for a scholarship must be: unmarried; between the ages of 18 and 24 inclusive as of March 1st in the competition year; and have completed two years of undergraduate university-level work, but have not attained the bachelor’s degree or equivalent at the time the student begins the scholarship year. The student must b a citizen of the country of residency and where the sponsoring Rotary Club is located. In this and all other programs of the Rotary Foundation, a Rotarian, a dependent of a Rotarian, a child, stepchild, grandchild, brother or sister of a Rotarian, or any spouse thereof, is ineligible for an award.

Contact: Application for an Undergraduate Scholarship must be made through a Rotary Club in the district in which the applicant’s permanent residence is located, or in the district in which is located the school at which he is studying at the time of his application. The sponsoring Rotary Club will provide the necessary application forms and explanatory literature.

Rotary Foundation Scholarship

Deadline: October 1

Terms of reference: The Rotary Foundation offers three types of scholarships: the Academic-Year Ambassadorial Scholarship, the Multi-Year Ambassadorial Scholarship and the Cultural Ambassadorial Scholarship. The applicants must initially apply through local Rotary Clubs. Not all Rotary clubs will offer scholarships every year, 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, Illinois 60201, USA

Don Smith Scholarship Fund (BCTV)

Deadline: May 1st

Terms of reference: In recognition of Don Smith’s long-term contributions to the broadcasting industry, BCTV has established a trust fund in his name that will provide scholarships to a maximum of $2,500 per year for up to four students enrolled in a recognized Broadcast Communications Program, or a university program with an emphasis on broadcast journalism, leading to a journalism degree. These scholarships are intended to encourage entrance to a career in broadcasting to members of groups who are currently under-represented in the broadcast industry. These groups are: First Nations Peoples, Persons with Disabilities, Visible Minorities, Women. Eligibility: The applicant must also: must be a member of one of the under-represented groups and must have: gained acceptance into a recognized Broadcast Communications Program or; have completed one year of post-secondary education, and have been accepted into a program leading to a journalism degree. The applicant must also: be a permanent resident/citizen of British Columbia; carry a full course workload; 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 made by a committee formed by BCTV, and 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 Westcom TV Group Ltd., P.O. Box 4700, Vancouver, BC V6B 4A3

SWANA Scholarship

Deadline: October 15

Terms of reference: The B.C. Chapter of the Solid Waste Association of North America is offering a number of $500 scholarships to encourage students studying in disciplines related to solid waste management and environmental protection. Recipients of the scholarships will be determined by a panel of SWANA members and will be chosen on the basis of:

- intended course of study
- academic performance
- involvement in school and community activities
- a brief written submission
- references

Applicants must be registered in a full course of studies in an environmental management or related program at a recognized post-secondary institution in British Columbia. They must have completed their first year of post-secondary studies. To be considered for one of these scholarships, the applicant must submit a completed application form, transcript or copy of last year’s statement of marks, reference letter from a faculty member and proof of registration.

Contact: SWANA Scholarship, 4505 Kingsway, Burnaby, B.C., V5H 4B3

The Swedish Institute Guest Scholarship

Deadline: November 1st

Terms of reference: This scholarship is offered to a qualified Canadian researcher or scholar of any age who wishes to spend an academic year on a research undertaking at a Swedish university or an independent research facility. The competition for the scholarship is global. The value of the scholarship is approximately SEK 6700 per month. Applicants should submit preliminary personal background information, particularly statements of purpose of study/ research and language competence, as well as a copy of letter of invitation from a Swedish University department.

Contact: Swedish Institute Scholarship Office, P.O.Box 7434, S-10391. Stockholm, Sweden

Ted Trindell Memorial Scholarship

Deadline: unknown

Terms of reference: Awardees of $1,000 are awarded to Metis or Non-Status persons from Northwest Territories pursuing full-time post-secondary studies. Academic merit and financial need will be considered.

Contact: Selection Committee, Ted Trindell Scholarship Fund, Box 1375, Yellowknife, NWT X1A 2P1, tel: 403-873-3505

University College London Scholarships

Deadline: July 31

Terms of reference: The University College London Scholarships are offered to students from overseas. All scholarships are dependent upon academic merit, and are tenable for the duration of the programme of study. To be eligible for any of the scholarships, applicants should: hold an offer of admission to a full-time programme of study at University College London, be self-financing and liable to pay tuition fees at the rate for overseas students. These scholarships are not available to students already on a degree programme, or to students intending to pursue their studies at an institution other than UCL. These scholarships are available to students interested in graduate and undergraduate studies.

Contact: For application and further scholarship information please contact: International Office, University College London, Gower Street, London WC1E 6BT, tel: 44 171 380 7708, fax:44 171 380 7380, e-mail: international@ucl.ac.uk

Vancouver Police Department Scholarships

Deadline: July 31st

Terms of reference: To encourage and assist sons and daughters of members of the Vancouver Police Department to attend the Post Secondary Educational Institutes: University of British Columbia, Simon Fraser University, B.C.I.T. or any Regional College in B.C.

Criteria:
1. Graduation from secondary school
2. Enrollment in one of the Post Secondary Educational Institutes
3. Preference may be given to candidates who have not previously won a Vancouver Police Department Scholarship
4. Preference may be given to applicants entering one of the above listed Post Secondary Educational Institutes from secondary school
5. Applicants enrolled in Post Secondary educational institutes other than one listed above may be considered
6. In selecting the winners, academic standing of applicants will be; financial circumstances and services to the community may be considered
7. Award winners will be required to provide proof of registration with one of the Post Secondary Educational Institutes

The letter of application should contain:
1. The applicant’s full name, address, postal code, telephone number, place and date of birth
2. A list of secondary schools attended, along with dates of attendance
3. Parent’s name and details of service with the V.P.D.
4. Transcript of marks from senior secondary school(s) and Post Secondary Educational Institute(s) attended by applicant
5. Other details which may assist the Committee in its selection. Note: there are 6 different scholarships offered under the Vancouver Police Department Scholarships, please ask information from the Financial Assistance Department

Contact: Completed application forms must be received by: The Secretary, Vancouver Police Department Scholarship Committee, 2120 Cambie Street, Vancouver, BC V6Z 4N6

Geraldo Donato Vertone Scholarship

Deadline: August 1

Terms of reference: A scholarship in the name of Geraldo Donato Vertone has been set up by the Italian Cultural Centre Society and is open to any student who is accepted to, or attends a post secondary institution leading to a university degree. The scholarship is in the amount of $850. To qualify, applicants must:
• be of Italian origin
• attend, or be accepted at a University or Community College leading to a University degree.
• send an application letter detailing your reasons for applying, along with one letter of reference.
Contact: Italian Cultural Centre, 3075 Slocan Street, Vancouver, B.C. V5M 5E4; tel: 430-3337; fax: 430-3331

Bridge Walsh Scholarship for Single-Parent Irish Women
Deadline: October 15
Terms of reference: The Bridge Walsh scholarship was created from the royalties of Shelagh Conway’s book The Faraway Hills are Green: Voices of Irish Women in Canada published in October 1992 by Woman’s Press. In recognition of the twenty-two Irish women from across Canada whose stories are told in this book, Shelagh Conway has donated half of the royalties to low-income, single-parent Irish women in Canada who wish to pursue their education at university or college level. The scholarship will be awarded on the basis of academic merit or promise as well as economic need. The value of the scholarship will vary from year to year depending on royalties.
Contact: Applications and further information about the scholarship are obtained from Mary Broderick, Chairperson, Bridge Walsh Scholarship, 205 Mountainview Road North, Georgetown, Ontario, L7G 4T8, tel: 416-873-0873

Sophia Wood Education Fund - The Women’s Association of the Mining Industry of Canada Foundation
Deadline: November 22
Terms of reference: The Fund is available to both undergraduate and graduate students in two categories: “Scholarships” meaning ability and marks; and “Awards” meaning ability and need of financial assistance. Our Foundation as trustee of the Fund will provide varying amounts based on the information submitted by the applicants. All applications must contain the following:
1 transcript of marks
2 proof of University/School registration
3 stamp and signature of Student Awards Office
4 recommendation by Principal/Professor
5 application must be received by our office by the deadline of November 22.
Contact: Sophia Wood Education Fund, c/o W.A.M.I.C. Foundation, P.O. Box 207, Postal Station “A”, Toronto, Ontario MSW 1B2

Xerox Aboriginal Scholarships Program
Deadline: unknown
Terms of reference: Awards of $3,000 are awarded to applicants who are of Canadian citizen and resident; status or non-status Indian, Metis or Inuit; full-time student at Canadian post-secondary institution with significant content in information technology. Applications must include a transcript, proof of admission to a recognized post-secondary institution, two letters of reference and brief description of the applicant’s interest in information technology.
Contact: Contributions Administrator, Corporate Affairs, Xerox Canada, 5650 Yonge Street, North York, ON M2M 4G7, tel: 416-733-6837, fax: 416-733-6087.

External scholarships for Applied Sciences students
CCPE National Scholarships
Deadline: May 1st
Terms of reference: The Canadian Council of Professional Engineers provides scholarships which will reward excellence in the Canadian engineering profession and support advanced studies and research. To be eligible, candidates must be registered as full members with one of Canada’s provincial or territorial professional engineering associations/ordre. The following scholarships will be awarded:
• Three CCPE – Manulife Financial Scholarships valued at $10,000 each provide financial assistance to engineers returning to university for further study or research in an engineering field. Candidates must be accepted or registered in a Faculty of Engineering.
• Two CCPE – Meloche Monnex Scholarships of $7,500 each 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 should favour the acquisition of knowledge which enhances performance in engineering profession.
• A CCPE – Encon Endowment of $5,000 will be awarded to a professional engineer pursuing studies in the area of engineering failure investigation, risk management, and/or materials testing. This area of engineering is concerned with analyzing the causes of materials failure and preventing accidents in the industrial, manufacturing, or construction sectors.
Contact: Application forms are available from you provincial or territorial professional engineering association/ordre or from: CCPE National Scholarship Program, Canadian Council of Professional Engineers, 401 – 116 Albert St., Ottawa, ON K1P 5G3, Tel: (613) 232-2474, Ext. 5759, E-mail: chantal.lalonde@ccpe.ca, Website: http://www.ccpe.ca

Engineering Students Project Award
Deadline: October 15th
Terms of reference: A $10,000 annual award will be offered to a team of Canadian engineering students who have undertaken a project with the most potential to attract students, particularly women, to engineering. This award of $10,000 will be distributed as follows: 50% ($5,000) of the monies will be awarded to the Engineering Students Society of the selected team’s school, with the remaining 50% ($5,000) to be divided equally amongst the members of the winning student team. The award is open to both men and women to encourage them to work together. Submission of the proposal must meet the following criteria:
1) The project must meet the objective for which the award was set up and must be in progress. A detailed report of up to 10 double-spaced typed pages describing the project must be submitted.
2) Letters of support from the principal of one of the schools participating in the project; from the deans and/or directors of the engineering school; and sponsors (where applicable) of the students’ originator of the project must be submitted.
3) Letter of approval must be received from the President on behalf of the Executive Committee of the Engineering Student Society approving the project submission and identifying the members of the team.
4) Testimonials or other evidence demonstrating the impact the designed project/program has had. Details of activities of the project must also be provided.
Project criteria is as follows:
1) The project must be a team effort involving engineering students supported by their Engineering Students Society.
2) The project must be ongoing and have a high potential for implementation across Canada in other schools.
3) The project must assist in leading young women to seriously investigate the possibility of choosing engineering as a career, exposing them to the wide range of possible careers in engineering.
4) The project must influence young women to maintain their studies in mathematics and sciences.
5) The project must demonstrate results in innovation, outreach, success and sustained performance.
6) The project must have completed one full cycle and be in its next cycle.
Contact: Canadian Engineering Memorial Foundation, Suite 401, 116 Albert, Ottawa, ON K1P 5G3, Tel: (613) 232-2474.

SHL Systemhouse President’s Awards for Education and Technology
Deadline: June 1
Terms of reference: The SHL Systemhouse President’s Awards for Education and Technology was founded in 1997 to promote and encourage excellence in technology, a commitment to learning, community service and leadership. The awards are open to qualified Computer Science or Engineering students at selected Canadian postsecondary institutions in selected programs. Nominees must be entering their final year of an Honors degree or college diploma program. Nominees must have maintained an Honors level (70 percent for colleges average on a full academic work load in their previous year of study. Applications are by nomination only. Three nominations from each institution are sent to AUCC. One winner from each institution will be selected. Candidates can obtain information and application forms from the awards office.
Contact: Canadian Awards Program, International and Canadian Programs Branch, Association of Universities and Colleges of Canada (AUCC), 600 350 Albert St., Ottawa, Ont. K1R 1B1; Tel: (613)563-1236; Fax: (613)563-9745; Internet: http://www.aucc.ca

External scholarships for Arts students
BC Cultural Fund Scholarships (Province of BC)
Deadline: June 30th
Terms of reference: The Province of BC provides grants/scholarships for performance in the following disciplines: drama, dance, music, visual arts and crafts, creative writing and arts administration. These grants are made for the purpose of improving qualifications or skills. Applications are evaluated on the basis of: performance and achievements of the individual; financial need; nature and length of proposed program of study. Preference will be given to applicants who have resided in BC for at least three years prior to application.
Contact: Administrator, Grant Funds, BC Cultural Fund, Ministry of Provincial Secretary and Government Services, Parliament Buildings, Victoria, BC V8V 1X4

BC Historical Federation Scholarship
Deadline: April 30th
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 essay must be suitable for publication. The winning essay will be published in BC Historical News;
3) letters of recommendation from two professors.
Contact: Ann Yandle, 3450 West 20th Avenue, Vancouver. BC V6S 1E4.

The William Blair Bruce Fine Art European Travel Scholarship
Deadline: January 31st
Terms of reference: The Brucebo Fine Arts Committee of the Gotland Fine Art Museum finances a European travel study tour for a talented younger Canadian fine art artist during the school year 1996-
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97. The grant must be used during the ‘off’ travel season of the Fall term or the Spring term 1996-97
Contact: CSF Secretary, Dr. Jan O. Lundgren, Department of Geography, McGill University, 805 Sherbrooke St. W., Montreal, Quebec, H3A 2K6, Tel: 1-514-398-4304, Fax: 1-514-398-7437, E-mail: lundgren@felix.geog.mcgill.ca

The Brucebo Fine Art Summer Scholarship
Deadline: January 31st
Terms of reference: The ‘Brucebo’ has been a grant fixture among practicing Fine Arts persons - painters, sculpturers, photographers, etc. for over 20 years.
The grant finances a two months’ studio stay at Brucebo on the island of Gotland, Sweden. It includes free use of the fully furnished studio cottage, a two months’ food stipend and a generous transport allowance. The grant must be used within the period June 10-August 20. This grant is sponsored by the Gotland Konstmuseum (Gotland Museum of Fine Arts).
Contact: CSF Secretary, Dr. Jan O. Lundgren, Department of Geography, McGill University, 805 Sherbrooke St. W., Montreal, Quebec, H3A 2K6, Tel: 1-514-398-4304, Fax: 1-514-398-7437 E-mail: lundgren@felix.geog.mcgill.ca

Burnaby Historical Society Scholarship
Deadline: June 15th
Terms of reference: This scholarship, given by Dr. and Mrs. Blythe Eagles in honour of Evelyn Salisbury, is an annual award of approximately $1,000. The applicant for the scholarship should be an undergraduate attending an accredited British Columbia University or College and enrolled in a major program to be pursued in Canadian history, with preference given to British Columbia history.
Candidates must apply in writing outlining their studies to date, provide an essay or an example of research done and include a current academic transcript plus letters of recommendation from two professors at the university or college the candidate is attending. Applications must be submitted by the deadline date to the address below. On receipt of written proof of registration in further studies, mailed or faxed by the Registrar’s Office to the Treasurer of the Burnaby Historical Society no later than October 30th deadline, the award money will be paid to the Registrar to be applied only to the tuition fees of the successful applicant.
Contact: The Burnaby Historical Society Scholarship Committee, 6501 Deer Lake Avenue, Burnaby, BC V5G 3T6

F.J. Connell Music Scholarship Trust
Deadline: October 1st
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.
Value: Approximately $750
Eligibility: 1. Undergraduate or graduate student at a recognized university.
2. Full-time or part-time studies.
3. Successful completion of the equivalent of one year of full-time studies in music.
4. Currently majoring in music (performance, education, composition, history, etc.) and planning a professional career in music.
5. Preference will be 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., cooperation, honesty, work ethic, responsibility, teamwork, dedication, commitment, patience, goal setting).
6. Preference may be given to descendants of former members of the Moose Jaw Lion’s Band Tours (which occurred in the years 1964, 1970, 1974) and to descendants of former members of the Moose Jaw Lion’s Band.
Application must include:
1. curriculum vitae.
2. essay (not more than 500 words) which indicates your extra-curricular activities and community involvement.
3. one academic reference (sent directly from the referee).
4. one character reference (sent directly from the referee).
5. official transcript of grades (sent directly from the Registrar).
Contact: Donor: F.J. Connell Music Scholarship Trust, 1187 Simcoe St., Moose Jaw, Canada S6H 3J5, Tel: (306)694-2045

New Brunswick Arts Scholarships
Deadline: unknown
Terms of reference: The Arts Scholarships program provides awards to New Brunswick students and arts professionals who are pursuing full-time or short-term studies for the purpose of becoming an arts professional or pursuing a career as an arts professional. The program is designed to recognize and encourage those who have already completed some basic training and who have demonstrated exceptional potential and talent as artists. The applicant should intend to study creative writing, music, theatre, dance, film/video, visual arts/photography, or craft at a recognized institution or with a recognized private instructor for the purpose of pursuing a career as a professional artist or an arts professional.
Contact: For further information please contact: New Brunswick Municipalities, Culture and Housing, P.O. Box 6000, Fredericton, NB E3B 5H1

NRC-CNRC Women in Engineering and Science Program
Deadline: April 15
Terms of reference: The National Research Council has established a unique program designed to encourage greater participation of women in the under-represented fields of engineering, science, and mathematics. Working with world-class researchers in top facilities, successful candidates of the Women in Engineering and Science Program will undertake career-related work while receiving a salary. The basic criteria is as follows: must be a woman who is a citizen or permanent resident of Canada; must have a high academic standing; must undertake career-related work while receiving a salary. The basic criteria is as follows: must be a woman who is a citizen or permanent resident of Canada; must have a high academic standing; must be currently attending a Canadian university or CEGEP; must be enrolled full-time in an undergraduate physics, science, engineering or mathematics program; must have completed the first undergraduate year of university or the second year of pre-university CEGEP before September 1st of the year application is made to WES.
Contact: National Research Council Canada, Human Resources Branch, WES Coordinator, Ottawa, K1A 0G6; phone (613) 993-9194; fax (613) 990-7669; e-mail WES.Coordinator@NRC.CA; internet site http://www.nrc.ca/careers

External scholarships for Business Administration students

Ellen Bell YMCA Memorial Scholarship
Deadline: April 30
Terms of reference: Ellen Bell will be remembered for the boundless energy, intelligence, kindness and willingness to commit herself to the betterment of the community. The scholarship will be granted to an individual or individuals who demonstrates the above qualities and who is pursuing a career in marketing and advertising. Students must be in writing, giving full particulars together with the reason for applying (in 500 words or less) along with letters of reference.
Contact: Forward applications to: Ellen Bell YMCA Memorial Scholarship Committee, YMCA of Greater Vancouver Endowment #404-1045 Howe St. Vancouver, BC V6Z 2A9

CGA Academic Excellence Scholarship
Deadline: April 30th
Terms of reference: The Certified General Accountants Association of British Columbia is pleased to announce the introduction of a new $500 scholarship which will be made available each year to a student who has completed the first 3 years of the four-year Bachelor of Business Administration (Accounting) program at Simon Fraser University. The main criteria for the CGA Academic Excellence Scholarship will be an emphasis on academic excellence in the student’s first three years of studies. Other criteria will be determined by the faculty. To apply for this scholarship, please make formal application to the Financial Aid Department where the application will be reviewed and a recommendation made to the Certified General Accountants Association. The $500 scholarship will be applied to tuition fees at Simon Fraser University when the recipient enrolls in the final year of study.
Note: The first $500 CGA Academic Excellence Scholarship will be awarded at the end of the 1996/97 academic year.
Contact: Certified General Accountants Association of British Columbia, 1555 West 8th Avenue, Vancouver, BC V6J 1TS, Tel: 604-732-1211, Main Fax: 604-732-9439, Student Services Fax: 604-732-1252

CGA Continuing Education Tuition Scholarship
Deadline: April 30th
Terms of reference: The Certified General Accountants Association of B.C. annually offers 2 (two) $750 CGA Continuing Education Tuition Scholarships to graduating students of the Bachelor of Commerce (Business Administration) program at Simon Fraser University. To apply for these scholarships, please make formal application to the Financial Aid Department where the applications will be reviewed and a recommendation made to the Certified General Accountants Association. The $750 Scholarship will be applied to the first years’ tuition on the CGA program. This scholarship is tenable only with the Certified General Accountants Association of British Columbia and will be in the form of credit towards CGA tuition fees for the academic year following the award only. (The CGA academic year runs from July 1 to June 30.)
Contact: Certified General Accountants Association of British Columbia, 1555 West 8th Avenue, Vancouver, BC V6J 1TS, Tel: 604-732-1211, Main Fax: 604-732-9439, Student Services Fax: 604-732-1252.

Government Finance Officers Association – Frank L. Greathouse Government Accounting Scholarship
Deadline: February 14
Terms of reference: This scholarship competition is for senior students who are enrolled full-time in a university or college undergraduate accounting program in the United States or Canada. A senior is defined as a student in the last full year of study prior to being eligible for a baccalaureate degree. One or more scholarships of $2,000 each will be awarded. Candidates should have a superior academic record and show promise of completion of their undergraduate program at a high level of performance. In addition, candidates should have plans to pursue a career in state or local government or graduate studies in governmental accounting or public administration.
Contact: Government Finance Officers Association, Scholarship Committee, 180 North Michigan Avenue, Suite 800, Chicago, Illinois 60601-7476.
Chemistry offers the Alfred Bader Scholarship as a mark of excellence for achievement in organic chemistry or biochemistry by undergraduate students completing their final year of study in an Honours program. Eligibility: Nominees must be student chapter members of the CSC and be continuing in a graduate program in chemistry or biochemistry at a Canadian university. Up to 3 scholarships are presented annually by the CSC, unless the Committee feels that no suitable nominees exist in a given year. Application: Nominations should be submitted to Diane Goltz, Program Manager, Awards, Canadian Society for Chemistry. They shall include: a copy of the Honours’ research project report; a statement from the research supervisor describing the student’s contribution at the academic and extracurricular levels, two letters of reference; and an official transcript of the student’s academic record, all in quadruplicate. The nominees chosen will be notified in July Award: The funds to endow this award, in the amount of $1,000 for each scholarship, have been provided by Alfred Bader.

Contact: Canadian Society for Chemistry, 130 Slater Street, Suite 550, Ottawa, Ontario K1P 6E2, Tel: 613-232-6252, Fax: 613-232-5862, email: cic_adm@fox.nstn.ca

Edmonton Chemical Engineering Scholarship Deadline: April 30th 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 5-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. Value: $1,000 Application: A letter of application should be submitted to Diane Goltz, Program Manager. The application should document contributions to the Society, include a transcript of academic performance and be supported by 2 letters of reference.

Contact: Canadian Society for Chemistry, 130 Slater Street, Suite 550, Ottawa, Ontario K1P 6E2, Tel: 613-232-6252, Fax: 613-232-5862, email: cic_adm@fox.nstn.ca

NRC-CNRC Women in Engineering and Science Program Deadline: April 15 Terms of reference: The National Research Council of Canada has established a unique program designed to encourage greater participation of women in the under-represented fields of engineering, science, and mathematics. Working with world-class researchers in top facilities, successful candidates of the Women in Engineering and Science Program will undertake career-related work while receiving a salary. The basic criteria is as follows: must be a woman who is a permanent resident of Canada; must have a high academic standing; must be currently attending a Canadian university or CEGEP; must be enrolled full-time in an undergraduate physics, science, engineering or mathematics program; must have completed the first undergraduate, bachelor’s degree; must be enrolled in the second year of pre-university CEGEP before September 1st of the year application is made to WES.

Contact: National Research Council Canada, Human Resources Branch, WES Coordinator, Ottawa, K1A 0R6; phone: (613) 993-9134; fax (613) 990-7669; e-mail WES.Coordinator@NRC.CA; internet site http://www.nrc.ca/careers

Sarnia Chemical Engineering Community Scholarship Deadline: April 30th Terms of reference: The Canadian Society for Chemical Engineering offers the Sarnia Chemical Engineering Community Scholarship to undergraduate students in chemical engineering about to enter the final year of studies at a Canadian university, and will be made for academic excellence and demonstrated contributions to the Canadian Society for Chemical Engineering, such as participation in student chapters. Applicants must be members of the Canadian Society for Chemical Engineering.

Value: $1,000 Application: Application for the award should be submitted to Diane Goltz, Program Manager. Applications should contain evidence of academic standing, letters of reference and evidence of contribution to the Society.

Contact: Canadian Society for Chemistry, 130 Slater Street, Suite 550, Ottawa, Ontario K1P 6E2, Tel: 613-232-6252, Fax: 613-232-5862, email: cic_adm@fox.nstn.ca

SNC LAVALIN Plant Design Competition Deadline: May 15th 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 during the 1996-97 academic year. 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 Chemistry, 130 Slater Street, Suite 550, Ottawa, Ontario K1P 6E2, Tel: 613-232-6252, Fax: 613-232-5862, email: cic_adm@fox.nstn.ca

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External bursaries for all students

**B.C. Indian Arts Society Memorial Bursary**

**Deadline:** unknown

**Terms of reference:** You must be an Aboriginal person from B.C. Bursary is in the amount of $150.

**Contact:** The Honourable Secretary, B.C. Indian Arts Society, 212-701 Esquimalt Road, Victoria, B.C. V9A 3L5.

**B.C. Ministry of Aboriginal Affairs - First Citizen’s Fund**

**Deadline:** May 31

**Terms of reference:** Bursaries in the amounts of $700 - $2,000 per year (depending on other funding sources). Applicants must be persons of North American aboriginal ancestry and have been resident in B.C. for at least the previous six months. Applicants must be recommended by a Band Council or an Aboriginal organization (like the UNN), be enrolled in at least a two-year program and maintain at least a C+ average. Out-of-province assistance will be given providing the academic courses or equivalent are not offered in B.C. or the courses are offered, but all B.C. facilities are filled. Applications will be considered for each academic year required to attain a degree including additional academic years to attain a Master’s degree of the same discipline. In the event a student changes programs, the first academic year in the new program will not be eligible; however, the second and subsequent terms may be considered. Applicants must include an application form; self-written letter on family background, tribal ancestry and work history; supporting letter from your Band, recognized First Nations organization, home school coordinator or school counselor; any additional information pertaining to the application should be included on a separate page.

**Contact:** Ministry of Aboriginal Affairs, First Citizens’ Fund, Parliament Buildings, Victoria, BC V8V 1X4, Tel: (604) 356-1796

**BC Government and Service Employees Union**

**Deadline:** February 28th

**Terms of reference:** Ten $1,000 scholarships are available each year to students who are BCGEU members or relatives of members of staff. Applicants must be registered full time in a post secondary program at a BCGEU member firm. The applicant must be enrolled in first year studies at an recognized CIO from university or college in a program leading to a degree or certificate in any field. Applications may be obtained from and submitted to the association office at any time but must be supported by transcripts of high school record, evidence of university or college enrollment, and proof of payment, by not later than September 30th.

**Contact:** Pipe Line Contractors Association of Canada, Suite 720, 5915 Airport Road, Mississauga, ON L4V 1T1.

**Canadian Federation of University Women**

**Women of South Delta**

**Deadline:** unknown

**Terms of reference:** Bursaries are available for women who wish to enroll in, return to, or continue to study in a college or university. Applicants must be residents of South Delta (Tsawwawassen/Ladner).

**Contact:** For further information please contact: CFUW of S. Delta, c/o Doreen Nesbitt, 303 - 1172 55th Street, Delta, BC, V4N 4C3.

**Canadian National Educational Awards**

**Deadline:** October 1st

**Terms of reference:** Five bursaries valued at $2,000 each are available to PIPM students who meet the following requirements: be in need of financial assistance; demonstrate serious interest in a career in transportation; provide proof of acceptance into an eligible post-secondary institution; maintain full-time registration status leading to a degree; maintain satisfactory academic standing.

**Contact:** CN Native Awards Program, PO Box 8100, Montreal, Quebec H3C 3N4

**Hugh Christie Memorial Bursary**

**Deadline:** November 1st

**Terms of reference:** A $500 bursary is available to a student who is pursuing a career in Corrections. International Development, Social Work or YMCA, YWCA. 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 course work. Applications must be in writing, giving full particulars together with the reason for applying (in 500 words or less) along with letters of reference.

**Contact:** Forward applications to: Hugh Christie Memorial Bursary Committee, YMCA of Greater Vancouver - Endowment, #404 - 1045 Howe Street, Vancouver, BC V6Z 2A9

**The Credit Union – Forest Renewal BC Bursary Program**

**Deadline:** June 14

**Terms of reference:** The Credit Union - Forest Renewal BC Bursary Program is open to: a) graduating grade 12 students attending high schools, regional correspondence schools, or band schools in B.C. b) fourth year students attending post-secondary institutions in B.C. Application may be by: a) printing the application form from Forest Renewal BC’s web page and faxing it to Forest Renewal BC Communications, 387-3334, http:// www.forestrenewal.bc.ca/forestrenewal/ b) on an application form available from Credit Union branches and Forest Renewal BC regional offices across the province (students who apply through the Credit Union or Forest Renewal BC offices should deposit the completed form at one of those offices). Applications for bursaries must include this 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:** Frederica Bowden at phone/fax (604) 595-0184 or by e-mail fbow@galaxy.gov.bc.ca

**Hamilton Community Foundation**

**Deadline:** October 1 and February 1 for Sept. - April academic year and June 1 for summer session

**Terms of reference:** Hamilton Community Foundation provides modest financial assistance from various bursary funds established by generous citizens to post-secondary students who: can demonstrate serious financial need; have graduated from publicly-funded secondary schools in the Hamilton-Wentworth area, having completed the requirements for the Ontario Secondary School Diploma (grade 12 or 13); are registered/in attendance at an approved college or university in Canada or, for specialized programs, in the USA; are enrolled in full-time undergraduate studies. In special circumstances, part-time or post-graduate studies may be considered.

**Contact:** Hamilton Community Foundation, 120 King Street West, Suite 205, Hamilton, ON L8P 4V2, Tel: 905-523-5600

**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 on future aspirations of the applicant for a career within the Northwest Territories, academic record and financial need. Applicants must be entering a) graduate school or b) fourth year, or c) third year of undergraduate studies as a full-time student in the natural sciences at a Canadian University or College or the University of Alaska. Applicants must also have been resident in the Northwest Territories for at least five years. A bursary of $3,000 will be awarded for the year 1997-98.

**Contact:** Submit to the Executive Director, Science Institute of the Northwest Territories, P.O. Box 1617, Yellowknife, NT X1A 2P2

**The Lisa Huus Memorial Fund Bursary**

**Deadline:** May 31

**Terms of reference:** A bursary in the amount of no less than $1,500 will be awarded annually to assist a severely disabled student to undertake or continue his/her post-secondary education at the University of Victoria.

**Contact:** Applications and reference forms are available from the Financial Aid Office, University of Victoria, or from Mrs. Annie Huus, c/o Development and Community Relations, Queen Alexandra Foundation for Children, 2400 Arbutus Road, Victoria, B.C. V8N 1V7.

**Indian/Inuit Professional Health Careers Program**

**Deadline:** unknown

**Terms of reference:** Bursaries are available to assist students of Indian/Inuit ancestry who wish to pursue educational opportunities leading to professional health careers. Applicants must be accepted into an Indian and Inuit Health Professionals Program or be a member of an Indian band or Inuit community. Application forms should be completed and submitted to the Indian and Inuit Secretariat, Room 704, Solicitor General Bldg., 800 Government Street, Victoria, B.C. V8W 2G7.

**Contact:** National Coordinator, Indian/Inuit Health Professionals Program, 1120 Balfour Street, Victoria, B.C. V8W 2G7, or Regional Director, Indian/Inuit Health Professionals Program, 1009 Balfour Street, Victoria, B.C. V8W 2G7.
Services Branch, Health and Welfare Canada, 540-757 West Hastings Street, Vancouver, BC V6C 3E6, Tel: (604) 666-7983

Insurance Institute of B.C. Bursary Deadline: June 15

Terms of reference: Valued at $1500 this bursary is offered annually to students entering third year in the faculty of Risk Management who completed secondary schooling within British Columbia. It is based on academic standing and financial need. It is available to students transferring into the Faculty of Management from a post-secondary institution of B.C.

Contact: University of Calgary, Students Award Office, 124 MacKimmie Library Block, 2500 University Dr., N.W., Calgary, Alberta T2N 1N4 Tel: 403-220-6925

The Leonard Foundation Financial Assistance Program Deadline: March 15

Terms of reference: All 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: Additional information is available by writing to: The Honourable Secretary, The Leonard Foundation, 20 Eglington Avenue West, Toronto, Ontario M4R 2E2

Jessie Manning Bursary for Native Indian Students Deadline: October 1, applications available

Terms of reference: $1,000 award – may be divided between more than one student

Contact: University of British Columbia, Awards and Financial Aid Office, 101-2075 Westbrook Mall, Vancouver, B.C. V6T 1W5, Tel: (604) 822-5511

Ministry of Education - Official -Language Programs Deadline: various

Terms of reference: A number of official-language programs are available to residents of British Columbia. Funded by the federal Secretary of State and administered by the provincial Ministry of Education, the following programs are currently available:

• Summer Language Bursary Program - deadline mid-February
• Official-Language Study Fellowships - deadline June 16
• Minority Interprovincial Travel Bursaries - deadline June 16
• Official-Language Monitor Program - deadline mid-February
• British Columbia/Quebec Six-Month Bilingual Exchange Program - apply through participating schools
• French Teachers’ Bursary Program

Contact: For more information regarding these programs: Ministry of Education, Student Services Department, French Programs Branch Parliament Buildings, Victoria, B.C. V8W 1X4, Tel: 604-356-2524, Fax: 604-387-1470

Ministry of Health - Native Health Bursary Deadline: unknown

Terms of reference: Applicants must have lived in B.C. 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, Native Health Bursary Program, 3-1515 Blanshard Street, Victoria, B.C. V8W 9C9, Tel: 604-387-1983

Bill and Elsie More Indian Bursary Deadline: October 1, applications available

Terms of reference: Bursaries are available to assist First Nations students attending any university or college in B.C. 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 Indian Bursary Fund, Attention: Dr. Art More c/o Department of Educational Psychology, Faculty of Education University of B.C., 2125 Main Mall, Vancouver, B.C. V6T 1Z5, Tel: 604-822-5351

Pacific Coast Fishermen’s Mutual Marine Insurance Company Deadline: September 1st

Terms of reference: Bursaries of $600 are available to sons, daughters and legal wards of past or present members (or persons to whom a past or present member stood in Loco Parentis) of Pacific Coast Fisherman’s Mutual Marine Insurance Company. Applicants must complete full time at a post-secondary educational institution.

Contact: Forms may be obtained from the company: Pacific Coast Fisherman’s Mutual Marine Insurance Company, #200 - 4259 Canada Way, Burnaby, BC V5G 1H1, Tel: : 438 - 4240

The Pisapi 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:

a) applicant must be accepted for admission to a university,

b) applicant must be a full-time student working toward an undergraduate degree or graduate degree from the university,

c) the applicant must have completed a minimum first year of university studies,

d) 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 areas 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 Pisapi Scholarships Trust, 421 Baker St., Nelson, B.C. V1L 4H7

Province of BC International Year of Physically Challenged Persons Bursaries Deadline: unknown

Terms of reference: In recognition of the International Year of Physically Challenged Persons, these bursaries were created to financially assist students with disabilities and will be awarded on merit and the basis of financial need. Several annual bursaries of $500 each are available. Applicants must be residents of BC, Canadian citizens or Landed Immigrants.

Contact: For further information please contact: Grant Co-ordinator, BC Paraplegic Foundation, 780 SW Marine Drive, Vancouver, BC V6P 5Y7.

Quota International District 11 Speech and Hearing Bursary Deadline: April 30

Terms of reference: This bursary is in the amount of $1,000 and is available to:

• assist a person with communication disorder to receive instruction or a teacher who is willing to undertake the instruction of children with communication disorders or

• assist a person to undertake professional training for work in the field of communication disorders.

Documents required include a photocopy of the applicant’s transcript of grades, two letters of reference from teachers or other persons who have knowledge of the applicant, attesting to previous achievements and character, 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

Rixon Rafter Bursary Fund Deadline: September 30th

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 $300 to $500 to legally blind Canadians pursuing post-secondary studies with strong career aspirations. Because a limited number of awards are available each year, grants will be made based on the following criteria: financial need and career goals.

Contact: Return applications to: Chairman, Rixon Rafter Bursary Committee, The W. Ross MacDonald School, Brantford, ON N3T 3J9

Retail, Wholesale Union Local 580 Bursaries Deadline: May 15th

Terms of reference: A bursary of $500 is offered by the Retail, Wholesale Union Local 580 to active members, or sons, daughters, and legal wards of active members of the Union in good standing. They are open in competition to applicants who are proceeding from grade 12 to studies in a full program leading to a degree in any field. Candidates must have satisfactory academic standing (normally an overall average of at least 65% in grade 12). In the selection of the winners, the basic factor will be the financial need of the candidates and their families. The winners will be selected in consultation with the union.

Contact: Apply through the University of British Columbia or local college or post secondary institutions.

Ridge Meadows Arts Council Bursary Deadline: June 15th

Terms of reference: A bursary of $1,000 has been made available by the Ridge Meadows Arts’ Council for a fine arts student entering the second, third or fourth year of a degree or diploma program. Applicants must have graduated from School District No. 42 senior secondary schools and demonstrate financial need. The bursary is also available to a mature student wishing to further his/her arts education, but the applicants must have resided in the Maple Ridge area for three years.

Contact: Applications forms are available from: Ridge Meadows Arts’ Council, Box 351, Maple Ridge, BC V2X 7G2

Hal Rogers Endowment Fund Deadline: March 1

Terms of reference: The Hal Rogers Endowment Fund was established by Kinsmen & Kinette Clubs of Canada as a legacy to our Founder Harold Allin Rogers. The Fund was established to promote, encourage and sponsor educational programs and activities by providing assistance to applicants in their quest for higher learning at a recognized post-secondary institution.
To be eligible you must:

• be a Canadian citizen or landed immigrant
• plan to register as a full-time student in September at a recognized University, Community College, Technical Institute or other post-secondary institution for advanced learning
• submit an application for endorsement to one of a Kinsmen, Kinette, or Kin Club nearest your permanent residence
• demonstrate high ideals and qualities of citizenship
• if approved for a bursary you will be required to submit proof of enrolment prior to receiving the bursary

Contact: Questions and application can be forwarded to the nearest Club or to: Kinsmen & Kinette Clubs of Canada, c/o Hal Rogers Endowment Fund, 1920 Hal Rogers Dr., P.O. Box KIN, Cambridge, Ontario, N3H 5C6, Tel: 1-800-742-5546, Fax: (519) 650-1091

Royal Canadian Legion (Pacific Command) Bursaries

Deadline: May 31st

Terms of reference: A number of awards are offered annually for students proceeding from high school to university and to students taking a full course-load (12 hours minimum) in June, July, and August, first, second, third, and fourth-year university. They are awarded on the basis of academic standing, financial need, and participation and achievement in school and community affairs. Preference is given to sons and daughters of deceased, physically challenged, or other veterans.

Contact: Further information and application forms may be obtained from Pacific Command, The Royal Canadian Legion, 3026 Arbutus Street, Vancouver, BC. Completed applications, including letters of reference, must be received by Pacific Command not later than May 31st.

Royal Canadian Legion Pacific Command Bursary Program

Deadline: May 31st

Terms of reference: These bursaries range from $900-$1,500 and are awarded on the basis of the family’s financial need. The awards are always based on full-time attendance with full course loads. Although other applications are considered, preference is given to the children and grandchildren of deceased, disabled, or other veterans.

Contact: The Royal Canadian Legion, Pacific Command, 3026 Arbutus Street, Vancouver, B.C. V6J 4P7, Tel: 604-736-8166

R.B. Shaw Bursaries

Deadline: September 25

Terms of reference: Bursaries in the amount of $500 are available each year. The number and the value of each award may be changed from time to time at the discretion of the Trustees.

Applicants must meet the following criteria:

a) applicant must be accepted for admission to a university.

b) applicant must be a full-time student working toward an undergraduate degree or graduate degree from the university.

c) the applicant must have completed a minimum of one full year of study.

d) 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 Piscipao Scholarships Trust, 421 Baker St., Nelson, B.C. V1L 4H7

Judge Brian Stevenson Bursary Fund

Deadline: September 30th

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. Because a limited number of awards are available it is desired to have an even distribution of awards across the country whether by province or region. As well, grants will be made based on the following criteria: financial need and career goals.

Contact: Return applications to: Judge Brain 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 Bursary Foundation offers bursaries for women who are either: a) women students 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 b) a mature woman student entering the third year or higher of a degree program at a recognized University, who has been a resident in the Surrey/White Rock area for the immediately preceding five years.

Contact: For further information and application forms contact: Surrey White Rock Bursary Foundation, Box 75143 White Rock, B.C. V4A 9M4

University Women’s Club of the Comox Valley Bursary

Deadline: July 1

Terms of reference: A $500 bursary is offered to a female graduate of a Comox Valley high school program who has completed at least one year of study in an accredited course at a Canadian university or college.

Contact: For information, please contact Jacqueline Kennett, Bursary Secretary, Box 296, Union Bay, B.C. V0R 3B0

White Rock University Women’s Club Bursary

Deadline: September 30th

Terms of reference: Bursaries are available to female students who are entering their third year of a degree program. Applicants must have graduated from School District #36 senior secondary schools and demonstrate financial need.

Contact: Please contact: Mrs. J.L. Scobie, 6595 Cabeldu Crescent, Delta, B.C. V4E 1R2 for application forms.

White Spot Limited Bursary

Deadline: May 15th

Terms of reference: One bursary of $1,000 is provide by White Spot Limited and its subsidiary companies for their employees, and sons and daughters of their employees, who have served with the firm for at least two years. This bursary competition is open to eligible students proceeding from Grade 12 to a full program of studies at the University of British Columbia, the University of Victoria, or Simon Fraser University. For purposes of qualification, “employees” shall include students employed part-time with the company while attending secondary school. The decision as to qualification by employment shall rest with the Company. In all matters, winners will be selected by the Scholarship Committee of the University of British Columbia on the basis of academic standing and need for financial assistance. Candidates must a) write the standard departmental examinations conducted by the Department of Education, BC and obtain an overall average of at least 65% in these examinations; b) submit the special bursary form to the University of British Columbia or other post secondary institutions. Winners will be considered for their second, third and fourth years of university attendance (up to graduation). However, renewals each year are not automatic and will be made only to those who file a new application, pass in all subjects with a minimum overall average of 65%, and have need for financial assistance.

Contact: The forms may be obtained after June 1st from the Student Awards Office, University of British Columbia.

External bursaries for Science students

Canadian Women in Timber Fraser Valley Branch Bursary

Deadline: unknown

Terms of reference: Canadian Women in Timber is a non-profit society formed to further the education of Forestry in all its aspects. The Fraser Valley Branch of Canadian Women in Timber is pleased to announce the provision of a $1,000 Bursary to a student who: 1. Was born in and/or educated in the Regional District of Fraser Cheam. 2. Is in the second year of a recognized Forestry program at a Post Secondary Institution in BC. (Proof of acceptance will be required before the Bursary is awarded.)

Contact: Linda McLean, Canadian Women in Timber, Fraser Valley Branch #21 - 46244 Airport Road, Chilliwack, BC V2P 1A5 Tel: (604)796-2017

Externally administered awards

External awards for all students

Award for Ukrainian Art in Alberta

Deadline: November 30

Terms of reference: Established through the Alberta Council for Ukrainian Arts (ACUA), a province-wide organization, to mark its 10th anniversary in 1996. ACUA strives to create an atmosphere conducive to the growth and development of the Ukrainian Arts. Its objective is to educate the public about the Ukrainian Arts. This $500 award is available annually to any qualified applicant, individual or group, through an exhibit, tour, festival, educational program or special project, which 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 a visual or audio sample of the Ukrainian art being promoted, along with a written proposal outlining the intended exhibit, tour, festival, educational program or special project, as per the application form. Limit of one submission per applicant. 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 and Award for Ukrainian Performing Arts, c/o Ukrainian Resource and Development Centre (URDC), Grant MacEwan Community College, Box 1796, Edmonton, AB T5J 2P2, tel: 403-497-4374, fax:403-497-4377

The Canadian Foundation for the International Space University - Summer Program

Deadline: December 27

Terms of reference: The International and Canadian Programs Division of the Association of Universities and Colleges of Canada (AUCC) has been appointed by the CFIUS to advertise and administer the Summer Session Competition in Canada. The scholarships are available to students in all disciplines and include cost for travel, tuition fees and living costs for July and August. There are 10-15 scholarships available depending on the resources. You must be a Canadian citizen or landed immigrant. Competition is open to graduate students and recent graduates (within 5 years of the start of the summer session). Fourth year students of an undergraduate program may also apply if registered in a Masters degree program for September 1997. Candidates must be conversant in English and in one other language.

Contact: To obtain program guidelines and
Canadian National Railways Native Education Award

Deadline: October 31

Terms of reference: Applicants must be in need of financial assistance; demonstrate a serious interest in preparing themselves for a career in the transportation industry; provide proof of acceptance into an eligible Canadian post-secondary institution; maintain full-time status to a recognized degree, certificate or diploma; maintain satisfactory academic standing; be status Indian, Inuit, Métis or status Indian. Five awards in the amounts of $1,500 are available.

Contact: Employment Equity Program, CN Railways, PO Box 8100, Montreal, PQ H3C 3N4, Tel: (514) 399-7676

Canadian Northern Studies Trust - Cariboo Research Award

Deadline: January 31

Terms of reference: The Beverly and Qamani'juaq Cariboo Management Scholarship Fund provides awards of up to $3,000 to full-time students enrolled in a recognized Canadian college or university pursuing studies that will contribute to the understanding of Barren Ground Cariboo and their habitat in Canada. Preference will be given to individuals who are normally resident in one of the cariboo-using communities on the range of the Beverly or Qamani'juaq caribou. These awards may be held concurrently with a special award for Northern Residents.

Contact: Association of Canadian Universities for Northern Studies, 17 York Street, Ottawa, ON K1P 5G4, tel: (613) 562-0515, fax: (613) 562-0533

Canadian Northern Studies Trust - Chevron Canada Resources Special Award in Public Administration/Community Affairs

Deadline: January 31

Terms of reference: A special award valued at $5,000 will be awarded to a First Nations person with an interest in undertaking a period of study in public administration and/or community affairs as it pertains to drug/alcohol education and rehabilitation, but careful consideration will be given to all applications from residents of the Northwest Territories and to other areas of concern.

Contact: Association of Canadian Universities for Northern Studies, 17 York Street, Ottawa, ON K1P 5G4, tel: (613) 562-0515, fax: (613) 562-0533

Canadian Northern Studies Trust - Cooperatives Award

Deadline: January 31

Terms of reference: An award normally valued at $2,000 to support a student whose studies will contribute to the studying and development of cooperatives in the Northwest Territories. The award may be held concurrently with a Special Award for Northern Residents. In making the selection for the award, preference will be given to northern residents. Applicants who are not northern residents must be full-time students at a Cooperative College of Canada, a recognized Canadian community college or a Canadian university.

Contact: Association of Canadian Universities for Northern Studies, 17 York Street, Ottawa, ON K1P 5G4, tel: (613) 562-0515, fax: (613) 562-0533

Canadian Northern Studies Trust - Special Awards for Northern Residents

Deadline: January 31

Terms of reference: Valued at $5,000 each, the purpose of these awards are to allow individuals to undertake short-term university studies in fields of concern to them personally, as well as to other people in the North. It is expected that this educational experience will be flexible and outside of normal university programs. The length of time at the university can vary but would not normally exceed one university term. It is necessary that each award recipient have a sponsor in the university who will take responsibility for developing and directing the study program.

Contact: Association of Canadian Universities for Northern Studies, 17 York Street, Ottawa, ON K1P 5G4, tel: (613) 562-0515, fax: (613) 562-0533

Canadian Unity Essay Contest

Deadline: March 31st

Terms of reference: Canadians attending Colleges and Universities are invited to submit an essay on Canadian unity. First Prize: $2,000. Two additional prizes of $200 will be awarded.

Requirements:
- Essays may be submitted in either official language
- Maximum length: 2,500 words (typed)
- Entrants must be registered students at a Canadian University or College
- All entries must be accompanied by name, address, telephone number of the submitter with a signed statement of assignment of all rights to: The Military and Hospitalier Order of St. Lazarus of Jerusalem.

Contact: Dr. David Lenarcic, Canadian Unity Essay Competition, Wilfrid Laurier University, Waterloo, ON N2L 3C5, email: dlenarc@mach1.wlu.ca

Canadian-Scandinavian Foundation Special Purpose Grant

Deadline: January 31st

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: CSF Secretary, Dr. Jan Lundgren, Department of Geography, McGill University, 805 Sherbrooke St. W., Montreal, Quebec, H3A 2K6, tel. 1-514-398-4304, fax. 1-514-398-7437, E-mail lundgren@felix.geog.mcgill.ca

Centennial Flame Research Award for Persons with Disabilities

Deadline: March 31st

Terms of reference: The recipient of the Award will have one year in which to use the money to prepare a report focusing on the public achievements of one or more disabled Canadians.

Value: $2,500

Any Canadian citizen with a disability wishing to apply for the Award should submit an outline of his or her proposed research project to the Clerk of the Committee. The Committee will select the recipient according to a set of criteria. Selection Criteria: The research report for the Centennial Flame Research Award must deal with the contribution of a disabled person (or persons) to public life in Canada or the activities of Parliament. 1. Any interested party must send an outline of their research project to the Clerk of the Standing Committee on Human Rights and the Status of Persons with Disabilities. 2. The applicant may submit his or her outline in any medium. 3. 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. 4. 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, TTY: (613)995-2266, Fax: (613)996-1962

CN Native Educational Awards Program

Deadline: October 31st

Terms of reference: Five awards each year, valued at $1,500 each, are for native students to attend selected universities in Canada which have already established proven records for attracting, providing services for and graduating, native students. Applicants must demonstrate serious interest in pursuing a career in the transportation industry.

Contact: CN Native Educational Awards Program, Employment Equity, P. O. Box 8100, Montreal, Quebec, H3C 3N4

Corbierre-Levalois/Two Axe Early Award

Deadline: July 31

Terms of reference: Two awards of $1,500 are available to Aboriginal women of First Nations/Métis 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: Executive Council, Native Women’s Association of Canada 9 Melrose Avenue, Ottawa, ON K1Y 1T8, Tel: (613) 722-3033, fax: (613) 722-7687

The Duke of Edinburgh’s Award

Deadline: unknown

Terms of reference: The Duke of Edinburgh’s Award is:

1. An international youth program for ages 14-25.
2. 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.
3. Participants can do the Award as a member of a youth group/organization such as Scouts, Guides, Cadets, church youth group, school etc., or they can work on the Award as an independent.
4. Each participant must have 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 as well.
5. To start, just contact the Award office or call collect.
6. Nothing starts counting for the Award until registration. (Then only what is done after registration counts.)
7. To start the Bronze level: Age 14. To start Silver level: Age 15. To start Gold level: Age 16
8. When the Bronze, Silver or Gold Award is approved, there is a Certificate and Pin to be presented at an appropriate occasion.

Contact: Any questions please contact the Award office at: The Duke of Edinburgh’s Award, British Columbia and Yukon, 212-633 Courtney Street, Victoria, B.C. V8W 1B8, tel(604) 385-4322.

The Norma Epstein Award for Creative Writing

Deadline: May 15, 1997

Terms of reference: Conditions of entry are:

1. The sum of $1,000 will be available for award for two years, for substantial work in fiction, drama, or verse. Competitors may submit a long poem or a group of poems; a full-length play or a group of short stories. The competition will be open to any student regularly enrolled as a candidate in an undergraduate or graduate degree course at a Canadian University.
2. Two typewritten copies of each entry must be submitted, with a completed entry form bearing
the official stamp and signature of the Registrar of the author’s own University or college. Candidates who wish to have their entries back should enclose return postage.

3. Each entry must be submitted under a pseudonym. The pseudonym and title should appear on the title page. Each copy should be enclosed in a binder.

4. No work that has been published commercially in its entirety will be eligible. Candidates will declare on the entry form whether or not, if any, of the work submitted has been published.

Contact: University College, Room 173, 15 King’s College Circle, University of Toronto, Toronto, ON M5S 3H7

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 Canada Limited, 237 Fourth Avenue S.W., Calgary, AB T2P 0H6

J. Douglas Ferguson Historical Research Foundation

Deadline: June 15

Terms of reference: The J. Douglas Ferguson Historical Research Foundation offers a competition for three awards for student essays on topics concerning aspects of numismatics, monetary history, primitive money and medallic art. There will be two competitions. 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 undergraduate students who write the best essays. To be eligible for an award, applicants must either be enrolled in a postgraduate programme (M.A., M.SC or Ph.D) or undergraduate programme (B.A., B.Sc) at a Canadian university or have completed a degree in such a programme no earlier than December 1994. The essays should have some relevance for numismatics to include essays in history, economic history, art history, archaeology or classics for which coins, tokens, jetons, paper money, cheques or medals provide a significant source of evidence as well as essays in banking history, economic anthropology, medallic art, banknote engraving, or the technology and metallurgy of coinage. These essays may have been submitted in a course or may represent new work. Applicants may submit three clear copies (typed or printed) or one copy plus a computer file on disk. The text should be double-spaced, on one side of the page only, pages numbered, and author’s name and address clearly marked on the title page. 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, P.O. Box 956 Station B, Willowdale, Ontario M2K 2T6

The Foundation for the Advancement of Aboriginal Youth

Deadline: September 15

Terms of reference: These awards, valued at $1,000 each, are awarded to a student or returning student of Aboriginal descent and residents of Canada. Applicants must be enrolled and accepted in a first, second, or third year college or university program, preferably in the areas of business, accounting, marketing, medical or technology. Consideration will be given to applicants who have made contributions to their community by volunteering or providing a leadership role for educational goals and a potential career choice in the future; copies of recent transcripts; a completed registration form; two letters of reference (no relatives), one personal and one academic; a letter from an educational institution indicating confirmation of registration or a photocopy of school application form.

Contact: Brenda Maracle-O’Toole, National Director, FAAY, 204 St. George Street, 2nd Floor, Toronto, ON M5R 2N5, tel: (416) 961-8663, fax: (416) 961-3995, Toll free: 1-800-465-7078

Gulf and Fraser Credit Union - Robert F. Long Educational Award

Deadline: September 1st

Terms of reference: It is a prerequisite that the applicant be a member 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: Completed application forms must be returned to: Gulf & Fraser Credit Union, 603 East Hastings Street, Vancouver, BC V6A 1R8

Heroes of Our Time

Deadline: Unknown

Terms of reference: There are seven awards in the amount of $2,000 each for First Nations citizens at the post-secondary student 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: Send two letters of reference, application, and transcripts to: The Assembly of First Nations, National Indian Brotherhood Trust Fund, 55 Murray Street, 5th Floor, Ottawa ON K1N 5M5; 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 $3,500 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. If wanted, Husky Oil will try to employ you for the summer. You must send a transcript and a letter of acceptance from the school you wish to attend with your application form.

Contact: Staffing, Husky Oil, PO Box 6525, Station D', Calgary, AB T2P 3G7 Tel: 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 awards are designated to cover tuition and other compulsory fees. The text should be double-spaced, on one side of the page only, pages numbered, and author’s name and address clearly marked on the title page. Winning essays in both categories will be published in the Canadian journal most relevant to their topics.

Contact: Imperial Oil Resources Ltd., 37 - 4th Ave. S.W., Calgary, AB T2P 0H6, Tel: (403) 237-3737 Fax: (403) 237-4017

Indian and Northern Affairs Canada Post-Secondary Student Support Program

Deadline: February/March

Terms of reference: To be eligible you must be Inuit or non-Inuit students who have lived only 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 students payments of up to 1,500 for continuing with program.
• Strategic Scholarships – for students of commerce, public or business administration, economics, applied and physical science, mathematics, computer science, forestry and engineering scholarships of up to $3,500 annually.

Contact: If you have Band Membership, to your Band or Tribal Council office. If you are not a Band Member, you can apply at the Native Education Centre, 265 E. 5th Avenue, Vancouver, B.C. V5T 1H2

Pam Kozchapska Memorial Award

Deadline: May 1

Terms of reference: Up to $1,000 awards, the Pam Kozchapska Memorial Award will honor students planning a career in education or in any professional field that will benefit the Upper Sto:lo people. Financial need is considered. Applicants must include a transcript of grades or a letter from someone from your school stating your grades, a recommendation and a letter explaining your goals and expectations.

Contact: Sto:lo Stel Advisory Committee, Coquitsetta Centre, Box 370, Sardis, B.C. V2R 1A7, Tel: (604) 858-9431, Fax:(604) 858-9488

William and Mary Kostash Award for Film and Video Arts

Deadline: November 30

Terms of reference: William and Mary Kostash are long-standing Ukrainian Canadian community activists who have a special concern about the self-awareness of current and future generations. This award is made possible through an endowment established in 1989, on the occasion of the Kostashes’ fiftieth wedding anniversary. The award of $500 is given annually to a novice writer for work promoting Ukrainian Canadian identity through a visual medium. All genres of film or video are acceptable. Works in progress and/or completed works will be considered. Open to Grant MacEwan Community College students and independent film or video producers. Successful applicants must forward two copies of their completed films or videos to the Ukrainian Resource Development Centre within one year of receiving this award. Projects will be evaluated on the basis of how well they meet the application criteria (2 points), how successfully they contribute to increasing the cultural self-awareness of all Ukrainian Canadians (10 points), structure and mechanics (7 points), artistic merit (7 points), and feasibility (4 points).

Contact: William and Mary Kostash Award for Film and Video Arts, c/o Ukrainian Resource and Development Centre (URDC), Grant MacEwan Community College, Box 1796, Edmonton, AB T5J 2P2, Tel: 403-497-4374, Fax:403-497-4377
Laidlaw Foundation Children at Risk, Aboriginal and Black Scholars Programs and Advanced Studies Fellowship Program

Deadline: unknown

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 create the community, maintenance and overcoming of conditions that diminish the life quality of life chances of children. The foundation offers Undergraduate Awards, Transitional Year Programs, and Advances Studies Fellowships.

Contact: Nathan Gilbert, Executive Director, Laidlaw Foundation, 950 Yonge Street, Toronto, ON M4W 2J4, Tel: (416) 964-3614, Fax: (416) 975-1428

Mungo Martin Memorial Award

Deadline: August 1

Terms of reference: Applicants must be of First Nations ancestry and a full-time student. Applications must include a brief statement of motivation, a recent transcript of marks, and two letters of reference. Awards range from $200 – $500.

Contact: Mungo Martin Memorial Awards Society, PO Box 883, Qualicum Beach, BC V9K 1T2, Tel: (604) 752-3076

Lois McConkey Memorial Fellowship

Deadline: unknown

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 N.W. Marine Drive, Vancouver, B.C. V6T 1Z2 Tel: 604-822-5567, Fax: (604) 822-2974

Petro-Canada Education Native Education Awards

Deadline: June 15

Terms of reference: The maximum amount of the award is $5,000/year depending on your financial needs. It is designed to cover part of the cost of tuition, textbooks, and living expenses for the academic year. To be eligible for the award, you must be of Canadian Indian or Inuit ancestry and be attending a post-secondary institution recognized for education purposes. A letter stating: your academic and career objectives; a brief description of your Aboriginal ancestry; your participation in school and/or community activities; your financial circumstances; your most recent transcript of marks.

Contact: Petro-Canada, Native Education Awards, PO Box 2844, Calgary, AB, T2P 3E9, Tel: 403-221-8274

Anna Pidruchney Award for New Writers

Deadline: November 30

Terms of reference: Anna (nee Raycheva) Pidruchney was an Alberta homesteader, community activist, artist, and author whose Ukrainian Canadian pioneer life. She taught numerous writing classes in both the Ukrainian and English languages, and had a special interest in young people. This award was established in 1989, in recognition of her lifelong commitment to encouraging and promoting Awards of young writers. The award of $500 is given 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 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. Apply in writing, including a copy of your completed work. Only one entry per applicant is to be submitted. Letters of application must include the author’s name, full address, phone number, date of birth, and a brief biography or resume.

Contact: William and Mary Kostash Award for Film and Video Arts, c/o Ukrainian Resource and Development Centre (URDC), Grant MacEwan Community College, Box 1796, Edmonton, AB T5J 2P2 Tel: 403-497-4374, Fax: 403-497-4377

Madeleine Bronson Rowan Endowment Fund

Deadline: unknown

Terms of reference: The purpose of 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 N.W. Marine Drive, Vancouver, B.C. V6T 1Z2 Tel: 604-822-5567, Fax: 604-822-2974

Royal Bank Native Student Awards

Deadline: January 15

Terms of reference: Awards of $4,000 are offered to students in disciplines relevant to the banking industry who are permanent residents/citizens of Canada. Students must maintain a full course workload leading to a recognized degree, certificate or diploma. If applicants are receiving partial funding from other sources, they may still apply to the Awards program to cover additional educational costs. As part of the Royal Bank Native Student Awards Program, recipients interested in a banking career will be given consideration for summer and post-graduate employment at Royal Bank.

Contact: Royal Bank Native Student Awards, Human Resources Department Royal Bank, PO Box 6001, Montreal, PQ H3C 3A9

The Shastri Indo-Canadian Institute Awards

Deadline: January 31

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’s current activities fall under three rubrics:
1. The India Studies Programme
2. The Canadian Studies Programme
3. The CIDA-SICI Project

Contact: For further information and application please contact: Executive Director, Shastri Indo-Canadian Institute, 2500 University Dr., N.W., Calgary, Alberta T2N 1N4

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, and wildlife management, forest protection, harvesting operations, parks, conservation or wood science.

Contact: Please contact: The Sisam Forestry Award, Admissions and Awards, University of Toronto, 315 Bloor Street West, Toronto, Ontario M5S 1A3

Vancouver Foundation - Advanced Arts Study Awards

Deadline: May 31

Terms of reference: The Vancouver Foundation initiated the Advanced Arts Study Awards to help develop talent from our Province. The Vancouver Foundation, in 1997, is offering a total of $70,000 in juried awards to assist in advanced studies to further their career objectives. Awards will range from $3,000 to $5,000, and a total of 15 to 20 awards will be granted in this eighth year of the program.

Terms of the Awards:
• for a program of advanced study in music, dance or theatre during 1997/98 (excluding short duration and summer courses)
• 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 B.C. resident and a Canadian citizen or landed immigrant
• student has not received more than one previous award from this program

Contact: For additional information and application contact: Vancouver Foundation Advanced Arts Study Awards, c/o Mary Olson, Registrar Vancouver Academy of Music, 1270 Chestnut Street, Vancouver, B.C. V6J 4R9, Tel: 604-734-2301, Fax: 604-731-1920

Weyerhaeuser Canada BC Division Diversity Education Awards

Deadline: Between April 1st and June 30th

Terms of reference: Awards are available to aboriginals, women, visible minorities or persons with disabilities enrolled in a university degree program or college diploma program which is relevant to a career represented in Weyerhaeuser Canada. Two $2,000 awards may be granted annually for university students and two $1,000 awards may be granted annually to college students. Recipients are eligible for consecutive annual awards providing they remain in a relevant program of studies and maintain a passing grade. Applications forms are available through the institution’s Financial Aid and Awards Office or from the Diversity Education Awards Program.

Contact: Students must send their completed application, self-evaluation and reference forms, as well as proof of acceptance into a recognized post-secondary institution to: Diversity Education Awards Program, Weyerhaeuser Canada Ltd., P.O. Box 800, Kamloops, B.C. V2C 5M7, Tel: (604)372-2217

External awards for Applied Sciences students

CIPS Computing Co-op Award

Deadline: unknown

Terms of reference: The Vancouver section of the Canadian Information Processing Society provides an award valued at $750 to a third or fourth year.
External awards for Arts students

Canadian Association of Geographer’s Annual Award

Deadline: Spring

Terms of reference: The Canadian Association of Geographers will award in the Spring semester, a prize to the outstanding honors student in Geography.

Contact: No application is necessary.

Prize of the French Consulate in Vancouver

Deadline: unknown

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 by the Simon Fraser University Department of French to the French Consulate in Vancouver.

External awards for Science students

Science Council of BC-Central Interior 2nd Year Science Award

Deadline: August 30th

Terms of reference: $1,000 to students who graduated from a high school in the central interior region who are proceeding to a 2nd 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 2 letters of reference, one from a science teacher, and include high school transcript and first year transcript attached to application.

Contact: Application forms available by contacting: Kimberley Steadman, Science Council of BC-Central Interior, Box 3010, Kamloops, BC V2C 5N3, Tel: (250)371-5751, Fax: (250)371-5582, Email: scbc@mail.netshop.net, Web site: http://www.scbc.org

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. Some students in first or second year studies, may qualify for BC Grant Funding. A detailed booklet describing the program in full is available at Financial Assistance.

Eligibility

Applicants must be Canadian citizens or permanent residents (landed immigrants) to be eligible. Assistance will be provided to eligible registered full time students taking a minimum of 60% or 9 regular credit-carrying hours of a full program of study leading to a certificate, diploma or undergraduate degree, or registered full time graduate students. The amount of assistance awarded will be based on assessed need as determined by the provincial authority.

Currently, single full time students are eligible for a maximum of $4,420 in BCSAP each semester. The maximum for students with dependent children is $6,545 a semester. You can apply for BCSAP for either one semester or two semesters at once (e.g. Fall only, Spring only, Fall and Spring).

A student in need of a Canada Student Loan/BC Student Assistance must first obtain an application form from Financial Assistance. The application must be completed carefully and accurately by the student, and where applicable, by the spouse or parent(s). If the student’s application is approved, the student will receive in the mail a Notification of Award/Statement of Personal Responsibility from the Student Services Branch in Victoria. After receiving this Notification, the student’s Canada Student Loan document will be available in Financial Assistance. This office will confirm registration and the student will then take the loan document to a lending institution for negotiation.

If the student is also eligible for BC Student Assistance, the Loan Certificate or grant will be available at Financial Assistance usually at the mid-

Applications for financial assistance must be submitted at the mid-year of the student’s first year of study.
Financial Assistance and Awards

point of the period of study for which assistance was awarded. Financial Assistance will confirm registration and the student will then take the Loan Certificate and/or cheque to a lending institution for negotiation. Students are advised to keep in constant touch with the bank, or lending institution, from which they secure their loans.

Students should note the Summary of Obligations on the reverse side of the loan certificate prior to negotiating the loan. Interest on the loan is paid by the Federal or Provincial Government as long as the student is registered as a full time student. Students should contact their lending institution (bank, credit union etc.) for information regarding the current interest rate and repayment schedule for Student Loans. Students who have previously received Canada Student Loans or BC Student Loans, but who do not negotiate one for their immediate period of study, should submit a Schedule II and/or Certificate II to their lending institution in order to retain payment free status. A copy of these forms may be obtained from the lending institution or Financial Assistance.

For appeals, reassessments or other concerns, please contact Financial Assistance.

The Provincial Government has a loan remission program available to some graduating students. For details contact: Student Services Branch, Ministry of Advanced Education, Training and Technology, Tel: 1-800-561-1818.

International student loans

United States Students
United States citizens or nationals attending Simon Fraser University are eligible to apply for a US guaranteed student loan. Application is made to a private commercial lender in the student’s home state and the loan is insured by that state, a private non-profit agency or the federal government. Students with permanent resident status may be eligible to apply for Canada Student Loans. See section International Students.

Students from other countries
Students who are not Canadian citizens or Permanent Residents, and who will require financial assistance to attend Simon Fraser University must arrange such assistance in their country of origin before arrival in Canada.

Simon Fraser University permits non-Canadian students to compete for scholarships once they have enrolled at the University on the basis of course work undertaken at Simon Fraser University. It must be stressed that non-Canadian students should not predicate their tuition and living expense estimates upon these sources. Non-Canadian students are normally not permitted to work in Canada. Such students are expected and required by federal law to have sufficient funds guaranteed for their education prior to arrival in Canada.

Government part-time grants/loans
If you are a part time student with demonstrated financial need, you may qualify for a federal study grant of up to $1,200. Grants are targeted to students with dependents and possibly other students with special circumstances who are not able to take full time studies.

Federal students loans up to $4,000 are also available to part time students with financial need. These loans supplement other financial resources such as earnings, scholarships and bursaries.

Part time students who are Canadian citizens or landed immigrants and who are not in default of previous federal or provincial student loans or grants may apply for both the grant and loan programs.

Applications and information are available from Financial Assistance. The deadline for applications is eight weeks before the end of each semester.

Grants for students with permanent disabilities
A federal grant program is available to students with permanent disabilities. Check with the Service Coordinator for Students with Disabilities in MBC 1250 or call (604) 291-3112.

Grants for female doctoral students
A federal grant program is available to female doctoral students in specific doctoral programs. Please call (604) 291-4356 for further information.

Work-Study program
The Work-Study program provides part time on-campus jobs for full time students during the Fall and Spring semesters. To become eligible, students must apply for BCSAP funding. If their financial need is greater than the maximum BCSAP funding, they may be notified by Financial Assistance that they are eligible for Work-Study placement. Each Work-Study placement lasts one semester and pays approximately $8 an hour, covering a range of 90 to 155 hours of work.

For more information
For further information on programs offered by Financial Assistance (Office of the Registrar) come to MBC 3200 or call (604) 291-4356. You may also e-mail us at fiassist@sfu.ca
Faculty of Applied Sciences

Undergraduate Degrees Offered
Bachelor of Applied Science
Bachelor of Arts (Honors)
Bachelor of Science (Honors)
Bachelor of Science
Bachelor of Science (Kinesiology) (Honors)
Bachelor of Science (Kinesiology)

Diplomas and Certificates Offered
Certificate in Computing Studies
Certificate in Applied Human Nutrition
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

School of Communication

6135 Classroom Complex, (604) 291-3687 Tel, (604) 291-4024 Fax, http://www.sfu.ca/communication

Director
B. Lewis, BA (Hamilton), MA, PhD (Iowa)
Professor Emeritus
T.J. Mallinson BA (Br Col), MA (Columbia U), PhD (Tor)

Professors
R.S. Anderson BA (Br Col), MA, PhD (Chic)
R.S. Gruneau BA (Guelph), MA (Calg), PhD (Mass)
L.M. Harasim BA, MA (Alta), PhD (Tor)
P. Heyer BA (Sir G Wms), MA (New Sch Soc Res), MPhil, PhD (Rutgers)
S. Kline BA (Tori), PhD (Lond)
W. Leiss BA (F. Dickinson), MA (Brandeis), PhD (Calif)
B. Lewis BA (Hamilton Coll), MA, PhD (Iowa)
R.M. Lorimer BA, MA (Manit), PhD (Tori)
B.D. Trux BSc (Qu), MMus (Br Col)
A. Wilden PhD (Johns H)

Associate Professors
P.S. Anderson BGS, MA (S Fraser)
E. Balka BA (Wasl), MA, PhD (s Fraser)
A.C.M. Beale BA, MA, PhD (McG)
P. Guild BA (Wat), MA (Car), DPhil (Oxf)
R.A. Hackett BA (S Fraser), MA, PhD (Qu)
P.M. Howard BA, MA (Regina), PhD (S Fraser)
M. Laba BA (York), MA, PhD (Nfld)
C.A. Murray BA, MA (Wat), PhD (Qu)
W.D. Richards, Jr. BA (Mich State), MA, PhD (Stant)

Assistant Professors
G.W. Faurshou BA (Winn), MA, PhD (York)
R.K. Smith BA (Car), MA, PhD (S Fraser)

Senior Lecturer
D. Gutstein BArch, MArch (Br Col)

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Ms. D. Sedo, 6139 Classroom Complex, (604) 291-3862 Tel, dsedo@sfu.ca

Communication. Faculty members on the school’s undergraduate curriculum committee are also available for student consultations.

Faculty and Areas of Research
The study of communication has recently emerged as an identified academic discipline. At the same time, a number of the traditional disciplines in the social sciences, the humanities, and the natural sciences employ communicational approaches in various areas. Communicational perspectives are also becoming prominent in the professions, notably in law, medicine, counselling, business, labor, education, trade, diplomacy, advertising, broadcasting, etc. As a social science, communication is distinctively trans-disciplinary.

The school has drawn on a number of perspectives, but is most readily distinguished by the fact that it treats communication as a humanistic social science, and is concerned with the contexts within which information in all its diverse forms is created, coded, communicated, and controlled. This approach provides students with wide opportunities to explore both communication theory and communication practice, as well as the relationship between the two. It encourages the concrete application of theory and research to modern society, its historical origins, its dominant values, its institutions and policies, its present structure, its current problems and its potential for change.

Refer to graduate Communication for faculty’s areas of research.

Program of Studies
The school offers a specialized program leading to a bachelor of arts major or honors degree. It also offers a minor program and a variety of courses in communication for students in other degree programs in the University.

Students with a degree in communication can seek employment opportunities in the following:

• management or research connected with communication industries, such as radio, television, book publication and telecommunications (courses in media production or journalism are not 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 aural and video communication

The school is interdisciplinary in its approach. It offers a concentration program of study in a variety of fields. Course progressions in each of the topic fields are listed below for the guidance of students, but students are encouraged to take courses from more than one field of study in the School of Communication.

Fields of Study
Acoustic and electroacoustic communication (CMNS 258, 259, 358, 359)
Advertising and social marketing (CMNS 130, 223, 322, 425, 426, 428)
Applied communication research (CMNS 260, 261, 362, 363)
Communication policy in media and information technology (CMNS 130, 230, 333, 334, 335, 433, 436, 438, 456, 458)
History and theory of communication (CMNS 110, 210, 224, 304, 310, 422)
International communication and development (CMNS 130, 247, 345, 347, 444, 446, 448)
Interpersonal and intercultural communication (CMNS 200, 205, 305, 447)
Journalism and news media analysis (CMNS 110, 130, 235, 351, 355, 435)
Mass media/popular culture (CMNS 110, 130, 220, 221, 224, 320, 321, 326, 421, 422, 428)
Network analysis (CMNS 201, 408)
Political communication (CMNS 130, 224, 331, 347)
Political economy of communication (CMNS 130, 240, 444)
Technology, science and public policy (CMNS 130, 253, 342, 353, 442, 453, 454, 458)

Enrolment Limitations
Admission to the upper division of the major, minor, honors and related joint programs is limited. Space in upper division communication courses is reserved for students who have been formally accepted into such a program; only such students will be able to obtain the upper division courses necessary to complete the program. Exceptions to this rule may be made by instructors in consultation with the director of the school.

With approval of the Dean of Applied Sciences Office, the school will establish a yearly quota—the number of students that can be accommodated in the major/honors, joint major or minor programs. This quota will be established on the basis of projected available course space and school resources.

The school admits a limited number into its programs each semester, consistent with the overall quota, on the basis of minimum CGPA announced two semesters in advance of the Fall semester each year. This announcement will appear in the annual Student Guide to be published at the beginning of the calendar year. The school will determine this annual minimum requirement for entry on the basis of the number of places available. Every applicant for a major, minor or joint major program whose CGPA is greater than, or equal to, the annually announced requirement will be admitted; under normal circumstances admission to a program will not be granted to any applicant who has a CGPA which is less than the admission CGPA set by the school.

These requirements apply equally to a transfer or second degree student.

To remain in good standing in a program in communication, a student will be expected to maintain the minimum CGPA of 2.25.

Major Program
Entry Requirements
In addition to the requirements of the University (see Admission and Readmission for details), students...
must have a minimum CGPA or transfer GPA of 2.25 and have completed, with a grade of C- or higher, CMNS 110 and 130, and four courses in communication at the 200 level.

Graduation Requirements
Once approved for a specialization in communication, a student will be required to maintain a minimum CGPA of 2.25 to maintain good standing in the program (that is, to retain eligibility to continue in the program). Students must also demonstrate competence in the specialized study of communication by:
- completion of CMNS 110 and 130
- completion of four additional lower division courses in communication (for a total of 18 lower division credit hours in communication).
- completion of a course in basic science or social science methods (a list of approved course offerings is available from the School of Communication).
- completion of two courses in applied communication research, including one of CMNS 260 or 261, and one of CMNS 362 or 363.
- completion of seven upper division (minimum four credit) courses in communication. At least two of these shall be regularly scheduled 400 level offerings. Normally upper division courses may not be taken unless lower division course work has been completed, and normally 90 credit hours and the courses required in applied communication research must be taken prior to the 400 level courses.
- Directed study and field placement courses may not be taken to meet the above mentioned requirement of seven upper division courses for a major in communication.
- including these requirements, a major requires a minimum total of 45 upper level credit hours for the degree.
- to meet the requirements for a degree in communication, at least 60 credit hours must be chosen from disciplines other than communication.
- Students must include a minimum of 12 credit hours chosen from Asia-Canada, contemporary arts, English, French, general studies, history, Latin American studies, linguistics, philosophy, Spanish, or other languages.
- Students must also complete a minimum of two courses chosen from biochemistry, biological sciences, chemistry, computing science, earth sciences, engineering science, kinesiology, mathematics, resource and environmental management, statistics, physics, at least one of which must be from the Faculty of Applied Sciences.
- Also required are a minimum of one upper division course (plus lower division prerequisites, if any) chosen from archaeology, business administration, Canadian studies, criminology, economics, education, geography, political science, psychology, sociology and anthropology, women’s studies.

Communication Minor Program
Entry Requirements
In addition to University requirements (see Admission and Readmission for details), students must have a minimum CGPA or transfer GPA of 2.25 and have completed, with a grade of C- or higher, CMNS 110 and 130.

Requirements
To graduate with a minor in communication, a student must have fulfilled the following:
- completion of CMNS 110 and 130
- completion of four upper division courses in communication. Directed study and field placement courses may not be taken for credit towards the course requirements for a minor in communication.

Publishing_minor Program
Entry Requirements
In addition to University requirements (see Admission and Readmission), students must have a minimum CGPA or transfer GPA of 2.25 and have completed, with a grade of C- or higher, lower division requirements for the publishing minor.

Note: CMNS courses taken for credit toward the Publishing minor may not be counted as part of CMNS credit hours needed for a major or minor in communication.

Lower Division Requirements
Four courses must be chosen from the following. No more than two courses from each discipline can be counted.

CMNS 110-3 Introduction to Communication Theory
CMNS 130-3 Explorations in Mass Communication
CMNS 230-3 Introduction to Communication Media
CMNS 240-3 The Political Economy of Communication
ECON 101-3 The Canadian Economy
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
ENGL 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

Upper Division Requirements
Four courses must be chosen from the following.

CMNS 335-4 The Newspaper Industry and Press Policy in Canada
CMNS 371-4 The Structure of the Book Publishing Industry in Canada
CMNS 372-4 The Publishing Process
CMNS 375-4 Magazine Publishing
CMNS 471-4 Selected Topics in Publishing
CMNS 472-4 Books, Markets and Readers
CMNS 473-4 Publication Design and Print Production
CMNS 474-4 The Business of Publishing
CMNS 478-4 Publishing Project Group

Communication Extended Minor Program
A communication extended minor program may be part of a BA degree in the Faculty of Arts, which includes two extended minors. Consult the Faculty of Arts section for specific details about this option.

Entry Requirements
- completion, with a grade of C- or higher, of CMNS 110, 130 and four courses in CMNS at the 200 level. In addition, a minimum CGPA or transfer GPA of 2.25 is a prerequisite for acceptance to this program.

Graduation Requirements
- completion of the above-mentioned six courses, totalling 18 lower division credit hours.
- completion of a course in basic science or social science methods (a list of approved course offerings is available from the School of Communication).
- completion of two courses in applied communication research, including one of CMNS 260 or 261, and one of CMNS 362 or 363.
- completion of at least four upper division courses in communication. Directed study and field placement courses may not be taken for credit towards the course requirements for an extended minor in communication.

Joint Major in Communication and Business Administration
See the Faculty of Business Administration section for requirements.

Joint Major in Communication and Latin American Studies
See Latin American Studies Program for requirements.

Joint Major in Communication and Sociology/Anthropology
See Sociology and Anthropology 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 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 coordinator.

The school reserves the right to limit the number of honors students if faculty resources are not available for supervision. In such cases, priority for registration in the honors program will be given to the students with a higher CGPA.

Students who have difficulty finding an honors supervisor should contact the school’s honors coordinator.

Other admission requirements are as follows:
- a minimum CGPA in communication courses of 3.0
- successful completion of at least one of CMNS 260 or 261, and at least one of CMNS 362 or 363
- completion of 75 hours of course work with a minimum CGPA of 3.0

Continuation
To remain in this program, students must maintain a minimum grade point average of 3.0 or higher for all courses (including communication courses) taken in each semester. Students who do not meet this requirement may be dropped from the program but may apply for readmission at a later date.

Graduation Requirements
To receive an honors in communication, students must:
- meet the graduation requirements for a degree in communication.
- meet the honors graduation requirements of the University and the Faculty of Applied Sciences including at least 60 credits at the upper level.
- successfully complete an honors project (CMNS 497 and 498)
- obtain certification by the undergraduate studies committee that the program has been satisfactorily completed.
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 10-12 credit hours of upper division or graduate level courses (normally eight 4-credit courses numbered 300 or above). Courses must be selected from an approved listing in consultation with a program advisor. At least five of the upper division courses (20 credits) must be in communication; the remaining 10-12 credits could be in related disciplines, such as sociology, Canadian studies, history, English, women’s studies, etc.

Students may also be required to take some background lower division courses in preparation for the advanced courses. For example, a student who has a BA in an area not related to communication would be encouraged to take at least CMNS 110 and 130 before enrolling in any of the 300 and 400 level courses.

For further information, refer to the Continuing Studies section.

Co-operative Education Program
Co-operative education is a system which combines work experience with academic studies. The student spends alternate semesters on campus and in paid, study related jobs. Arrangements for the work experiences are made through the school’s co-op co-ordinator and the University’s Office of Co-operative Education. For further details, students should refer to the Co-operative Education section.

Minimum Grade Requirement
Students must obtain a grade of C or higher in their courses, as they normally will not be permitted to enrol in any computing science course for which a C- grade or lower was obtained. A minimum CGPA of 2.25 is required for entry into upper division computing courses.

Enrolment Limitations
Registration in the upper division courses for major, minor, honors and related programs is limited. Space in upper division computing science courses is primarily reserved for students who have been formally accepted into such a program; only such students will be generally able to obtain the upper division courses necessary to complete the program.

Normally, students apply for acceptance upon completion of 57 credit hours including the lower division requirements for the program. Early acceptance is available for Simon Fraser University students and transfer students with high CGPAs and computer related GPAs (CRGPA). Direct acceptance is also possible for secondary school students with strong university admission GPAs.

Approval into a computing science program is based on overall academic performance as measured by the CGPA and on specific academic performance in computing related material as measured by the CRGPA. The CRGPA for a given program is the GPA calculated on all courses used for the lower division requirements for that program and any other Simon Fraser University CMPT courses taken.

For early acceptance into a program, students are required to fulfill the following requirements depending on the number of credit hours completed at Simon Fraser University (or equivalent): 30-44 credit hours completed: students are required to have completed CMPT 101, 150 (or 105) and MACM 101 (or equivalent courses taken elsewhere) or 45 or more credit hours completed: students must have completed CMPT 201, in addition to the courses listed for 30 credit hours.

A student can be formally approved into any of the programs involving computing science if their CGPA and CRGPA are both greater than or equal to the computing science acceptance GPA. The acceptance GPA is high, the approval and decreases as students near completion of lower division requirements. The actual values may vary from semester to semester depending on the number of available spaces and the number of qualified applications, and are subject to the dean's approval. In previous semesters, the acceptance GPA of 57 credit hours was 2.60. Applications for formal approval must be received by the fifth day of classes for consideration in that semester.

For direct acceptance on the basis of BC secondary school achievement, students are required to fulfil the general university admission requirements and to include mathematics 12 in the courses they use for the admission GPA calculation. Students with strong admission GPAs are encouraged to apply for direct acceptance into the computing science program.
To remain in a program in computing science, a student will be expected to maintain at least the minimum CGPA of 2.25.

Major and Honors Programs

These programs are organized so that students may take advantage of a number of options. Among these are preparation for employment in computer related positions in government, business, or industry, and for computing science graduate studies or a related area. A computing science undergraduate degree also is an appropriate preparation for other areas where computers play a major role, especially business administration, economics, and science.

Lower Division Requirements

Students who plan to undertake a major, or honors in computing science must obtain credit for the following lower division courses (or equivalents).

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPT 101-4 Introduction to Computer Programming</td>
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<tr>
<td>CMPT 104-2 Computer Programming</td>
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<tr>
<td>CMPT 150-3 Introduction to Computer Design</td>
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<tr>
<td>CMPT 201-4 Data and Program Abstraction</td>
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<tr>
<td>CMPT 275-4 Software Engineering I</td>
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<tr>
<td>CMPT 290-3 Introduction to Computer Architecture</td>
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<tr>
<td>MACM 101-3 Discrete Mathematics I</td>
<td></td>
</tr>
<tr>
<td>MACM 201-3 Discrete Mathematics II</td>
<td></td>
</tr>
<tr>
<td>MATH 151-3 Calculus I</td>
<td></td>
</tr>
<tr>
<td>MATH 152-3 Calculus II</td>
<td></td>
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<tr>
<td>MATH 222-3 Elementary Linear Algebra</td>
<td></td>
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<tr>
<td>PHIL 001-3 Critical Thinking</td>
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<tr>
<td>STAT 270-3 Introduction to Probability and Statistics I</td>
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</tr>
</tbody>
</table>

plus completion of at least two courses satisfying the School of Computing Science external breadth requirement (43-45 credit hours)

Notes

After completion of CMPT 150, students may also take ENSC 151 as an option.

Approval of calculus courses in place of MATH 151 or 152 will be based on corresponding approval within the Department of Mathematics and Statistics.

Any 100 level English course may alternatively be used to satisfy the requirement for PHIL 001. A grade of C- or better is required in PHIL 001 or its alternative.

The GPA calculated over all Simon Fraser University courses used to fulfil the above requirements plus any other CMPT courses taken is called the computing-related GPA for declaration of a computing science major or honors and is used in determining admission to these programs.

It is recommended that students with normal entry complete the above courses within the first four semesters.

Upper Division Requirements

Major and honors students are required to consult an advisor before commencing their upper division course requirements.

The primary upper division requirements for a major or honors are structured according to the areas of concentration shown in table I. Elective courses that may be used to fulfill further requirements are shown in tables II and III.

Table I – Computing Science Concentrations

<table>
<thead>
<tr>
<th>Artificial Intelligence</th>
<th>CMPT 310-3 Artificial Intelligence Survey</th>
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</thead>
<tbody>
<tr>
<td>CMPT 411-3 Knowledge Representation</td>
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<tr>
<td>CMPT 412-3 Computational Vision</td>
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<tr>
<td>CMPT 413-3 Computational Linguistics</td>
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</tbody>
</table>

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 468-3 Scientific Visualization
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 402-3 Operating System Software Laboratory
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 Advanced Application Development Tools
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 408-3 Theory of Computer Networks/Communications
CMPT 409-3 Special Topics in Theoretical Computing Science
MACM 390-3 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
MATH 308-3 Linear Programming
MATH 343-3 Combinatorial Aspects of Computing
MATH 408-3 Discrete Optimization
MATH 416-3 Numerical Analysis II

Upper Division Requirements for a Major

For a major, students must satisfy the following requirements.

Breadth Requirement

One course each in five areas of table I must be completed. These courses must include CMPT 300 and 307. CMPT 354 is recommended. (15 credit hours)

Depth Requirement

Four additional courses from table I must be completed in the five areas chosen to satisfy breadth requirements. At least two of these courses must be numbered CMPT 400 or above. (12 credit hours)

Further course requirements for a major in computing science depend on the degree sought, as follows.

For a major in computing science in conjunction with a BEd program as offered by the Faculty of Education, one additional CMPT course chosen from table I or table II must be completed, bringing the total upper division credit hours in CMPT courses to at least 30.

For a BA degree with a major in computing science, the following additional requirements must be met.

• one additional CMPT course chosen from table I or table II must be completed bringing the total upper division credit hours in CMPT courses to at least 30.

• a concentration of 15 credit hours in a discipline (department) within the Faculty of Arts must be completed. This concentration must include at least six credit hours of upper division credit.

For a BSc degree with a major in computing science, the following additional requirements must be met.

• three additional courses chosen from tables I, II or III must be completed. These courses must include MACM 316. (9 credit hours)

Social Aspects of Computing Requirement

Students must complete an approved course dealing with computing from a social perspective. Any of the following courses may be used to meet this requirement.

CMPT 320-3 Social Implications of a Computerized Society
CMNS 353-4 Social Contexts of Information Technology

Other courses may be approved on submission of a detailed course outline to the school.

External Breadth Requirement

The School of Computing Science requires its honors and major students to acquire effective writing and discussion skills and to develop knowledge in diverse areas. Toward this end, students must complete at least nine credit hours (at any level) of external breadth courses. These courses must be from more than one department. Students are expected to take at least one external breadth course in each of their first three years. A list of courses approved for this requirement is published annually and is available from the office of the School of Computing Science.

For all major programs in computing science, a grade point average of 2.0 must be obtained on the 30 to 40 credit hours of upper division CMPT/MACM/MATH courses used to fulfill the above requirements.

For all major programs in the School of Computing Science, at least 24 credit hours of the required CMPT courses must be taken at Simon Fraser University.

For a major in computing science, 120 credit hours must be completed, with an overall minimum of 45 credit hours of upper division credit.

For all computing science majors, at least 30 hours of upper division CMPT courses must be counted towards the major and cannot at the same time be counted towards the credit hour requirements of any other program. Those hours beyond 30 can be applied to other major or minor programs.

Students are advised to consult the General Information section of this calendar governing university graduation requirements.

Upper Division Requirements for Honors

For a BA or BSc degree with honors in computing science, students must fulfill the corresponding
requirements for a BA or BSc major in computing science, with the following modifications and additions.

Breadth Requirement
One course each in the six areas of table I is required. These courses must include CMPT 300, 307 and 354.

Depth Requirement
Six additional courses from table I are required. These courses must include CMPT 405 and at least one other course in the theoretical computing science concentration. At least four of the courses must be numbered 400 or above.

Credit Hour Requirement
Additional computing science courses must be completed to bring the total upper division credit hours in CMPT/MACM to at least 50.

In addition, a minimum of 60 upper division hours and an overall total of 132 hours are required for the degree, together with a graduation grade point average of at least 3.00 as described in the General Information section.

Specialist Programs
Students must consult an advisor before commencing a specialist program, preferably early in their second year.

All students in specialist programs must satisfy the external breadth requirement as specified above under Upper Division Requirements for a Major.

Specialist Program in Multimedia Computing

Lower Division Requirements
Students must complete all lower division requirements for the computing science major program (40-42 credit hours) plus
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 279-3 Special Topics in the Fine and Performing Arts I
FPA 290-3 Video Production I

Upper Division Requirements
Students must complete at least 39 credit hours of computing science upper division courses, which should include CMPT courses in the following required and elective courses.

Students must complete all of
CMPT 300-3 Operating Systems I
CMPT 307-3 Data Structures and Algorithms
CMPT 320-3 Social Implications of a Computerized Society
CMPT 363-3 User Interface Design
CMPT 371-3 Data Communications and Networking
CMPT 475-3 Software Engineering II

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 371-3 Principles of Compiler Design
CMPT 383-3 Comparative Programming Languages
CMPT 401-3 Operating Systems II
CMPT 402-3 Operating System Software Laboratory
CMPT 454-3 Database Systems II
CMPT 470-3 Advanced Application Development Tools
CMPT 471-3 Networking II
CMPT 478-3 Software Engineering Tools and Environments
ENSC 351-4 Real Time and Embedded Systems
Additional upper CMPT courses are required to bring the total CMPT credits to 45 or more (ENSC 351 is treated as CMPT credit for this purpose).

Minor Program

Lower Division Requirements
Students who plan to undertake a minor in computing science should normally obtain credit for the following lower division courses.

one of
CMPT 101-4 Introduction to Computer Programming
CMPT 102-4 Computer Programming
one of
CMPT 275-4 Software Engineering I
CMPT 250-3 Introduction to Computer Architecture
plus all of
CMPT 150-3 Introduction to Computer Design
CMPT 201-4 Data and Program Abstraction
MACM 101-3 Discrete Mathematics I
MATH 151-3 Calculus I
PHIL 001-3 Critical Thinking
(24 credit hours)

Notes
Approval of a calculus course in place of MATH 151 will be based on corresponding approval within the Department of Mathematics and Statistics.
Any 100 level English course may alternatively be used to satisfy the requirement for PHIL 001. A grade of C- or better is required in PHIL 001 or its alternative.
The GPA calculated over all the Simon Fraser University courses used to fulfill the above requirements plus any other CMPT courses taken is called the computing related GPA for declaration of a minor in computing science and is used in determining admissions to the computing science minor program.

Upper Division Requirements
For a minor, students must complete the following requirements.

• three courses chosen from the computing science upper division core courses listed in table I must be completed
(9 credit hours)
• two additional CMPT courses chosen from table I or table II must be completed
(6 credit hours)
• no more than three courses from any one area of table I may be counted towards the above 15 credit hours of credit.
• at least 12 credit hours of these courses must be completed at Simon Fraser University.

Joint Major in Information Systems in Business Administration and Computing Science

In co-operation with the Faculty of Business Administration, the school offers a joint major in information systems in business administration and computing science. See the Faculty of Business Administration section for course requirements. Upon completion of the requirements, students may choose either a BBA degree as offered by the Faculty of Business Administration or a BA degree offered by the School of Computing Science.
A BSc degree is also available in the joint major with the completion of the following requirements in addition to those listed in the Business Administration section. Three additional courses chosen from tables I, II or III must be completed. These courses must include MACM 316.

Mathematics and Computing Science Honors Program
This program is offered jointly with the Department of Mathematics and Statistics. Entry requires permission of both the department and the school. See the Mathematics and Computing Science Program section.

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. For more details about the requirements, see Cognitive Science in the Faculty of Arts section.
Management and Systems Science Program

In co-operation with the Department of Mathematics and Statistics, the Department of Economics and the Faculty of Business Administration, the school contributes to this program in management and systems science, leading to a BSc degree. For more details about the requirements, see Management and Systems Science in the Faculty of Science section.

Post Baccalaureate Diploma in Computing Science

Admission to a post baccalaureate diploma in computing science is available for students who have already completed a bachelor’s degree. For information about the program’s general regulations, refer to Continuing Studies.

Requirements

All students must complete an approved program consisting of at least 30 credit hours which include the following:

CMPT 300-3 Operating Systems I
CMPT 307-3 Data Structures and Algorithms
CMPT 354-3 Database 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 so that the student achieves a coherent program of study. The student is responsible for satisfying the prerequisites of courses in the program. This may entail taking more or all courses listed in the lower division requirements of the major in computing science (depending upon the student’s prior transcript).

Certificate in Computing Studies

This program provides both part time and full time students with an opportunity to understand the fundamentals of computers and programming without necessarily specializing in computing science. Admission is governed by Simon Fraser University admission regulations.

Program Requirements

This certificate requires completion of 20 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
MATH 151-3 Calculus I

and one of
CMPT 101-4 Introduction to Computer Programming
CMPT 104-2 Computer Programming

Elective Courses

- and two of
CMPT 110-3 Event-Driven Programming in Visual Basic
CMPT 112-1 Introduction to an Additional Programming Language – C
CMPT 116-1 Introduction to a Second Programming Language: SMALLTALK
CMPT 117-3 Introduction to Internet Programming – Java
CMPT 118-3 Special Topics in Computer and Information Technology

CMPT 212-3 Object-Oriented Applications Design in C++
- plus one additional three credit CMPT course at the 300 level.

Notes
At least 10 credit hours of the CMPT courses required for this program must be completed at Simon Fraser University.

A GPA of 2.0 is required on the courses used for this certificate. Only courses taken at Simon Fraser University are used in this calculation.

Computers, Software and Technology

The computers, software and technology courses are designed specifically for non-computing students to allow them to obtain essential software knowledge and skills via on campus courses and through distance education. These courses require students to think logically, modularly, precisely and abstractly. Non-computing science students who successfully complete these courses will have a wider range of co-operative education opportunities. Students who have obtained credit for, or are currently enrolled in a computing science course at the 200 level or higher may not take CMPT 118 for further credit.

CMPT 100-3 Event Driven Programming in Visual Basic
CMPT 117-3 Introduction to Internet Programming – Java
CMPT 118-3 Special Topics in Computer and Information Technology

School of Engineering Science

School of Engineering Science

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D. Kiel BSc, MSc (Alta), PhD (Camb)
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*joint appointment with Computing Science
**joint appointment with Physics
***joint appointment with Kinesiology

Programs Offered

Engineering Science Program
This program leads to the degree of bachelor of applied science (BASc).

Engineering Transfer Program
Available through the Faculty of Science, this program permits students with adequate standing to complete an engineering degree in one of the following ways.

- transfer into the engineering science program at Simon Fraser University
- transfer into the Faculty of Applied Science at the University of BC
- transfer to another university

Minor in Computer and Electronic Design
This program is available to all non-engineering science majors at Simon Fraser University who have high academic standing. This program does not lead to an accredited engineering degree.

Admission
Students who wish to study engineering science must be eligible for admission to the University and must submit applications as described in the Admission and Readmission section. Concurrent to the SFU admission application, students must also submit a separate application to the admissions committee, School of Engineering Science, which includes an ‘open’ application letter explaining the applicant’s interest in engineering, a resume, a copy of the most recent report card and a reference letter from a math/physics teacher.
Admission is limited to 80 students. An 'A' standing in mathematics 12, physics 12, chemistry 12 and at least a 'B' standing in English 12 is expected. The School of Engineering Science makes the final decision on all applications.

Engineering admission inquiries may be sent by e-mail to: ensc-adm@sfu.ca. More detailed admission information is on the World Wide Web at http://www.ensc.sfu.ca

Interested students should apply as early as possible since the program usually fills early. In special circumstances, students may enter in spring or summer semesters.

Transfer Credit
Normal university regulations state that 60 transfer credit hours may count toward a Simon Fraser University degree. In addition, a further 20 credit hours in engineering science may be credited toward the BASc degree.

BASc Program
Engineering science students develop skills in systems design along with a high level of scientific knowledge. The program is demanding and is aimed at the superior student. The goal of the program is to produce well educated, innovative engineer/scientists who have entrepreneurial skill and attitudes and who are oriented to the new technologies. Entry to the program is on a competitive basis and, once admitted to engineering science, students must maintain a cumulative grade point average of 3.0 (B) to remain in the program.

The program may be completed in four and two thirds years which includes eight semesters of course work, and two semesters for thesis completion. Some courses may also be taken in these final two semesters if required. Students undertake a basic core of pure, applied and engineering sciences followed by studies in a specialized option.

The school began offering courses in September, 1983. There are four major areas of concentration where the faculty members’ research strengths are 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.

In all ENSC courses, computers emphasize learning, conceptualization, design and analysis. Built into the program are courses on social impacts of technology, finance, management, design methods and entrepreneurship intended to complement scientific studies. An integrated communications course taken throughout the eight academic semesters ensures that all engineering science graduates have the communication skills necessary to be effective engineers.

Industrial Experience
Every student must complete a co-operative education program of at least three work semesters and a thesis project. This results in a combination of work in an appropriate industrial or research setting with study in a chosen option. Intensive specialized study is coupled with a project under the direction of a practising engineer or scientist.

Toward the end of academic studies, students work on a major project in an internship placement or join a research team which then forms the basis for thesis work. A thesis proposal is submitted in the ninth semester and all thesis requirements are completed by the end of the tenth semester. When appropriate, other patterns of work and study can be adopted.

Students may also participate in additional work semesters for further valuable experience and the chance to investigate career choices. Engineering science co-operative education will be administered through the school’s internship co-ordinators whose responsibility it is to find and maintain appropriate work placements.

**BASc Requirements**
All requirements of one of the four options (a minimum of 156-157 credit hours) must be completed. Each option provides a mix of basic science, general studies, engineering science, specialized engineering and science, plus project and laboratory work.

A graduation GPA of at least 3.0 calculated either on all the required courses taken, or on the upper division credits only, is required. Students must complete a three semester co-operative 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.

ENSC 498, taken in the ninth semester, provides supervised study and practical work in research, development, or advanced engineering. A project thesis based on this activity is submitted, and the thesis work presented, to at least the industrial and academic supervisory committee for approval. Specialized study is completed in one of four options: systems, electronics engineering, computer engineering and engineering physics (see below).

Although there is no strict requirement to follow these course sequences, those taking less than the designated load must be careful about scheduling and prerequisite problems in subsequent semesters. Failure to take those courses identified with an asterisk in the designated semester will almost certainly lead to such problems. Any semester taken with fewer than 15 credit hours requires prior approval by the director.

The general studies section of the program consists of non-technical courses which broaden education and develop awareness of social, economic and managerial factors affecting engineering and scientific work. All units of the engineering communication course must be completed. In complementary studies, at least one course must deal with science and technology within society and one must deal with central issues, methodologies and thought processes of humanities and social sciences. Other complementary studies courses may deal with these subjects or may be chosen from business, arts, humanities and social sciences. Permission may be required from the appropriate department, school or faculty to register in some of these courses. A pre-approved list of complementary studies courses is available from the school. Other courses may be acceptable with the approval of the undergraduate curriculum committee chair.

**Engineering Science Common Core**

**Courses and Typical Schedule**

**Semester One (Fall)**
CMPT 121-4 General Chemistry and Laboratory I
ENSC 100-3 Engineering Technology and Society*
ENSC 151-2 Writing Process, Persuasion and Presentations

**Semester Two (Spring)**
CMPT 101-4 Introduction to Computer Programming*
ENSC 102-1 Form, Style and Professional Genres*
ENSC 152-2 Digital and Computer Design Laboratory*
ENSC 250-3 Introduction to Computer Architecture*
MATH 152-3 Calculus II*
PHYS 121-3 Optics, Electricity and Magnetism*
PHYS 151-2 General Physics Laboratory B*

**Semester Three (Fall)**
ECON 103 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)
MATH 310-3 Introduction to Ordinary Differential Equations*
PHYS 211-3 Intermediate Mechanics* (P)

**Semester Four (Summer)**
CMPT 201-4 Data and Program Abstraction* (C,S)
ENSC 204-1 Graphical Communication for Engineering*
ENSC 201-3 The Business of Engineering
ENSC 225-4 Microelectronics*
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*

**Semester Five (Spring)**
MATH 251-3 Calculus III* (E,P,S)
MATH 232-3 Elementary Linear Algebra*
MATH 252-3 Vector Calculus* (P,E)
PHYS 221-3 Intermediate Electricity and Magnetism* (P,E,S)

**Semester Six (Fall)**
CMPL I-3 First complementary elective
ENSC 305-1 Project Documentation and Team Dynamics*
ENSC 325-4 Microelectronics II*
ENSC 327-4 Communication Systems*
ENSC 340-3 Engineering Science Project*
ENSC 383-4 Feedback Control Systems*

**Electronics Engineering Option**
This specialization within electrical engineering directly relates to microelectronics and its applications in communications, control and computing. Engineers in this field are involved with the design and fabrication of systems utilizing electronic components and subsystems.

**Courses and Typical Schedule**

**Semester Five (Spring)**
ENSC 304-1 Human Factors and Usability Engineering*
ENSC 320-3 Electric Circuits II*
ENSC 330-4 Engineering Materials
ENSC 351-4 Real Time and Embedded Systems*
ENSC 380-3 Linear Systems*
PHYS 324-3 Electromagnetics

**Semester Six (Fall)**
ENSC 101-1 Writing Process, Persuasion and Presentations*
Semester Seven (Spring)
EnSc I-4 first Engineering Science elective²
ENSC 406-2 Social Responsibility and Professional Practice*  
MACM 316-3 Numerical Analysis I  
SciE I-3 first science elective³  
Tech I-3 first technical (computing science, science or math) elective  
Tech II-3 second technical (computing science, science or math) elective³  
18 credit hours

Semester Eight (Fall)
Cmpl I-3 second complementary studies elective¹  
SciE II-3 second science elective³  
EnSc II-4 second Engineering Science elective²  
EnSc III-4 third Engineering Science elective²  
EnSc IV-4 fourth Engineering Science elective²  
18 credit hours

Other Requirements
ENSC 498-3 Engineering Science Thesis Proposal  
ENSC 499-4 Engineering Science Undergraduate Thesis  
7 credit hours  
Total 155 credit hours

*should be taken at this point in the program; consequences of deviations 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, 453, 481, 483, 488, 489, 495. With permission of the undergraduate curriculum committee chair, a directed study or special project laboratory course may be chosen, but typically, no more than one of each can be approved for this purpose. 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, students will start their thesis work (ENSC 498 and 499) between semesters seven and eight. Theses can be done on or off campus, either integrated with an optional (or mandatory) work term or as independent work with appropriate supervision.

Computer Engineering Option
The dynamic, on-going development and application of computer and digital systems requires computer systems engineers to have a balanced capability in software and hardware, as well as a solid engineering base.

Courses and Typical Schedule
Semester Five (Spring)
CMPT 275-4 Software Engineering*  
MACM 201-3 Discrete Mathematics II  
ENSC 304-1 Human Factors and Usability Engineering*  
ENSC 320-3 Electric Circuits II  
ENSC 351-4 Real Time and Embedded Systems*  
ENSC 380-3 Linear Systems*  
18 credit hours

Semester Six (Fall)
ENSC 305-1 Project Documentation and Team Dynamics*  
ENSC 325-4 Microelectronics II*  
ENSC 327-4 Communication Systems*  
ENSC 340-3 Engineering Science Project*  
ENSC 383-4 Feedback Control Systems*  
SCIE I-3 first science elective³  
19 credit hours

Semester Seven (Spring)
Cmpl I-3 first complementary elective¹  
CMPT 300-3 Operating Systems I  
EnSc I-4 first Engineering Science elective²  
ENSC 406-2 Social Responsibility and Professional Practice*  
MACM 316-3 Numerical Analysis I  
SciE II-3 second science elective³  
18 credit hours

Semester Eight (Fall)
Cmpl I-3 second complementary studies elective¹  
SciE II-3 third science elective³  
EnSc II-4 second Engineering Science elective²  
ENSC 450-4 VLSI Systems Design  
ENSC 427-4 Communication Networks  
18 credit hours

Other Requirements
ENSC 498-3 Engineering Science Thesis Proposal  
ENSC 499-9 Engineering Science Undergraduate Thesis  
7 credit hours  
Total 156 credit hours

*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, 453, 481, 483, 488, 489, 495. With permission of the undergraduate curriculum committee chair, a directed study or special project laboratory course may be chosen, but typically, no more than one of each can be approved for this purpose. 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, students will start their thesis work (ENSC 498 and 499) between semesters seven and eight. Theses can be done on or off campus, either integrated with an optional (or mandatory) work term or as independent work with appropriate supervision.

Engineering Physics
( Electronics) Option
This option prepares students for work in engineering and applied sciences that is strongly dependent on a sound knowledge of physics in addition to engineering fundamentals.

Courses and Typical Schedule
Semester Five (Spring)
Cmpl I-3 first complementary elective¹  
ENSC 304-1 Human Factors and Usability Engineering*  
ENSC 320-3 Electric Circuits II  
ENSC 351-4 Real Time and Embedded Systems*  
ENSC 380-3 Linear Systems*  
PHYS 233-2 Introductory Physics Laboratory A*  
PHYS 324-3 Electromagnetics*  
19 credit hours

Semester Six (Fall)
Cmpl I-3 second complementary elective¹  
ENSC 305-1 Project Documentation and Team Dynamics*  
ENSC 325-4 Microelectronics II*  
ENSC 327-4 Communication Systems*  
ENSC 340-3 Engineering Science Project*  
ENSC 383-4 Feedback Control Systems*  
19 credit hours

Semester Seven (Spring)
EnSc I-4 first Engineering Science elective²  
ENSC 406-2 Social Responsibility and Professional Practice  
PHYS 244-3 Thermal Physics  
PHYS 355-3 Optics  
PHYS 332-3 Intermediate Laboratory  
PHYS 385-3 Quantum Physics  
18 credit hours

Semester Eight (Fall)
EnSc II-4 second Engineering Science elective²  
EnSc III-4 third Engineering Science elective²  
PHYS 385-3 Semiconductor Device Physics  
PHYS 345-3 Statistical Physics  
PHYS 384-3 Methods of Theoretical Physics  
17 credit hours

Other Requirements
ENSC 498-3 Engineering Science Thesis Proposal  
ENSC 499-9 Engineering Science Undergraduate Thesis  
12 credit hours  
Total 155 credit hours

*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, 453, 481, 483, 488, 489, 495. With permission of the undergraduate curriculum committee chair, a directed study or special project laboratory course may be chosen, but typically, no more than one of each can be approved for this purpose. 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, students will start their thesis work (ENSC 498 and 499) between semesters seven and eight. Theses can be done on or off campus, either integrated with an optional (or mandatory) work term or as independent work with appropriate supervision.

Systems Option
This option prepares careers in the design and integration of computer-controlled machines and devices, and provides for graduate study in robotics, control and mechatronic systems. Students integrate knowledge from electronic engineering, mechanical engineering, and computer engineering into the fundamental design process. This focused program includes study of mechanical structures and mechanisms, electro-mechanical sensors and actuators, control engineering, and real-time systems. Electives may be used to tailor curriculum to specific interests.

Courses and Typical Schedule
Semester Five (Spring)
ENSC 230-4 Introduction to Mechanical Design*  
ENSC 304-1 Human Factors and Usability Engineering*  
ENSC 320-3 Electric Circuits II  
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  
ENSC 305-1 Project Documentation and Team Dynamics*  
19 credit hours

Applied Sciences – Engineering Science
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.

BICH 221-3 Cellular Biology and Biochemistry
BISC 101-4 General Biology
KIN 205-3 Introduction to Human Physiology
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 MASci degree can co-ordinate their undergraduate proposal and thesis (ENSC 498 and 499) with their MASci proposal, thereby satisfying both requirements. Contact the departmental assistant for further details.

Minor in Computer and Electronics Design

Admission Requirements

Entrance to the minor program is open to all non-engineering science majors enrolled at Simon Fraser University. However, enrolment is limited and students can be accepted into the minor program only through a formal application to the school.

Students who are not normally applying for admission to the minor after they have completed CMPT 250 or ENSC 250.

Program Requirements

This program is comprised of a selection of courses from the computer engineering option and the electronics engineering option.

Students must complete all of the following courses ENSC 150-3 Introduction to Computer Design
ENSC 151-2 Digital and Computer Design Laboratory
ENSC 220-3 Digital Circuits I
ENSC 223-4 Microelectronics I
ENSC 250-3 Digital Systems Design
ENSC 351-4 Real Time and Embedded Systems plus at least seven of ENSC 325-4 Microelectronics II
ENSC 327-4 Communication Systems
ENSC 380-3 Linear Systems
ENSC 424-4 Multimedia Communications Engineering
ENSC 425-4 Electronic System Design
ENSC 427-4 Communication Networks
ENSC 429-4 Discrete Time Systems
ENSC 450-4 VLSI Systems Design
ENSC 489-4 Computer Aided Design and Manufacturing
ENSC 495-4 Introduction to Microelectronic Fabrication

The engineering science graduation GPA in the above courses must be a B (3.0) or better. If it drops below 3.0, you may be required to withdraw from the program.

School of Kinesiology


Directors

J. Dickinson BA (Birm), PhD (Nott)

Professors Emeriti

E.W. Banister BSc (Man), MPE (Br Col), PhD (Ill), FASCM
N.M.G. Bhakthan BSc (Kerala), MSc, PhD (Bda)
W.D. Ross BPE (Br Col), MA, MS, PhD (Ore), FASCM
H. Weinberg BSc, MSc, PhD (Washington)

Professors

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T.W. Calvert BSc(Eng) (Lond), MSEE (Wayne), PhD (Carnegie Tech), PEng**
A.E. Chapman Dip Phys Ed (Lough), MA (Ohio), MPhil, PhD (Lond)
A.J. Davison BSc (Cape Town), MSc, PhD (Rutgers)
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D. Goodman BPE, MPE (Br Col), PhD (Iowa)
J.A. Hoffer BS (H Mudd College), PhD (J Hopkins)
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Associate Professors

D.T. Finegood BScHE (Mich), MS (Northwestern), PhD (Calif)
C. Krieger MD (Tor), MSc (Montr), PhD (London)
T.E. Milner BSc, MSc, PhD (Alta)
W.S. Parkhouse BPE (Alta), MPE, PhD (Br Col)
M.V. Savage BA, MS (Wash), MEd (Ohio), PhD (Wash)
D. Weeks BA (Windsor), MSc (McM), PhD (Auburn)

Assistant Professors

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A.P. Blaber BSc (Guelph), BEd (W Ont), MSc (Guelph), PhD (Wat)

Adjunct Professors

J.M. Berry BSc (Wis), PhD (Br Col)
S.G. Chadan BSc, MSc, PhD (Paris)
D.O Cheyne BSc, MA (S Fraser), PhD (Wat)
D.J. Darvilli BA (Can), MA, PhD (Wat)
B.D. Fisher BA (Hiram Coll), PhD (Calif)
K.M. Hamilton BA (PEI), MSc, PhD (York, Can)
M. Lepawsky BA (Lawrence Coll, Wisc), MSc (Midd)
A.J. Mattson BS (Washington), MA, PhD (Houst)
T.E. Milner BScHE (Mich), MS (Wash), BEng, PhD (Houst)
T.J. Smith BA (Wisc), MSc (Calg), PhD (Wisc)
L. Zhang BES (Western China), PhD (Tor)

Laboratory Instructors

J. Anthony BSc, MSc (Madras), PhD (New Delhi)
R. A. Asmundson BSc, MSc (S Fraser)
S. Brown BSc, MSc (S Fraser)
A.J. Leyland BEd (Exe), MSc (S Fraser)
R. Ward BSc (Lough), MSc, PhD (S Fraser)

Advisors

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Ms. N. Davidge-Blacker BSc (Wat), MSc (S Fraser), co-op education co-ordinator and career advisor, K9620 Shrum Science Centre, (604) 291-4541
Ms. D. Carswell BSc (S Fraser), co-op education co-ordinator, K9620 Shrum Science Centre, (604) 291-4541

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 basics science to link the study of movement, physiology and health with the broad scope of human endeavour. Our faculty comprises anatomists, biochemists, biologists, biomechanists, biophysicists, engineers, ergonomists, kinesiologists, physicians, physiologists and psychologists. We apply our knowledge to study human movement, structure and function throughout the life cycle, in health and disease, in benign and extreme environments, at work, at home, at sports and at play. Our educational goals are to impart a sound knowledge base and to promote critical thinking, problem solving, research, technical and communication skills appropriate to the field, through...
our undergraduate, graduate and continuing studies programs. To this end, we strive for excellence in teaching, research and service programs focused on the following aspects of the human condition:

- movement and its control
- regulation and adaptation of physiological systems
- growth, development and aging
- and on the following applied disciplines:
  - health promotion
  - prevention of injury and disease
  - functional evaluation and rehabilitation
  - ergonomics/human factors
  - environmental, exercise and work physiology

**Programs**
The School of Kinesiology offers programs leading to a BSc (Kinesiology), BSc honors (Kinesiology), minor in kinesiology, post baccalaureate diploma in kinesiology, certificate in applied human nutrition, and certificate in health and fitness studies. The cooperative education program helps kinesiology majors gain valuable work experience during their undergraduate studies.

Areas of concentration have been established to offer cross-disciplinary undergraduate programs specializing in the following complementary areas:

- active health
- health and physiological sciences
- human factors/ergonomics
- human movement sciences

Choosing an area of concentration is not necessary to receive a BSc (Kinesiology). A general kinesiology option is still available. The general option and the four areas of concentration include a common core covering basic anatomy, physiology, and prerequisite knowledge from the biological, chemical, physical and mathematical sciences fundamental to understanding human structure and function. The ‘core’ refers to those aspects that are required for the degree, regardless of concentration.

**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 requirements for high schools and transfer from post-secondary institutions are described in the *Admission and Readmission* section.

Current Simon Fraser University students will be eligible for formal acceptance into the kinesiology major program (BSc) if they
- fill out a program approval form (available at Student Academic Resources or the kinesiology general office) and submit it to the kinesiology general office by August 1 (for fall semester approval), December 1 (for spring semester approval), or April 1 (for summer semester approval)
- have completed biology 12 and mathematics 12 (or equivalents), and at least one of chemistry 12 and physics 12 (or equivalents)
- have completed at least 30 credit hours of credit, including at least 24 credit hours from the following.
- have a 2.00 GPA or higher calculated from 24 of the hours listed above.
- When the number of eligible applicants exceeds the number that can be accommodated, Simon Fraser University reserves the right to select from among the qualified candidates.

**Program Requirements**
All required courses must be completed at a grade of C- or higher.

The basic credit hour requirements underlying the major are as follows.

- **Kinesiology (lower division specified)** – 15 credit hours
- **Kinesiology (upper division specified)** – 12 credit hours

**Program Requirements**

**Areas of Concentration**
The School of Kinesiology has defined four areas of concentration for those wishing to take a more specialized approach to their studies in the field of Kinesiology. They are as follows:

- active health
- health and physiological sciences
- human factors/ergonomics
- human movement sciences

Each area of concentration has a set of recommended courses outside the core. Core refers to those aspects of the program that are required, regardless of concentration area. Choosing an area of concentration is not necessary to receive a bachelor of science (kinesiology). A general option is available and is outlined below. For more information on areas of concentration and their recommended courses, contact the general office.

**Lower Division Requirements**

**Lower Division Core**
The following courses are specified for all areas of concentration.

- **Biochemistry**
- BICH 221-3 Cellular Biology and Biochemistry
  - (3 credit hours)

**Upper Division Requirements**

**Upper Division Core**
The following courses are specified for all areas of concentration.

- **Kinesiology**
  - BICH 306-3 Human Physiology I
  - BICH 307-3 Human Physiology II
  - BICH 326-3 Functional Anatomy
  - KIN 407-3 Human Physiology Laboratory
  - (12 credit hours)

**Statistics**
- STAT 301-3 Statistics for the Life Sciences
  - (3 credit hours)

**Upper Division Electives**

- **Biochemistry**
  - BICH 338-3 Cellular Biology
  - (8 credit hours)

- **Mathematics**
  - MATH 151-3 Calculus I
  - (6 credit hours)

- **Physics**
  - PHYS 120-3 Modern Physics and Mechanics
  - (8 credit hours)

- **Biological Sciences**
  - BISC 101-4 General Biology I
  - (4 credit hours)

**Kinesiology**
- KIN 124-3 Introduction to Kinesiology
- KIN 201-3 Basic Biomechanics
- KIN 205-3 Introduction to Human Physiology
- KIN 207-3 Information Processing in Human Motor Systems
- (6 credit hours)

- **Chemistry**
  - CHEM 121-4 General Chemistry and Laboratory I
  - CHEM 281-4 Organic Chemistry I
  - (8 credit hours)

- **Mathematics**
  - MATH 151-3 Calculus I
  - (6 credit hours)

- **Physics**
  - PHYS 120-3 Modern Physics and Mechanics
  - (8 credit hours)

- **Kinesiology**
  - KIN 124-3 Introduction to Kinesiology
  - KIN 201-3 Basic Biomechanics
  - KIN 205-3 Introduction to Human Physiology
  - KIN 207-3 Information Processing in Human Motor Systems
  - (6 credit hours)
KIN 375-3 Physiological Basis of Growth and Development
Auxology
KIN 380-3 Occupational Biomechanics
KIN 382-3 Physical Hazards in the Workplace
KIN 383-3 Human-Machine and Human-Computer Interaction
KIN 402-3 Mechanical Properties of Tissues
KIN 412-3 Molecular and Cellular Cardiology
KIN 415-3 Neural Control of Movement
KIN 418-4 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 460-3 Cellular Mechanisms and Theories of Aging
KIN 461-3 Physiological Aspects of Aging
KIN 467-3 Human Motor Performance
KIN 481-3 Activity-Generated Musculoskeletal Disorders
KIN 485-4 Human Factors in the Underwater Environment
KIN 486-3 Industrial Design
KIN 496-3 Directed Study I
KIN 498-3 Directed Study II
*students may substitute BICH 321 to help satisfy this requirement
(27 credit hours)

Students must also take three credit hours of upper division courses offered in any discipline within the University.
(3 credit hours)
(45 credit hours)

Free Electives
A further 25 credit hours of free electives may be taken from any discipline within the University at either the lower or upper division level.
(25 credit hours)
(120 credit hours)

Requirements to Transfer to Professional Schools
Students are eligible to receive a BSc (Kinesiology) degree after completion of the second year of professional study. Students must have completed at least 90 credit hours of Simon Fraser credit comprising the following.

• all lower division requirements
• 27 upper division credit hours in kinesiology (including KIN 305, 306, 326, and 407) and STAT 301
• acceptance into an accredited professional program in dentistry, medicine, chiropractic, or veterinary medicine

Courses taken in the professional program must not duplicate courses already taken at Simon Fraser University and must be acceptable for transfer credit to the University. Candidates must apply for transfer credit and for receipt of the degree through the Office of the Registrar.

Suggested Course Pathways
Suggested course selections for majors and any of the four areas of concentration are available from the kinesiology general office.

Typical First Year Course Schedule
Semester 1
KIN 142-3 Introduction to Kinesiology
BISC 101-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
MATH 154-3 Calculus I for the Biological Sciences

Semester 2
KIN 207-3 Information Processing in Human Motor Systems
CHEM 281-4 Organic Chemistry I
MATH 155-3 Calculus II for the Biological Sciences
PHYS 101-3 General Physics I

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 the Department of Physics section for requirements.

Minor Program
Application Requirements
Application for a minor in kinesiology requires the following.

• completion of KIN 105 (or 205) and KIN 142 with a minimum grade of C
• submission of a program approval form to the undergraduate advisor.

Program Requirements
Students must complete the following for a minor in kinesiology.

• KIN 142 and 105 (or 205)
• 15 credit hours of upper division kinesiology courses
• 3 credit hours of other kinesiology work (upper or lower division)
• a minimum GPA of 2.00 calculated from those upper division kinesiology courses used to satisfy the requirements

At least seven credit hours of upper division kinesiology courses used toward the minor must have been completed at Simon Fraser University.

Co-operative Education Program
Co-operative education combines work experience with academic studies. Students spend alternate semesters on campus and in paid, study-related jobs. Co-op programs are available in kinesiology and biomedical sciences.

Arrangements for work experiences are made through the school’s co-op co-ordinator and the University’s Office of Co-operative Education. For further details on the co-op system, refer to Co-operative Education.

Post Baccalaureate Diploma in Kinesiology
This program is available for students who have already completed a degree.

For information, refer to Continuing Studies.

Requirements
Successful completion of an approved program comprised of 30 credit hours of upper division or graduate level courses. Courses must be selected from an approved listing in consultation with a program advisor. Students whose first degrees did not include at least first year university math and science courses will be limited in their choice of courses to count toward the post baccalaureate diploma.

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 program is intended for 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.

The program can be completed entirely by distance education if desired.

Admission is governed by the University's admissions regulations. For details, see the Admission and Readmission section of this Calendar. Please note that a maximum of nine credit hours are transferable to the certificate from any other institution, including the Open Learning Agency. After being admitted to Simon Fraser University, submission of a completed program approval form to the kinesiology undergraduate advisor is required for formal acceptance in the program.

Requirements
Students must complete one of
KIN 105-3 Fundamentals of Human Structure and Function
KIN 205-3 Introduction to Human Physiology and all of
KIN 110-3 Human Nutrition: Current Issues
KIN 111-3 Food and Food Safety
KIN 212-3 Food and Society
KIN 311-3 Applied Human Nutrition
and three of
GERO 302-3 Health Promotion and Aging*
GERO 407-3 Nutrition and Aging
KIN 303-3 Kinesiophobia
KIN 312-3 Nutrition in Fitness and Sport
KIN 375-3 Human Growth and Development
KIN 430-3 Human Energy Metabolism*
KIN 431-3 Environmental Carcinogenesis*
*not offered by Distance Education
Students must have a minimum 2.00 GPA calculated on all required courses. The certificate is normally completed within five years of admission to the certificate program.

Permission is required from the kinesiology undergraduate advisor to complete this certificate program and the certificate in health and fitness studies.
Certificate in Health and Fitness Studies
This program provides adults with the opportunity to complete a coordinated 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 certificate program is useful to those supervising training and/or fitness programs, to sport coaches, and to the general public.

The program can be completed entirely by correspondence, if desired.

Admission is governed by the University admissions regulations. For details, see the Admission and Readmission section of this calendar.

Please note that a maximum of nine credit hours are transferable to the certificate from any other institution, including the Open Learning Agency.

After being admitted to Simon Fraser University, submission of a completed program approval form to the kinesiology undergraduate advisor is required for formal acceptance in the program.

Requirements
Students must complete all of the following specified courses.
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

Students must also complete nine credit hours (three courses) of electives, including at least three credit hours (one course) in kinesiology, chosen from the following:
• any other kinesiology not listed above (prerequisites may apply)
PSYC 250-3 Child Psychology
PSYC 280-3 Biological Bases of Behaviour
SA 216-4 Sociology of Leisure
• a minimum 2.00 GPA calculated on courses counting toward the certificate
• a current cardio-pulmonary resuscitation (CPR) certificate at time of completion
• program completion normally within five years of admission to the certificate program
• elective courses (prerequisites may apply) commonly taken for credit toward the certificate include
KIN 141-3 Introduction to Sport Science*
KIN 241-3 Sports Injuries – Prevention and Rehabilitation*
KIN 303-3 Kinanthropometry*
KIN 311-3 Applied Human Nutrition
KIN 320-3 Cultural Aspects of Human Movement
KIN 325-3 Basic Human Anatomy
KIN 367-3 Psychology of Motor Skill Acquisition
KIN 370-3 Biomechanics in Physical Activity*
KIN 375-3 Physiological Basis of Growth and Development
*not offered by distance education
Faculty of Arts


Dean
J.T. Pierce BA (Tor), MA (Wat), PhD (Lond)

Associate Deans
T.A. Perry BA (Wabash), MA, PhD (Indiana)
A.R. Blackman BSc (Lond), BSc (Edin), MSc, PhD (McG)

Advisor
Ms. M. Caufield, BA (S Fraser), 6168 Academic Quadrangle, (604) 291-5921

Undergraduate Degrees Offered
Bachelor of Arts (Honors)
Bachelor of Arts (Joint Honors)
Bachelor of Arts
Bachelor of Fine Arts
Bachelor of General Studies

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

Student Responsibility
It is the responsibility of each student to be aware of faculty regulations as stated in this Calendar. Departmental and faculty advisors and staff are available to give advice and guidance. However, the ultimate responsibility for completeness and correctness of course selection, for compliance with and completion of program and degree requirements and for observance of regulations and deadlines rests with the student.

Academic Advice
Each of the Faculty of Arts departments provides an advisory service for assisting students to choose courses to satisfy degree requirements. Students who have made a formal program declaration should avail themselves of these services. Those who have not, but have completed 60 credit hours, will be advised by the faculty advisor in the Office of the Dean. Where specified, students should also consult the Office of the Dean of Arts regarding Arts regulations.

Students in all programs leading to bachelor’s degrees in the Faculty of Arts must consult an advisor at the following times in their academic programs.
• prior to first registration at the University, and
• during that semester when they are taking their 45th credit hour, and
• during that semester when they are taking their 90th credit hour

Students in other programs such as certificate and post baccalaureate diploma programs are governed by the requirements of the specific programs.

Important Note
Students may count any Simon Fraser University course for which credit is received toward the bachelor of arts degree with the exceptions of EDUC 401, 402, 405 and 406, ATHL 201, 202, 203 and 204.

Only the first five duplications taken in a student’s program will count toward a BA degree. A maximum of five duplications will count toward all programs taken in the Faculty of Arts at Simon Fraser University.

There are specific restrictions regarding counting GS 498 and 499.
The maximum number of credit hours offered through the Tri-Education Summer Institute that can count toward a degree or Post Baccalaureate program in the Faculty of Arts is nine.

Load Levels
Students who have not yet completed 60 credit hours require written consent of the dean’s designate to register in more than 16 hours in one semester.
Students who have completed 60 credit hours require the written consent of the dean’s designate to register in more than 18 credit hours in one semester.

Co-operative Education Program in Liberal Arts
1100 Maggie Benston Student Services Centre, (604) 291-3041/5751/5839

Co-ordinators
D. Chochiner, MED (Manit)
D. Heisler BSc (S Fraser)

The co-operative education program is available for students who wish to acquire practical experience in conjunction with their studies in departments or programs in the Faculty of Arts. The student normally spends alternate semesters on campus and in paid, study-related jobs.
This program is open to all students. Refer also to Archaeology, Biochemistry, Biological Sciences, Business Administration, Chemical Physics, Chemistry, Communication, Computing Science, Criminology, Earth Sciences, Economics, Engineering Science, English, First Nations, Geography, History, Kinesiology, Latin American Studies, Liberal Arts, Management and Systems Science, Mathematics and Statistics, Physics, Psychology, Resource and Environmental Management, Sociology and Anthropology, and Women’s Studies as well as the Co-operative Education sections of this Calendar.

Requirements
To be admitted, students must have completed a minimum of 30 credit hours with a minimum CGPA of 2.5. Prior to admission, all students must complete ENGL 199-3 University Writing (or any two 100 division English courses), PHIL 101-3 Critical Thinking

A quantitative research course in your area of interest is strongly recommended. Computer literacy is a requirement. See the Faculty of Arts co-op co-ordinators for further information.

Major Program
The following are recommended prior to entry in the co-op education program: one course from either set 2 or set 8 as listed under the certificate in liberal arts, and at least 12 hours of required lower division courses in the major program.

Undeclared Majors or Students Without Majors (BGS/BEd)
The following requirements are from the liberal arts certificate.

a course from set 2
a course from set 4 or 5
a course from set 6 or 7
a course from set 8 or 9
a course from set 10 or 11
a course from set 12

Note: Enrolment in the certificate in liberal arts program is not required for participation in the liberal arts co-op program. However, students are encouraged to complete the certificate in conjunction with the co-op program.

Transfer Students
Transfer students should contact the co-ordinators in the first week of their first semester at Simon Fraser University. College transfer students who have participated in co-op programs elsewhere may be credited with the semesters already taken. Those students contemplating transfer to the Faculty of Arts co-op program at Simon Fraser University should make early contact with an admissions advisor in the Office of the Registrar.

In order to obtain co-op accreditation on the bachelor of arts degree, the following courses must be completed.

LBRL 101-0 Practicum I
LBRL 201-0 Practicum II
LBRL 301-0 Practicum III
LBRL 401-0 Practicum IV
LBRL 402-0 Practicum V (optional)

Bachelor of Arts Degree
Students can meet the requirements for a bachelor of arts degree in any one of five ways: either through a major program; or through a joint major program; or through two extended minors; or through an honors program; or through a joint honors program. The requirements for earning a bachelor of arts degree in any of these ways are set out below. In addition to degree requirements, students may also fulfill the requirements for an extended minor or a minor as noted under the Options headings.

Major Program
Students wishing to concentrate in a subject area may take a major, consisting of at least 30 upper division credit hours in that subject area. This program, which is the most common option chosen by students pursuing a bachelor of arts provides students with a strong background in a subject and is preparation for a range of occupations or for further study following graduation.

At least 120 credit hours are required which include the following.
• at least 65 credit hours in arts subjects
• at least 45 credit hours in upper division courses, including at least 30 upper division credit hours in an arts major program. No more than 15 upper division credit hours transferred from another institution may be used toward the requirements for a major.
• lower division requirements for at least one arts major
• satisfaction of the Faculty of Arts breadth requirements (see below)

Note: A department may designate up to eight credit hours of program related upper division courses offered by other departments, as being acceptable in fulfilling part of the required hours in a major program.

Joint Major Program
At least 120 credit hours of credit are required which include the following.

• at least 65 credit hours of credit in Faculty of Arts subjects
• at least 45 credit hours in upper division courses which must include at least 20 credit hours in upper division courses in each of the two joint major subjects. No more than 15 upper division credit hours of credit transferred from another institution can be used toward this requirements.
• lower division prerequisites for both joint major programs
• satisfaction of the Faculty of Arts breadth requirements (see below)

Extended Minor Program
An extended minor consists of the lower division requirements for a major program, plus the upper division requirements for a minor program. At least seven upper division hours counted towards this requirement must be taken from Simon Fraser University.

Students wishing to prepare themselves in two subject areas and not desiring to undertake a major program may take an extended minor program consisting of the completion of two extended minors in the bachelor of arts degree.

At least 120 credit hours are required which include the following.

• at least 65 credit hours in Arts subjects
• at least 45 upper division credit hours, including 30 in two extended minor programs (at least 15 upper division credit hours in each of two extended minor programs). No more than 8 upper division hours transferred from another institution may count toward an extended minor.
• lower division requirements for at least two extended minor programs. The lower division requirements for an extended minor program are the same as lower division requirements for a major program.
• satisfaction of the Faculty of Arts breadth requirements (see below).

Note: There are programs in the School for the Contemporary Arts which have individually defined extended minors but which do not have majors. Students declaring this degree option must get approval from the advisors in their two extended minor departments as well as the approval of the degree advisor; Christine Prisland, AQ6188, tel (604) 291-4509.

Minor Program
All Faculty of Arts minor programs require at least 15 upper division credit hours taken within a single discipline unless otherwise specified in the Calendar. At least seven upper division credit hours counted towards this requirement must be taken at Simon Fraser University.

Honors Program
At least 132 credit hours of credit which include the following.

• at least 65 credit hours in Arts subjects
• at least 60 credit hours in upper division courses which must include at least 50 credit hours in upper division courses in an Arts honors program. No more than 15 upper division credit hours of credit transferred from another institution can be used toward this requirement.
• lower division prerequisites for at least one Arts honors program
• satisfaction of the Faculty of Arts breadth requirements (see below)

Note: A department may designate up to 12 credit hours of program related upper division courses offered by other departments, as being acceptable in fulfilling part of the required upper division credit hours in the honors program.

Joint Honors Program
At least 132 credit hours of credit which include the following.

• at least 65 credit hours of credit in Arts subjects
• at least 60 credit hours in upper division courses which must include at least 28 credit hours in upper division courses in each of the two honors subjects. No more than 15 upper division credit hours of credit transferred from another institution can be used toward this requirement.
• lower division prerequisites for both honors programs
• satisfaction of the Faculty of Arts breadth requirements (see below)
• satisfactory completion of an honors essay jointly supervised by and acceptable to both honors departments

Students are required to maintain a GPA of 3.0 in the upper division courses in each of the subjects of the joint honors program.

Breadth Requirements
In addition to completing the courses within a department or program required for any degree in the Faculty of Arts, students must complete breadth requirements that acquaint them with areas of knowledge and modes of thought outside their discipline of specialization. These faculty breadth requirements may be met in a variety of ways. In completing them, students are encouraged to earn a certificate in liberal arts, a program specifically tailored for breadth of learning. The requirements follow.

• a minimum of 30 credit hours outside the Arts honors, major or extended minor department (for the purpose of this requirement, read ‘school’ as department)
• no fewer than five departments (other than the Arts honors, major or extended minor department) from the list below
• no more than nine credit hours from any one department
• up to six credit hours of the 30 credit hours may be from GS courses.

For the purpose of this last requirement the following academic units will count as separate ‘departments.’

- Archaeology (ARCH)
- Asia Canada (ASC)
- Biological Sciences (BISC)
- Business Administration (BUS)
- Canadian Studies (CNS)
- Contemporary Arts (FPA)
- Chemistry (CHE)
- Communication (CMNS)
- Community Economic Development (CED)
- Computing Science (CMPT)
- Criminology (CRIM)

Earth Sciences (EASC)
- Economics (ECON) and BUCE
- Education (EDUC, except EDUC 401, 402, 405, and 406)
- Engineering Science (ENSC)
- English (ENGL)
- First Nations (FNST)
- French (FREN)
- Geography (GEOG)
- Gerontology (GERO)
- History (HIST)
- Humanities (HUM)
- Kinesiology (KIN)
- Languages: Chinese (CHIN), German (GERM), Italian (ITAL), Japanese (JAPN), Language (LANG), Spanish (SPAN)
- Latin American Studies (LAS)
- Linguistics (LING)
- Mathematics and Statistics (MATH and STAT)
- Philosophy (PHIL)
- Physics (PHYS)
- Political Science (POL)
- Psychology (PSYC)
- Science (SCI)
- Sociology and Anthropology (SA)
- Women’s Studies (WS)

Course enrolment in some of these may be limited to those with approved programs in these subjects. Courses that are not clearly within the above ‘departments,’ or courses transferred from other institutions in subjects without direct equivalence at Simon Fraser may count toward these requirements on an individual basis and upon application to the Dean of Arts Office (AQ 6188).

Whether or not students complete the certificate program, they may take the faculty breadth requirements as an opportunity for exploratory study in advance of choosing a major discipline. Some departments will advise students as to subject areas and specific courses they recommend to prepare for a major program. A substantial proportion of these requirements may be applied to a number of cross-disciplinary major, extended minor or minor programs within the faculty. In planning the most effective way to fulfill the breadth requirements, students should seek advice in the Student Academic Resources office and in any departments in which they may be planning to major.

Program Declaration
Prior to or upon registering for the semester in which the 61st credit is taken, students must formally declare and be accepted into a major program or two extended minor programs, and may, subject to the regulations below, apply for an honors program. The formal declaration establishes the exact major, or extended minor requirements for graduation as they appear in the Calendar in effect at the time of declaration. Students are urged to keep a copy of this Calendar, known as the Graduating Calendar, for reference.

Students wishing to change their degree programs may do so at any time prior to graduation. A new formal declaration to this effect must be approved by the department of the new major and by the Dean of Arts office if a change of faculty is involved. At that time, the Calendar then in effect becomes the new Graduating Calendar, and the requirements which it specifies for the major or extended minor program must be fulfilled.

Honors Program
Acceptance to this program is contingent upon satisfying the entrance requirements of the department concerned. Applicants normally will have received a GPA of 3.0 in subject(s) of the honors field. When admission has been granted, the student then registers as an honors student. To continue in the program, this 3.0 GPA must be maintained.
Failure to do so will place the student in the corresponding general degree program. Students will still be subject to the regulations of the original graduating Calendar. If a student is subsequently reinstated into the honors program, the Graduating Calendar is the Calendar which was in effect at the time of the original acceptance into the program.

Graduation Requirements
The graduation GPA is different from the cumulative GPA. Please refer to the graduation requirements which appear in the General Information section for both the general and honors program.

General Program
In addition to the general requirements, please note that the Faculty of Arts has the following requirements for the general program.

The minimum requirement for graduation is a graduation GPA of 2.0 and a GPA of 2.0 in all upper and lower division courses taken in the major, extended minor or minor department(s) with the exception that duplicate courses are counted only once. It should be noted that the university regulations governing the duplication of courses are vigorously applied in the Faculty of Arts. Students who do not obtain a graduation GPA in their programs within the limits of five duplications will not be able to complete a major, extended minor or minor degree within the Faculty of Arts.

University College of the Fraser Valley Program
University College of the Fraser Valley in Abbotsford, BC offers a program leading to a bachelor of arts degree. This degree is offered in association with the Faculty of Arts and is issued by Simon Fraser University.

Bachelor of General Studies Degree
6168 Academic Quadrangle, (604) 291-4414 Tel, (604) 291-3033 Fax
Advisors
Ms. R. Lepp, (604) 291-4414
Ms. M. Caulfield, BA (S Fraser), (604) 291-4414

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 advisor will work with the student to develop a program of courses to achieve the student’s academic objectives.

The BGS program may not be used as a second or subsequent bachelor’s degree except by written permission of the Dean of Arts prior to admission. Students who hold a first degree and are interested in a program of general studies may wish to consider a post baccalaureate diploma program.

Requirements
Students must complete 120 credit hours, including at least 45 upper division credit hours. The graduation minimum is a graduation GPA of 2.0 and a cumulative GPA of 2.0 calculated on all upper division courses taken, except duplicate courses. With the exception of EDUC 401, 402, 405 and 406, courses taken from any faculty may be used to satisfy the degree requirements, but admission to courses is subject to the prerequisite requirements of the various departments. The maximum number of credit hours offered through the Tri-Education Summer Institute that count towards the BGS is limited to nine.

Transfer
Special transfer regulations for the BGS degree provide broadened opportunities for degree completion for students who may have difficulty in availing themselves of courses.

In accordance with normal University regulations, 60 credit hours of transfer and/or course challenge credit may count 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 credit hours of upper division credit. Any minor program undertaken within the BGS must include at least seven hours of upper division credit earned at Simon Fraser. Please refer to the Admissions and Readmission section for regulations.

Integrated Studies Program
Information is available from the director of extension credit, Continuing Studies, at Harbour Centre. Integrated Studies programs within the bachelor of general studies degree are highly structured cohort based programs designed to meet the educational needs of specific student groups. Such programs integrate liberal studies with knowledge and skills associated with a particular field of practice, or with a background common to its students. Students may undertake this degree option only through special admission to an individual program. Integrated studies programs will typically be signed and structured in consultation with external agencies or employers and may therefore have special locations, admission requirements and fee structures.

Because these programs may require and build upon varying levels of previous post-secondary education, related employment experience, and demonstrated intellectual maturity, the credit hours required to earn a degree may in some instances be less than the normal 120 credit hours. All such programs will require a minimum of 60 credit hours in designated Simon Fraser University courses offered within the program, to include at least 45 credit hours in upper division courses.

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. Please see Post Baccalaureate Diploma in the General Information section, for further information.

Post Baccalaureate Diploma in Community Economic Development
Director
M.L. Roseland, MA (Wesleyan), PhD (Br Col)

This program is for those with an undergraduate degree or equivalent. The diploma is applicable to a wide range of occupational, professional and academic fields. By combining courses from several different disciplines with a specially designed core program of study and opportunities for guided practice, the program provides unique perspectives on economic, social and cultural development within the context of communities.

Required Courses
Students must complete 30 upper division credit hours, including 16 hours in the following courses.
CED 400-4 Contexts for Community Economic 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
Electives may be selected from a wide variety of departments, in consultation with the academic supervisor, according to the following guidelines.

Courses must be
• sufficiently community economic development related by topic (e.g. underdevelopment, regional planning, public policy processes), and/or
• provide research and other skills relevant to the community economic development practice (e.g. business management, organizational behaviour, fieldwork methodologies, qualitative and quantitative analysis).

A list of electives is available from the CED centre each semester. Electives must meet the following requirements:
• the proposed course must be an upper division course (300-400 level) or higher.
• the proposed course must meet the CED centre’s content requirements for being thematically related to CED or applicable skills for CED field work.

Relevance and applicability of the proposed course will be decided by the CED centre’s academic supervisor or their designate.

If the student proposes a directed studies course from another department, the proposed detailed study plan must be approved in advance by the CED centre’s academic supervisor and the chosen faculty supervisor. The CED centre requires the final report of the project to be submitted to the centre as well as to the named faculty member.

The student must submit their request for approval of the elective to the CED centre and obtain the centre’s approval before the commencement of the semester in which they propose to take the course. The request must be in writing and include a copy of the course description.

Some of these courses require prerequisites outside of the diploma program. Students take full responsibility for obtaining prerequisite clearance or other clearances that are required to gain entry into the course. Many departments will waive some introductory courses for students who have extensive experience in the area. Students should note that other Simon Fraser University departments give course registration priority to their own students and will not necessarily permit CED students to register in those courses. Check the Calendar entry for each department, and discuss requirements with the CED centre’s advisor prior to registering.

Other restrictions may apply.

At least 21 credit hours of the total requirements must be completed at Simon Fraser University. A GPA of 2.5 in CED 401 and an average GPA of 2.5 in all courses is required for continuance in the program.
More information is available at the Community Economic Development Centre and its web site.

Certificate Programs
The certificate programs below are administered by the Faculty of Arts. Credits applied toward a certificate may not be applied toward any other Simon Fraser University certificate or diploma, but may also be applied toward major program or minor program requirements or toward a bachelor’s degree under the normal regulations governing those programs.

Certificate in Liberal Arts
This program provides broad exposure to areas of knowledge and methods of inquiry that are essential to a liberal education. It is available to all undergraduate students who desire a program structured for breadth of learning. It may be taken in conjunction with a degree program, or it may be taken by students not currently seeking a degree. Students planning to obtain a BA within the Faculty of Arts may choose to complete the certificate in such a way that most or all of the Faculty of Arts breadth requirements are fulfilled by the same course.

The certificate in liberal arts requires the completion of ten courses, comprising at least 30 credit hours, from among a list of designated courses. These courses, which include both lower division and some upper division courses, have been carefully chosen for their suitability in providing accessible and valuable material for the generally interested student.

Course Sets
The courses that can be applied toward the certificate are listed in 12 sets. Each set includes courses from various University departments. For a certificate student to be acquainted with various fields of inquiry and approaches to knowledge, the ten required courses must be distributed across these sets in the manner described below (see Distribution Requirements). The sets, with brief descriptions of the kinds of courses in each of them, are as follows.

Verbal Skills
These courses are designed to enhance the student’s mastery of some basic tools of verbal reasoning and expression. They include courses on writing and critical thinking, and introductory language arts courses. Students who take an introductory course in a language other than English are strongly urged to complete a second course in that language as part of their certificate program.

The Study of Theory and Theory Building
These courses introduce students to the nature of explanatory systems in various fields of inquiry. They include courses from various disciplines that focus on the dynamic of theory construction and on the historical evolution of theory within that discipline. Courses in this set will provide appreciation for the ways in which the processes of reasoning, argument, observation and analysis are included within the development of disciplines.

The Analysis of Contemporary Issues
These courses examine some current social problems and controversies, emphasizing the application of appropriate conceptual and investigative methods to areas of public concern. Courses in this set will give students some appreciation for the ways in which careful reasoning and disciplinary knowledge can be applied in clarifying the discussion of public issues.

The Study of Literature
These courses introduce students to important literary works and to ways of understanding literary expression. They include courses on literature written in English and in other languages, as well as literature in translation.

Fine and Performing Arts
These courses familiarize students with non-literary modes of artistic expression and with important works of art. They include courses on the history and criticism of various art forms.

Studies in Culture and Civilization
These courses introduce students to the wide study of cultures and civilizations. They include courses that consider the development of human values, and that take comparative and interdisciplinary approaches to culture, as well as historical studies that include substantial attention to cultural themes.

The Study of Period and Place
These courses study developments in human society with particular emphasis on historical or regional particularity, and introduce some methods associated with such study. They include courses that focus on regions and regionalism, as well as on specific historical periods.

Foundations of Social Science
These courses provide an introduction to fundamental concepts and methods of investigation in the various social science disciplines.

Social and Behavioral Analysis
These courses articulate an approach to the study of social structures or to individual or group behavior and apply that perspective to a particular area of social investigation.

Natural Science
These courses introduce students to methods basic to the natural sciences and to findings in at least one specific science.

The Impact of Science and Technology
These courses investigate the social impact of developments in science, technology, and computational and quantitative methods.

Quantitative Skills
These courses will enhance the student’s mastery of mathematical skills and tools for quantitative reasoning. They include basic level mathematics and computing courses, 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 are free to select any listed courses, and may tailor their choices toward their own academic needs and interests. Credits applied toward this certificate may not be applied toward any other Simon Fraser University certificate or diploma, but may be applied toward major or minor program requirements.

Course Lists
Courses within each set are published annually and are available at the Student Academic Resources office and the Office of the Dean of Arts. Lists include courses regularly approved by senate for program inclusion and occasional courses approved as certificate courses only for a single offering.

Some listed courses have prerequisites. In most such instances the specific course prerequisites may also be completed within the certificate program.

Consult the Calendar and course outlines for any course being considered to understand clearly the nature of the course and any prerequisites. Some courses may be very demanding for students without adequate preparation in the subject area. Advice regarding courses and course selection is available through departmental advisors, the Office of the Dean of Arts, and Student Academic Resources.

Transfer Credit
Transfer credit permitted to a maximum of 15 credit hours. Normally, only credit that is assigned as directly equivalent to a course regularly listed within the program may be transferred.

Relation to Faculty of Arts Breadth Requirements
The Faculty of Arts recommends that students planning to major within the Faculty complete the Faculty of Arts breadth requirements through the certificate program. Completion of the certificate does not exempt students from the Faculty of Arts breadth requirements, but it is readily possible to fill these requirements entirely within the certificate program.

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 courses related to the program’s purpose. Students take some courses at a university in China, requiring extra travel and living expenditures.

The program is offered by the Division of Interdisciplinary Studies and is administered by the program steering committee appointed by the Dean of Arts. Interested students should contact the program advisor at least two semesters before they plan to study in China.

Admission
There are no special admission requirements for the certificate program. However, students must apply to the program steering committee for admission to the part of the program which involves study in China. Acceptance into this part will normally require that the student have completed 30 credit hours and be in good academic standing.

Program Requirements
Successful completion of at least 21 credit hours of which 15 credit hours are earned by completing five required core courses. The remaining six credit hours are selected from the list of electives below.

Core (15 hours)
ASC 200-3 Introduction to Chinese Culture and History
ASC 302-3 Selected Topics in Chinese Studies
CHIN 100-3 Mandarin Chinese I
CHIN 102-3 Mandarin Chinese II (China) or (101)
HIST 255-3 The Emergence of Modern China

Elective (6 hours)
ASC 202-3 Studies in Chinese Culture
CHIN 201-3 Mandarin Chinese III
CHIN 202-3 Mandarin Chinese IV
POL 335-3 Government and Politics: People’s Republic of China
POL 336-3 Government and Politics: People’s Republic of China II
SA 275-4 China: Sociological and Anthropological Perspectives

The program steering committee will approve other courses with appropriate content as meeting the requirements for the certificate in Chinese studies. The following are examples of courses which may be offered with content appropriate for the certificate requirements.
Certificate in Family Studies

This program encourages and facilitates the study of families from an interdisciplinary perspective. Students gain a comprehensive understanding of families from the perspectives of psychology, sociology, communications, health, and family processes. Students may supplement core courses in these areas with elective courses in relevant disciplines such as education, gerontology, history, and women’s studies. The program is available to undergraduate continuing or full time students.

Admission Requirements
In addition to the normal requirements for University admission, students must complete CMNS 110 or 130, PSYC 100, 102, and SA 150 prior to formal admission to the program. Students can be admitted under regular entry or special entry requirements.

Program Requirements
- successful completion of 30 credit hours, of which 16 credit hours are earned by completing the five required core courses. The remaining 14 credit hours are selected from a specified list of elective courses. Some or both of the required and elective courses have prerequisite requirements 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 (16 hours)
- CMNS 205-3 Introduction to Interpersonal Communication
- GS 350-3 Family Development I: Couple and Young Families
- GS 351-3 Family Development II: Maturing and Extended Families
- KIN 140-3 Contemporary Health Issues
- SA 231-4 The Sociology of Domestic Life
- SA 255-4 Special Topics in Anthropology

Elective Courses (14 hours)
- CMNS 306-4 Interpersonal Communication in a Technological Environment
- CRIM 210-3 Law, Youth and Young Offenders
- EDUC 425-4 School Counselling for the Classroom Teacher
- GER 300-3 Introduction to Gerontology
- GS 399-3 Individual Study Project
- HIST 310-3 Women and the Family in Modern Europe
- HIST 329-4 Canadian Family History
- KIN 110-3 Current Topics in Human Nutrition
- PSYC 200-3 Child Psychology (formerly PSYC 351)
- PSYC 355-3 The Psychology of Adolescence and Youth
- PSYC 357-3 Psychology of Adulthood and Aging
- SA 319-4 Culture, Ethnicity and Aging
- SA 322-4 The Anthropology of Domestic Life
- SA 335-4 Gender Relations and Social Issues
- 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 courses as electives:
- one of CRIM 120-3 Research Methods in Criminology
- one of PSYC 210-4 Data Analysis in Psychology

Transfer Credit
Up to 14 hours of credit assigned to specific courses may be transferred to the certificate, subject to the University regulations governing transfer credit and subject to the approval of the co-ordinator. Normally, the required upper division core courses will be completed at Simon Fraser University.

Certificate for Senior Citizens
The program provides interested senior citizens with opportunities to participate in University life, to undertake study relevant to their life goals, and to gain recognition for their academic achievements. Each fall and spring the University offers courses for adults aged 60 and over at Harbour Centre. Courses may also be selected from regular University offerings during the day or evening.

Admission
Current admission regulations apply. It is expected that most persons will apply either as secondary school graduates or under the terms of mature student entry (see Admission and Readmission). Also, applicants shall consult a program advisor concerning the demands of the program and their educational objectives.

Program Requirements
The program requires successful completion, after age 60, of 30 credit hours approved by the program co-ordinator or other official appointed by the Dean of Arts.

Note: Normally, all courses for the certificate must be taken at Simon Fraser University and not more than six credit hours of approved transfer credit for university/college work may be applied toward certificate requirements.

Departments and Programs

Division of Interdisciplinary Studies

Associated Dean
T.A. Perry BA (Wabash), MA, PhD (Indiana)
Professor Emeritus
R.J.C. Harper MA (St And), MA, PhD (Edin), FRSA

Adjunct Professors
J.C. Garcia Prof Lit (Peru), MA (Alta), DoctCert (Munich)
L. Zúccolo BA (Arg), MA, PhD (S Fraser)

Faculty
L. L. Zúccolo BA (Arg), MA, PhD (S Fraser)
N. Omae MA (Osaka), MPhil (Exe)

Specializations
- Anthropology
- Economics
- Family Studies
- History
- International Studies
- Philosophy
- Political Science
- Psychology
- Sociology

Advisors
Ms. N. Ludington, 6193 Academic Quadrangle, (604) 291-4509
Ms. C. Prisland, 6191 Academic Quadrangle, (604) 291-4509

The Division of Interdisciplinary Studies offers courses which are outside the disciplinary boundaries of departments in the Faculty of Arts through courses in general studies (GS). In addition, the division is home to language courses which are not part of a departmental program.

Language Training Institute

The Language Training Institute within the Division of Interdisciplinary Studies promotes the acquisition of language skills across the University and provides facilities for the support of language instruction on campus through the Language Learning Centre. The Faculty of Arts and extension credit programs of Continuing Studies collaborate through the Language Training Institute to provide credit and non-credit instruction in language skills for languages which lie outside of departmental programs.

Departmental programs which provide instruction in languages include the Departments of French (FREN) and Linguistics (LING, for First Nations languages). Refer to those Calendar sections for further information.

The Institute offers courses in a number of languages: Chinese (CHIN), German (GERM), Italian (ITAL), Japanese (JAPN), Spanish (SPAN), as well as other languages as needed from time to time under the general language course offerings (LANG):
LANG 100-149 (1-5) Introduction to a World Language I.
LANG 150-199 (1-5) Introduction to a World Language II.
LANG 200-249 (1-5) Intermediate Language Study I.
LANG 250-299 (1-5) Intermediate Language Study II.

Contact the Interdisciplinary Studies general office for further information regarding current offerings in any specific languages.

Language Learning Centre

The Language Learning Centre provides instructional support for language teaching through its laboratory facilities and materials library, and through consultation with language instructors and students. A multimedia language laboratory provides integrated computer, audio, and video resources in separate classroom and drop-in facilities.

Spanish Language Courses
Course Challenge
Up to 12 credit hours of lower division Spanish courses may be challenged for credit. These courses include only SPAN 102, 103, 201 and 202. Students wishing to challenge any/all of these courses must register in the courses to be challenged and in a Spanish language course for which the course(s) challenged is a prerequisite. A grade of at least a C in the higher level course must be obtained to receive the challenge credit.

Language Course Placement
Students with knowledge of the Spanish language may take a short test in order to be placed in a language course best suited to their abilities in Spanish. The test is also used to advise students of the possibility of obtaining advance placement or challenge credit. Please note that students will not usually be able to take courses below the level in which they have been placed. Native speakers of...
Department of Archaeology

Chair
P.M. Hobler BA (New Mexico), MA (Ariz)
Professors Emeriti
R.L. Carlson BA, MA (Wash), PhD (Ariz)
R. Shuter, Jr. BA, MA (Calif), PhD (Ariz)
Professors
D.V. Burley BA, MA (New Br), PhD (S Fraser)
J.C. Driver MA (Camb), PhD (Calg)
K.R. Fladmark BA (Br Col), PhD (Calg)
B.M.F. Galdikas BA (Br Col), MA, PhD (Calif)
B.D. Hayden BA (Colorado), MA, PhD (Tor)
J.D. Nance BA, MA (Calif), PhD (Calg)
D.E. Nelson BSc (Sask), PhD (McM)
Associate Professors
P.M. Hobler BA (New Mexico), MA (Ariz)
M.F. Skinner BA (Alta), PhD (Camb)
Assistant Professors
A.C. D’Andrea BSc (Tor), MSc (Lond), PhD (Tor)
D. Lepofsky BA (Mich), MA (Br Col), PhD (Calif)
Adjunct Professors
A.D. McMillan BA (Sask), MA (Br Col), PhD (S Fraser)
A.D. Sutton BA, MA, PhD (Otago)
Lecturers
D. Lyons BA, MA (Calg), PhD (S Fraser)
G.P. Nicholas BA (Franklin Pierce Coll), MA (Missouri), PhD (Mass)
Associate Members
J.M. D’Auria, Chemistry
D.J. Huntley, Physics
R.W. Mathewes, Biological Sciences
Advisor
Ms. A. Sullivan, 9633A Multi Purpose Complex, (604) 291-4687
The department offers various programs (described below) leading to the BA degree. Students must meet requirements for the BA degree (as described in the Faculty of Arts section), should take courses in a number of complementary disciplines, and are urged to seek advice from the department early in their university careers with regard to the structuring of their individual programs. PHYS 181 (a prerequisite for ARCH 311 and 410) and STAT 203 (a prerequisite for ARCH 376 which is recommended for majors and required for honors) are specifically recommended.
Upper division archaeology courses are divided into the following groups.

Group I (Core Program)
ARCH 372-5 Material Culture Analysis
ARCH 373-5 Human Osteology
ARCH 376-5 Quantitative Methods in Archaeology
ARCH 471-5 Archaeological Theory

Group II (Laboratory Courses)
ARCH 385-5 Special Laboratory Topics in Archaeology
ARCH 340-5 Zooarchaeology
ARCH 349-5 Management of Archaeological Collections
ARCH 377-5 Historical Archaeology
ARCH 385-5 Paleoanthropology
ARCH 390-5 Archeobotany
ARCH 432-5 Advanced Physical Anthropology
ARCH 442-5 Forensic Anthropology
ARCH 485-5 Lithic Technology

Group III (Regional Courses)
ARCH 330-3 Prehistory of Latin America
ARCH 360-5 Native Cultures of North America
ARCH 370-3 Western Pacific Prehistory
ARCH 374-3 Prehistory of South and East Asia
ARCH 378-3 Pacific Northwest North America
ARCH 379-3 American Southwest

Group IV (Topical Courses)
ARCH 301-3 Prehistoric and Indigenous Art
ARCH 311-5 Archaeological Dating
ARCH 336-3 Special Topics in Prehistoric and Indigenous Art
ARCH 344-3 Primate Behavior
ARCH 365-3 Ecological Archaeology
ARCH 386-3 Archaeological Resource Management
ARCH 410-5 Advanced Archeometry
ARCH 438-5 Geoaerchaeology
Special topics and/or directed studies courses may be substituted for group II, III or IV courses, provided that the content of the special topics and/or directed studies course suggests a suitable substitution, and that written consent of the department is obtained prior to registration.

Major Program
Students who major in archaeology must fulfill the following requirements.

Lower Division Requirements
ARCH 131-3 Human Origins
ARCH 201-3 Introduction to Archaeology
ARCH 272-3 Archaeology of the Old World
ARCH 273-3 Archaeology of the New World

Upper Division Requirements
Students must complete at least 30 credit hours of upper division archaeology which must include the following.

• at least three group I courses (ARCH 372, 471, and either 373 or 376). It is strongly recommended that majors, students interested in physical anthropology, and those contemplating graduate studies, complete all four group I courses.
• at least one group II course
• at least one group III course
• at least two group IV courses

Should students take both ARCH 373 and 376, they may use both as group I requirements, or use ARCH 373 as a group II requirement, or ARCH 376 as a group IV requirement.

Honors Program
Archaeology majors who wish admission to the honors program must have a minimum CGPA of 3.0 and obtain permission of the department. To remain in the program, students must maintain that average and successfully complete 132 credit hours with 50 of those in upper division Archaeology. In addition to meeting the group II, III, and IV requirements as set out for the major program, honors students must complete all four group I courses, ARCH 498 and 499. Refer to the Faculty of Arts, Bachelor of Arts Honors Program section for further requirements.

Minor Program
Students who minor in archaeology must fulfill the following requirements.

Lower Division Requirements
ARCH 131-3 Human Origins
ARCH 201-3 Introduction to Archaeology

Upper Division Requirements
Students must complete at least 16 hours of upper division archaeology including at least one course from each of groups I, II, III and IV listed above.

Spanish or students who received their secondary education entirely within a Spanish speaking community will not normally be admitted to a 100 or 200 level Spanish language course.

Certificate in Spanish Language Proficiency
This certificate program is intended for elementary and secondary school teachers and undergraduate students who wish to improve their oral written proficiency in Spanish. [Please note that Spanish is not considered a ‘teachable subject’ for application to the professional development program (secondary).] It is also intended for anyone who wants to enhance their knowledge of the language for cultural reasons, professional needs, or who, for employment purposes, desire official certification of their proficiency in Spanish. This program, however, is not intended for native speakers of Spanish.

Courses are offered on campus during the day and evening, and may be taken on a full or part-time basis. Additionally, a sequential offering of courses is scheduled, subject to sufficient enrolment, at Simon Fraser University at Harbour Centre each fall, spring, and summer semester.

Requirements
Students must successfully complete the following courses.

all of
SPAN 102-3 Introductory Spanish I
SPAN 103-3 Introductory Spanish II
SPAN 201-3 Intermediate Spanish I
SPAN 202-3 Intermediate Spanish II
SPAN 303-3 Spanish Conversation and Composition
SPAN 304-3 Advanced Spanish Conversation and Composition
plus two of
SPAN 220-3 Introduction to Spanish Linguistics
SPAN 240-3 Introduction to Hispanic Literature
SPAN 305-3 Spanish for Business
SPAN 307-3 Practical Spanish Phonetics
plus one of
LAS 100-4 Images of Latin America
LING 260-3 Language, Culture and Society
SPAN 425-4 Teaching Spanish as a Second Language

Notes:
It is possible to obtain exemption, up to a maximum of 12 credit hours, from lower division Spanish language courses through Advanced Placement, which is obtained by demonstrating equivalent preparation. The exempted courses must be replaced with credit obtained by
• approved transfer credit for Spanish 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
or
• challenge credit for exempted courses (subject to University regulations governing the approval of challenge credit), up to a maximum of six credit hours
and/or
• successful completion of other Spanish courses at Simon Fraser University, excluding SPAN 300.

Students who gain or hope to gain exemption as outlined above should consult the program coordinator or the departmental assistant early in their program.

Credit gained toward this certificate may be applied toward degree requirements under the normal regulations governing these requirements but cannot be applied toward another Simon Fraser University certificate or diploma.

Arts – Archaeology 101
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
Students who contemplate 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
See the Latin American Studies section.

Joint Major in Archaeology and Anthropology
Advisors
Ms. A. Sullivan, Department of Archaeology, 9633A Multi Purpose Complex, (604) 291-4687
Ms. K. Payne, Department of Sociology and Anthropology, 5056 Academic Quadrangle, (604) 291-3726
This is an interdepartmental program for students who wish to explore the many inter-relationships between anthropology and archaeology. Students should plan their program of study in consultation with both advisors.

Lower Division Anthropology Requirements
Students must complete the following courses.
SA 101-4 Introduction to Anthropology
SA 255-4 Introduction to Social Research
SA 286-4 Native Cultures of BC

Lower Division Archaeology Requirements
Students must complete the following courses.
ARCH 131-3 Human Origins
ARCH 201-3 Introduction to Archaeology
ARCH 272-3 Archaeology of the Old World
ARCH 273-3 Archaeology of the New World

Upper Division Anthropology Requirements
Students are required to complete at least 20 credit hours of upper division anthropology including the following.
SA 301-4 Key Ideas in Anthropology
SA 356-4 Qualitative Methods
SA 386-4 Native Peoples and Public Policy
plus one of
SA 401-4 The Politics of Culture in Contemporary Societies
SA 402-4 The Uses of Anthropology
plus one other upper division anthropology course.
SA 486 is strongly recommended.

Upper Division Archaeology Requirements
 Students are required to complete at least 23 credit hours of upper division archaeology including
ARCH 301-3 Prehistoric and Indigenous Art
ARCH 360-5 Native Cultures of North America
ARCH 372-5 Material Culture Analysis
ARCH 471-5 Archaeological Theory
One group II archaeology course
ARCH 378 and 385 are strongly recommended.

Co-operative Education Program
This program is for students who wish to acquire work experience in archaeology and physical anthropology. The program entails planned semesters of study and employment (termed practicums) in an area of the student’s choice.

Requirements
To be admitted, students must have declared a major and have completed at least 45 credit hours, with a minimum cumulative grade point average of 3.0. The following courses (or equivalent as approved by the department co-operative education co-ordinator) are recommended:
both
ARCH 131-3 Human Origins
ARCH 201-3 Introduction to Archaeology
one of
ARCH 272-3 Archaeology of the Old World
ARCH 273-3 Archaeology of the New World
three of
ARCH 372-5 Material Culture Analysis
ARCH 373-5 Human Osteology
ARCH 376-5 Quantitative Methods in Archaeology
ARCH 377-5 Historic Archaeology
ARCH 386-3 Archaeological Resource Management
ARCH 442-5 Forensic Anthropology
To participate in co-op education, contact the co-op education co-ordinator, undergraduate chair, and/or departmental assistant at least one semester before the first work semester (see Co-operative Education 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 assessed a fee.
Continuation in this program requires the student to maintain a minimum CGPA of 3.0 in all course work.
College transfer students must have completed at least 15 credit hours at Simon Fraser University before becoming 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 Simon Fraser University co-operative education program.

Asia-Canada Program
6198 Academic Quadrangle, (604) 291-4509 Tel, (604) 291-4989 Fax
Director
J.W. Walls BA, MA, PhD (Indiana)
Associate Members
T. Kawasaki, Interdisciplinary Studies and Political Science
B. Ng, Interdisciplinary Studies
N. Omae, Interdisciplinary Studies
T. Yu, Interdisciplinary Studies and Humanities
Advisor
Ms. N. Ludington, 6193 Academic Quadrangle, (604) 291-4989

The Asia-Canada program offers students the opportunity to investigate the connections between contemporary Canadian society and culture, and that of a variety of Asian countries. Part of the program is a study of one or more Asian languages. The goal of this minor program is to introduce students to the economic, social and cultural connections between Asian countries and Canada.

Minor Program

Admission
There are no special admission requirements but students must normally apply and declare the minor program no later than the 60th credit hour. Students planning to enter the program should take note of the benefits of early beginning in language study, and are encouraged to consult the program advisor about the nature of the program as early as possible.

Lower Division Requirements
Students must complete at least 21 credit hours including
ASC 101-3 Introduction to Asia-Canada Studies I
ASC 102-3 Introduction to Asia-Canada Studies II
plus one of
ASC 200-3 Introduction to Chinese Culture and History
ASC 201-3 Introduction to Japanese Culture and History
ASC 202-3 Studies in Chinese Culture

Language Requirements
Students must also complete at least 12 credit hours of language credit in one of the following languages.
Chinese Language
CHIN 100-3 Mandarin Chinese I
CHIN 102-3 Mandarin Chinese II (China)
CHIN 151-3 Spoken Mandarin for Speakers of Other Chinese Dialects
CHIN 201-3 Mandarin Chinese III
CHIN 202-3 Mandarin Chinese IV

Japanese Language
JAPN 100-3 Introduction to Japanese I
JAPN 101-3 Introduction to Japanese II
JAPN 200-3 Advanced Beginners’ Japanese I
JAPN 201-3 Advanced Beginners’ Japanese II

Optional Courses
The following courses may be of interest to students in this minor program.
HIST 255-3 The Emergence of Modern China
SA 203-4 Comparative Ethnic Relations
SA 275-4 China: Sociological and Anthropological Perspectives

Upper Division Requirements
Students must complete at least 18 credit hours including
ASC 400-3 Senior Seminar on Asia-Canada Relations
and at least one of
ASC 300-3 Asians and North Americans in Public Discourse
ASC 301-3 Asia-Canada Identities: Experiences and Perspectives
To satisfy the remaining 12 required credit hours, students must complete courses from the following. Other courses identified by the steering committee as having significant Asia-Canada content may count toward this requirement.
ASC 302-3 Selected Topics in Chinese Studies
ASC 303-3 Selected Topics in Japanese Studies
ASC 401-3 Directed Studies
POL 355-4 Government and Politics: People’s Republic of China
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
The Centre for Canadian Studies promotes the study and understanding of Canada from a comprehensive cultural, social, political and economic perspective, emphasizing both historical context and contemporaneous development. The centre aims to fully utilize programs developed by other academic departments that contain relevant Canadian subject matter. The centre itself offers a limited amount of interdisciplinary course work that is designed to integrate knowledge drawn from several relevant disciplines.

For those with a predominant interest in Canadian studies, a major and honors program is provided. However, the centre also accommodates students whose primary interest is in one of the regular disciplines. Such students may enrol in a joint major or honors program, combining specialization in the department of their choice with complementary work in Canadian studies.

A certificate in French Canadian studies is also offered. This may be taken concurrently with, and as part of, specialization in Canadian studies at the honors, major or minor level, or it may be taken independent of such specialization. Details are given at the end of this section.

Major Program

The particular requirements are as follows. Students should refer to the General Information section for additional information.

Lower Division Requirements

CNS 160-3 The Social Background of Canada
CNS 210-3 Foundations of Canadian Culture
CNS 280-3 Canadian Political Economy
HIST 101-3 Canada to Confederation

For those with a predominant interest in Canadian studies, and must also complete the same distribution requirements that apply to the major in Canadian studies, and must also complete the same lower division courses and meet the same distribution requirements that apply to the major in Canadian studies, and must also complete the following courses.

Upper Division Requirements

one of
CNS 490-5 The Canadian Intellectual Tradition
CNS 491-3 Technology and Canadian Society

To qualify for honors in Canadian studies, students must take the same lower division courses and meet the same distribution requirements that apply to the major in Canadian studies, and must also complete the following courses.

Honors Program

To qualify for honors in Canadian studies, students must take the same lower division courses and meet the same distribution requirements that apply to the major in Canadian studies, and must also complete the following courses.

Lower Division Requirements

HIST 101-3 Canada to Confederation
POL 221-3 Introduction to Canadian Government
POL 222-3 Introduction to Canadian Politics

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/CNS major.

Minor Program

Students must complete nine credit hours of Canadian studies lower division courses 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

In addition, students must complete 15 credit hours of upper division Canadian studies/Canadian content courses. At least one of these courses must be a CNS 300-400 level course.

Joint Major Program

Students must complete all requirements for a major in Canadian studies and the other subject. Any lower division course that counts toward the separate requirements for Canadian studies and for the other subject may be counted toward 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 18 in the other subject minus 12 overlap).

Joint majors with Canadian studies are available in communication, anthropology, sociology, and business administration.

Joint major students are required to complete all the key courses listed for the department in which they are pursuing the other major.

For a joint major with business administration and economics, there are three possible joint combinations with Canadian studies; business administration, economics or business administration and economics combined. To qualify for the latter combination, a student must meet all of the requirements for the major in business administration and economics as well as those for the Canadian studies major.

The total upper division credit requirement for the joint major in Canadian studies and business administration and economics is 69 credit hours (30 Canadian studies plus 26 business administration plus 25 economics minus 12 overlap with Canadian studies).

There are three joint major combinations of Canadian studies with sociology and anthropology. The total upper division credit requirement for this is 58 credit hours (30 Canadian studies plus 20 sociology plus 20 anthropology minus 12 overlaps).
Joint Honors Program

Students complete all requirements for a Canadian studies major and honors in the other subject concerned. 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 hours in both Canadian studies and the other subject may count towards the upper division requirements of both. Joint honors in Canadian studies and another subject that require 50 upper division hours will therefore require 65 upper division 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 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 joint major in Canadian studies and the other subject concerned, as well as the French language qualification specified above. To determine the level of entry in the French language program, students must take a Faculty of Department placement test. Students may challenge FREN 151, 201, 202 and 206. See the Registration section.

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.

Canadian Studies Courses

There are two categories of courses that carry credit in Canadian studies. ‘Internal’ Canadian studies (CNS) courses are multidisciplinary or may be special topics courses, and are unique to the Canadian studies curriculum. See Undergraduate Courses section.

The other category comprises courses of predominantly Canadian content which are offered by other departments and programs. These are listed below. Some of these courses are considered key and are identified at the bottom of each departmental listing.

Courses marked with an asterisk (*) may be taken for Canadian studies credit only with approval of the director of the Centre for Canadian Studies.

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 Applied Sciences

Department of Communication

CMNS 130-3 Explanations in Mass Communication
CMNS 230-3 Introduction to Communication Media
CMNS 235-3 Introduction to Journalism in Canada
CMNS 331-4 Political Communication
CMNS 333-4 Broadcasting Regulation and Policy in Canada
CMNS 334-4 Cultural Policy
CMNS 335-4 The Newspaper Industry and Press Policy in Canada
CMNS 342-4 Science and Public Policy I: Risk Communication*
CMNS 353-4 Social Contexts of Information Technology*
CMNS 371-4 The Structure of the Book Publishing Industry in Canada
CMNS 372-4 The Publishing Process
CMNS 375-4 Magazine Publishing
CMNS 421-4 Issues Seminar
CMNS 433-4 Issues in Communication Policy
CMNS 436-4 Telecommunication Regulation in North America
CMNS 442-4 Science and Public Policy II: Standards
CMNS 446-4 The Communication of Science and the Transfer of Technology*
CMNS 453-4 Issues in the Information Society*
CMNS 454-4 Computer Mediated Work and Workplace Communication*
CMNS 471-4 Special Topics in Publishing*
CMNS 472-4 Books, Markets and Readers*
CMNS 474-4 The Business of Publishing

Key courses for Communication: CMNS 230, 331; FREN 101 or 298

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, 300, 335

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 397-3 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 Labour Economics
ECON 390-3 Canadian Economic Policy
ECON 410-3 Seminar in Monetary Theory*
ECON 468-3 Seminar in Regional Economic Development*
ECON 480-3 Seminar in the Economics of Labor Market Policy
ECON 483-3 Selected Topics in Economics*
ECON 484-3 Selected Topics in Economics*
ECON 490-5 Seminar in Public Choice*
ECON 496-3 Selected Topics in Economics*
ECON 498-3 Directed Studies*

Key courses for Economics: BUEC 391, ECON 353; any three of 381; BUEC 384, 385; ECON 390; BUEC 396, 397

Department of English

ENGL 354-4 Canadian Literature to 1920
ENGL 360-4 Studies in Canadian Literature

Key courses for English: ENGL 354, 380

Department of French

FREN 230-3 Introduction to French-Canadian Literature
FREN 422-3 Canadian French
FREN 430-3 The French-Canadian Novel and Theatre
FREN 480-2 Seminar I*

Key courses for French: FREN 230, 422, 430, 480

Department of Geography

GEOG 162-3 Canada
GEOG 284-3 Canadian Cities
GEOG 265-3 Geography of British Columbia
GEOG 322-4 World Resources
GEOG 325-4 Geography of Manufacturing
GEOG 421-4 Geography of Resource Development
GEOG 426-4 Multinational Corporations and Regional Development
GEOG 441-4 Geography of Urban Regions*
GEOG 444-4 Regional Development and Planning II
GEOG 445-4 Resource Planning
GEOG 462-4 The Geography of the United States
GEOG 469-4 The Canadian North and Middle North
GEOG 470-4 The Geography of Western Canada
GEOG 475-4 Historical Geography II*

Key courses for Geography: GEOG 162, 462; one of 469, 470

Department of History

HIST 101-3 Canada to Confederation
HIST 102-3 Canada Since Confederation
HIST 201-3 The History of Western Canada
HIST 204-3 The Social History of Canada
HIST 326-4 The History of Native People of Canada
HIST 327-4 Canadian Labour and Working Class History
HIST 329-4 The Province of Quebec from Confederation
HIST 329-4 Canadian Family History
HIST 385-4 Canadian and BC Art
HIST 423-4 Problems in the Diplomatic and Political History of Canada
HIST 424-4 Problems in the Cultural History of Canada
HIST 428-4 Problems in the Social and Economic History of Canada
HIST 430-4 New France
HIST 431-4 British North America 1760-1850
HIST 435-4 The Canadian Prairies
HIST 436-4 British Columbia

Key courses for History: HIST 101, 102, 328; one of 201, 435, 436; one of 423, 424, 428

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 357-4 Law and Politics
POL 422-4 Canadian International Security Relations
POL 423-4 BC Government and Politics
POL 424-4 Quebec Government and Politics
POL 425-4 Political Leadership in Canada
POL 426-4 Canadian Political Behavior
POL 427-4 The Legislative Process in Canada
POL 428-4 Selected Topics in Canadian Government and Politics I
Certificate in French Canadian Studies

The program serves full and part time students, and those seeking courses for educational enrichment only who may be attracted by the opportunities which the Office of Continuing Studies offers, particularly through evening courses.

For access to French Canadian background material, basic French language competency is necessary.

Requirements

Students must complete

FREN 230-3 Introduction to French-Canadian Literature
HIST 328-4 The Province of Quebec from Confederation
POL 424-4 Quebec Government and Politics

Students must also achieve competence in the French language by either

• completing six credit hours from group B courses below, or equivalent transfer credit as confirmed by a placement test administered by the Department of French. (Students who wish to concentrate on reading knowledge of French should take FREN 198 and FREN 298. The other courses listed stress speaking and understanding French.)

• or by passing a placement exam at the level of Grade 12 French, administered by the Department of French.

List of Relevant Courses

In addition, at least 27 credit hours are required, taken from the list of relevant courses below, of which no more than six credit hours in group B may be counted.

Relevant Courses

Group A French Canadian Studies

CNS 160-3 The Social Background of Canada
CNS 210-3 The Foundations of Canadian Culture
CNS 280-3 Canadian Political Economy
CNS 390-3 Topics in Canadian Popular Culture
CNS 391-3 Special Canadian Topics
CNS 490-5 The Canadian Intellectual Tradition
CNS 491-3 Technology and Canadian Society
FREN 230-3 Introduction to French-Canadian Literature
FREN 422-3 Canadian French
FREN 430-3 The French-Canadian Novel and Theatre
HIST 101-3 Canada to Confederation
HIST 102-3 Canada Since Confederation
HIST 328-4 The Province of Quebec from Confederation
HIST 430-4 New France
POL 424-4 Quebec Government and Politics

Group B French Language

FREN 100-3 Introductory French I
FREN 101-3 Introductory French II
FREN 151-3 French I
FREN 198-3 French for Reading Knowledge I
FREN 199-3 Writing French I: Spelling and Grammar
FREN 201-3 Intermediate French I
FREN 202-3 Intermediate French II
FREN 205-3 French Language: Oral Practice
FREN 206-3 Intermediate French III
FREN 298-3 French for Reading Knowledge II
FREN 300-3 Advanced French – Conversation
FREN 301-3 Advanced French – Composition I
FREN 302-3 Advanced French – Composition II

*These courses may be applied to the certificate program, only with express permission of the director of the Centre for Canadian Studies. Approval depends upon the extent of French Canadian content.
Linguistics
LING 220-3 Introduction to Linguistics
Additionally, students who choose linguistics at the intermediate level must complete the following course.
LING 130-3 Practical Phonetics

Philosophy
PHIL 100-3 Knowledge and Reality

Psychology
PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II

Intermediate Courses (22-25 hours)
A student must take COGS 100 plus the courses listed below for at least three of the four disciplines.

Computing Science
CMPT 201-4 Data and Program Organization

Linguistics
LING 221-3 Introduction to Phonology
LING 222-3 Introduction to Syntax

Philosophy
PHIL 210-4 Elementary Formal Logic I

Psychology
PSYC 210-4 Research Methods in Psychology
PSYC 210-4 Data Analysis in Psychology
PSYC 221-3 Cognitive Psychology

Additionally, students who intend to take physiological psychology courses (PSYC 381 and 382) in the upper division must complete the following.

PSYC 280-3 Biological Bases of Behavior

Upper Division Requirements
(30-31 hours)
A student must choose COGS 300, plus fulfill the requirements listed below for the three disciplines selected previously at the intermediate level.

Computing Science
one of
CMPT 383-3 Comparative Programming Languages
CMPT 384-3 Symbolic Computing

plus any two of
CMPT 410-3 Artificial Intelligence Survey
CMPT 411-3 Knowledge Representation
CMPT 412-3 Computational Vision
CMPT 413-3 Computational Linguistics
CMPT 414-3 Model-based Computer Vision

Linguistics
any three of
LING 321-3 Phonology
LING 322-3 Syntax
LING 323-3 Morphology
LING 324-3 Semantics
LING 330-3 Phonetics

Philosophy
any three of
PHIL 341-3 Philosophy of Science
PHIL 343-3 Philosophy of Mind
PHIL 344-3 Philosophy of Language I
PHIL 444-4 Philosophy of Language II

Psychology
any three of
PSYC 303-3 Perception
PSYC 325-3 Memory
PSYC 330-3 Attention
PSYC 366-3 Language Development
PSYC 367-3 Experimental Psycholinguistics

Honors Program
A GPA of 3.0 in all courses in the cognitive science program is required for entrance and continuation in this program. Those interested in the honors program should consult the co-ordinator of the cognitive science program.

Two options are available: option A and option B.

Option A
A student must fulfill the requirements for a major in cognitive science and choose the courses listed below for one of the disciplines, and complete
COGS 490-5 Honors Project I
COGS 491-5 Honors Project II

Computing Science
MACM 300-3 Formal Languages and Automata with Applications
MACM 402-3 Automata and Formal Languages

plus any of the following two courses which have not been taken previously
CMPT 383-3 Comparative Programming Languages
CMPT 384-3 Symbolic Computing
CMPT 411-3 Knowledge Representation
CMPT 412-3 Computational Vision
CMPT 413-3 Computational Linguistics
CMPT 414-3 Model-based Computer Vision
CMPT 419-3 Topics in Artificial Intelligence

Linguistics
any four of
LING 400-3 Formal Linguistics
LING 401-3 Advanced Phonetics
LING 403-3 Advanced Phonology
LING 405-3 Advanced Syntax
LING 406-3 Advanced Semantics
LING 423-3 Advanced Morphology
LING 440-3 History and Philosophy of Linguistics

Philosophy
PHIL 301-3 Epistemology
PHIL 331-3 Selected Topics II
PHIL 340-3 Philosophical Methods
PHIL 453-4 Background to Analytical Philosophy

Psychology
any three of the following courses which have not been taken previously
PSYC 303-3 Perception
PSYC 330-3 Attention
PSYC 381-3 Introduction to Physiological Psychology
PSYC 382-3 Physiology of Complex Behavior
PSYC 425-5 Language and Thinking
PSYC 430-3 Perception

Option B
A student must fulfill the requirements for a major in cognitive science and choose any combination of courses listed above totaling at least eleven credit hours and accepted by the cognitive science steering committee, and choose COGS 490 and 491.

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

Director
O. Underhill BMus (Vic, BC), MA (NY State) – Music

Professor Emeritus
G. Strate BA, LLB (Alta) – Dance

Professors
S.A. Alof BA (‘C nell), MA (Col) – Dance
M. Diamond BA (W Ont), MA, PhD (Tor) – Theatre
I. Garland BS (Ill), MS (Calif) – Dance
D.K. MacIntyre BMus, MMus (Vic, BC) – Music

Interdisciplinary
B.D. Truax BSc (Qu), MMus (Br Col) – Music
O. Underhill BMus (Vic, BC), MA (NY State) – Music

Associate Professors
E.W. Alderson BA (Haverford), MA, PhD (Calif) – Interdisciplinary
C.V.A. Browne BA (RMC), MA (S Fraser) – Film
A. Clay BFA (Nova Scotia Art & Des), MFA (Br Col) – Visual Art
M.S. Gotfrid BA (C’dia), MA (McG) – Music
P. Gruben BA (Rice) – Film
D.D. Kugler BA (Ohio Northern), MFA (York) – Theatre
J. Levitin BA, MA (Wash), PhD (NY State) – Film
G. Snider BS, MFA (Wisz) – Visual Art
P. Stella BA (Ill) – Theatre

Assistant Professors
H. Dawkins BFA (Nova Scotia Art & Des), MA, PhD (Leeds) – Interdisciplinary
M. Eist BA (American DC), MFA (NY) – Dance
J. Garay – Dance
C. Welsby BA (Cheslea School of Art, London), Higher Diploma (Slade School of Fine Art, London) – Film
J. Yoon BA (Br Col), BFA (ECIAD), MFA (C’dia) – Visual Art

Senior Lecturers
R. Groeneboer BA (Calvin Coll, Michigan), MSc (Wisz) – Film
B. Hegland BA (Leth), MFA (III) – Interdisciplinary
J.A. Macfarlane BA (Reed) – Interdisciplinary
C. Prophet BA (York, Coll) – Dance
D. Zapf BMus, MA (Vic, BC) – Music/Interdisciplinary

Lecturer
G. Rosenberg BA (Camb), MA (Cantab) – Film, Visual Art

Laboratory Instructors
A. Eigenfeldt BMus (Br Col), MA (S Fraser), DM (Northwestern) – Music
G. Harris – Technical Theatre
A. Smith – Dance, Music
M. Smith – Film

Advisors
Ms. J. Sanderson, CA 601, (604) 291-3363
Ms. B. Leighs, CA 601 (604) 291-3363

*joint appointment with Communication
**joint appointment with Women’s Studies

The School for the Contemporary Arts is committed to the study, production and promotion of contemporary art.

The school’s philosophy is that the theory and practice of art, the doing and thinking, cannot be separated: all programs within the school, therefore, combine theoretical and critical study with practical experience. Theoretical and critical studies include the historical development of and the interrelationships among the arts, the process of art-making, and the relationship between art and the world within which it is made. Practical experience is available within studio or laboratory courses, and students are encouraged to acquire additional practical experience by participating in extracurricular productions, exhibitions or performances.

The School for the Contemporary Arts offers general interest courses and sponsors a variety of public events in order to make contemporary art more accessible to, and to provide cultural activities for, the wider community.

Admission
Admission to all contemporary arts programs and courses is contingent upon admission to the University. Contact the Office of the Registrar for information on admission procedures, requirements and deadlines.

Entry to all programs and to many courses is by audition, interview or application. Contact the office for information on procedures and deadlines.

Although the University operates on a trimester system, most FPA courses are planned in a two semester (fall and spring) sequence. Consequently, students seek fall semester (September) entry to the School for the Contemporary Arts programs and are
advised to contact the school in the preceding January for information on program entry and requirements.

**Transfer Credit and Advanced Placement**

Unassigned or general elective (type 2 and 3, respectively) transfer credit which has been awarded for courses completed at other recognized post-secondary institutions, will not automatically entitle students to advanced placement in the school’s programs. Advanced placement is generally given on an individual basis as a result of an audition or interview.

**Programs Offered**

The School for the Contemporary Arts offers the following programs.

- Major in Art and Culture Studies (BA)
- Major in Film (BFA)
- Major in Music (BFA)
- Major in Theatre (BFA)
- Major in Visual Art (BFA)

**Bachelor of Arts Degree Program**

### Art and Culture Studies Major Program

This major program 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 objectives of this program go beyond understanding the complex history and theory of the fine and performing arts. It aims to provide students with the knowledge, research and communication skills needed to participate effectively in contemporary and future debates.

In this program, students experience and analyse selected artworks from dance, film, music, theatre or visual art, and develop an understanding of the contemporary significance of artworks as well as their historical meanings and cultural contexts. The core program includes two introductory art making courses from a wide range of choices so that students experience what the creative process involves in dance, film, music, theatre or visual art. Course selection, beyond the program’s core, is flexible and students are encouraged to shape their studies in the school, or in the University at large, in relation to their own interests and curiosity.

**Lower Division Requirements**

Students are required to complete 24 credit hours, as follows.

- **Interdisciplinary Theory Core Courses**
  - all of
  - FPA 111-3 Issues in the Fine and Performing Arts
  - FPA 211-3 Introduction to Contemporary Theory in the Arts
  - FPA 216-3 Introduction to the Fine and Performing Arts in Canada

- **Disciplinary History Courses**
  - two of
  - FPA 127-3 History of Dance: Origins to the 20th Century
  - FPA 136-3 The History and Aesthetics of Cinema I
  - FPA 137-3 The History and Aesthetics of Cinema II
  - FPA 140-3 Music in the 20th Century
  - FPA 161-3 Introductory Studio in Visual Art I
  - FPA 167-3 History of Art: Renaissance to Modern
  - FPA 188-3 History of Art: 20th Century
  - FPA 227-3 History of Dance: The 20th Century
  - FPA 242-3 Western Music in the 17th Through 19th Centuries
  - FPA 257-3 Foundations of Theatre I
  - FPA 258-3 Foundations of Theatre II
  - FPA 104-3 Music Fundamentals
  - FPA 120-3 Introduction to Contemporary Dance
  - FPA 124-3 Dance Improvisation
  - FPA 129-3 Fundamental Integration of Human Movement
  - FPA 141-3 Introduction to Music Performance
  - FPA 145-3 Introduction to Music Composition and Theory
  - FPA 147-3 Introduction to Electroacoustic Music
  - FPA 151-3 Introduction to Acting I
  - FPA 152-3 Introduction to Acting II
  - FPA 160-3 Introductory Studio in Visual Art I
  - FPA 161-3 Introductory Studio in Visual Art II
  - FPA 163-3 Issues in Spatial Presentation
  - FPA 170-3 Introduction to Technical Theatre
  - FPA 171-3 Stage and Production Management
  - FPA 243-3 Gamelan I
  - FPA 270-3 Technical Theatre
  - FPA 290-3 Video Production I

- **Note:** With permission, other studio courses can be substituted for those listed. Students are advised that for some studio courses, permission to register is selective and may be based on an interview or audition. Please contact the School for the Contemporary Arts for more detail regarding specific studio courses.

- **Additional Theory Courses**
  - One additional 200 level course from among the following must be completed.
  - CMNS 259-3 Acoustic Dimensions of Communication I
  - FPA 229-3 Selected Topics in Dance I
  - FPA 236-3 Cinema in Canada
  - FPA 237-3 Selected Topics in Film and Video Studies
  - FPA 244-3 Theory of Contemporary Music
  - FPA 249-3 Selected Topics in Music I
  - FPA 259-3 Selected Topics in Theatre I
  - FPA 269-3 Selected Topics in Visual Art I
  - FPA 279-3 Selected Topics in the Fine and Performing Arts I
  - PHIL 242-3 Philosophy of Art
  - WS 205-3 Women and Popular Culture

- **Note:** These courses may be offered with either a practical (studio) or a theoretical orientation, or a combination of the two. They may only count toward this requirement when they have a strong theoretical component.

- **Note:** Some courses listed have prerequisites beyond those that can be applied to the major requirements.

- **Note:** With permission of the school, other courses that are germane to the student’s art and culture studies program may count toward this requirement.

**Upper Division Requirements**

A minimum of 35 credit hours must be completed as follows.

- **Interdisciplinary Theory Core**
  - Two courses must be completed from the arts in context series as follows.
  - FPA 311-5 The Arts in Context: Selected Topics
  - FPA 313-5 The Arts in Context: Enlightenment and Romanticism
  - FPA 314-5 The Arts in Context: Modernism
  - FPA 315-5 The Arts in Context: The Contemporary Period

- **Bachelor of Fine Arts Degree Program**

- **Dance Major Program**

  The BFA major in dance approaches dance as an art form and combines creative and technical studio plus both of

- FPA 411-5 Selected Topics in Contemporary Theory
- FPA 412-5 Senior Seminar in Art and Culture Studies

**Additional Art and Culture Studies Courses**

At least six credit hours from the following must be completed.

- FPA 335-4 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 359-3 Selected Topics in Theatre I
- 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 379-3 Selected Topics in the Fine and Performing Arts I
- FPA 382-3 Aesthetics of Performance
- FPA 384-3 Criticism of Performance
- FPA 388-3 Directed Studies in Fine and Performing Arts
- FPA 426-3 Dance/Movement Analysis
- FPA 429-3 Directed Studies in Dance Research
- FPA 436-3 Advanced Seminar in Film and Video Studies
- FPA 456-3 Selected Topics in Dramatic Theory or additional courses from the arts in context series.

- These courses may be offered with either a practical (studio) or a theoretical orientation, or a combination of the two. They may only count toward this requirement when they have a strong theoretical component.

The additional nine required hours may be drawn from any of the above, or from approved courses in other departments, including any of the following.

- ARCH 301-3 Prehistoric and Prehistoric Art
- ARCH 336-3 Special Topics in Prehistoric and Prehistoric Art
- CMNS 321-4 The Cultural Production of Popular Music
- CMNS 334-4 Cultural Policy
- CMNS 422-4 Media and Ideology
- ENGL 310-4 Elizabethan and Jacobean Drama
- ENGL 312-4 Shakespeare
- ENGL 364-4 History and Principles of Literary Criticism
- ENGL 366-4 Studies in Critical Approaches to Literature
- ENGL 368-4 Studies in Drama
- GS 304-3 Richard Wagner: The Ring of the Nibelung
- HIST 303-4 Museum Methods and Use
- HIST 385-4 Canadian and BC Art
- PHIL 325-3 Philosophy of Art II
- SA 416-4 Sociology of Art Forms
- WS 312-5 Women and Film

**Notes:**

- Several of the above courses have prerequisites beyond those that can be applied to the major requirement; waiver of any prerequisites for art and culture studies majors can only be made by the department offering the course.

- With permission of the school, other courses that are germane to the student’s program in art and culture studies may be counted toward this requirement.

- The courses to be listed from other departments will be the subject of careful discussions with those departments.

- **Bachelor of Fine Arts Degree Program**
courses. Emphasis is given to contemporary dance technique, composition and experimentation. Courses are also offered in fundamental body work, ballet, history and criticism, and movement analysis. Course work in other artistic disciplines is encouraged, and opportunities for participation in a variety of productions are available. The program is intended for students who desire to study dance in relation to other contemporary art disciplines and academic fields.

In addition to the 85 credits outlined below, students are required to fulfill the 30 credit Faculty of Arts breadth requirement within the minimum 120 credits required for the BFA degree.

**Entry to the dance program is by audition,** usually scheduled for early spring and late summer. Contact the school to make an audition appointment.

Students who do not have sufficient background to audition for entry into the major program may register in FPA 120.

The attention of students whose interest in dance 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 43 credit hours must be completed including the following.

- **FPA 111-3 Issues in the Fine and Performing Arts**
- **FPA 122-4 Contemporary Dance I**
- **FPA 123-4 Contemporary Dance II**
- **FPA 124-3 Dance Improvisation**
- **FPA 127-3 History of Dance: Origins to the 20th Century**
- **FPA 129-3 Fundamental Integration of Human Movement**
- **FPA 220-4 Contemporary Dance III**
- **FPA 221-4 Contemporary Dance IV**
- **FPA 224-3 Dance Composition I**
- **FPA 227-3 History of Dance: The 20th Century**
- **FPA 228-3 Dance Composition II**

plus two FPA courses other than dance.

**Recommended Courses**

- **FPA 104-3 Music Fundamentals**
- **FPA 140-3 Music in the 20th Century**
- **FPA 141-3 Introduction to Music Performance**
- **FPA 147-3 Introduction to Electroacoustic Music**
- **FPA 151-3 Introduction to Acting I**
- **FPA 152-3 Introduction to Acting II**
- **FPA 160-3 Introductory Studio in Visual Art I**
- **FPA 163-3 Issues in Spatial Presentation**
- **FPA 170-3 Introduction to Technical Theatre**
- **FPA 171-3 Stage and Production Management**
- **FPA 211-3 Introduction to Contemporary Theory in the Arts**
- **FPA 216-3 Introduction to the Fine and Performing Arts in Canada**
- **FPA 236-3 Cinema in Canada**
- **FPA 252-3 Playmaking I**
- **FPA 290-3 Video Production I**

**Upper Division Requirements**

A minimum of 42 credit hours must be completed including

- **FPA 220-4 Contemporary Dance V**
- **FPA 231-4 Contemporary Dance VI**
- **FPA 426-3 Dance/Movement Analysis**

*plus 23 credit hours selected from the following.

- **FPA 322-3 Ballet I**
- **FPA 333-3 Ballet II**
- **FPA 334-3 New Dance Composition**
- **FPA 335-3 Special Project in Dance Composition**
- **FPA 326-3 Repertory I**
- **FPA 327-3 Repertory II**
- **FPA 420-4 Contemporary Dance VII**
- **FPA 421-4 Contemporary Dance VIII**
- **FPA 423-3 Directed Studies in Choreography**
- **FPA 424-3 Directed Performance in Selected Repertory**
- **FPA 425-5 Intensive Studies in Dance**

**Film Major Program**

The intent of the BFA major in film is to provide a balanced program of creative, technical and analytical studies within the interdisciplinary setting of the School for the Contemporary Arts. Film and video production courses emphasize the creation of original work as well as the acquisition of technical skills. Film courses which familiarize students with the aesthetic and social issues surrounding contemporary film and video practice are an integral part of the curriculum. Students augment their understanding of the components of film and video through interdisciplinary studies and projects.

Directed study courses are available for upper division students wishing to work independently beyond regular course offerings.

**Entry to all film production courses is by questionnaire and interview.** Contact the school by early February to request an information letter and questionnaire.

Filmmaking students who wish to complete the film major may apply for admission to the BFA major program after completing FPA 231, normally at the end of the second year of study. Approval will be based on the student’s creative work and academic record in required lower division courses.

The attention of students whose interest in film is related primarily to its historical, critical, or theoretical aspects, is directed to the art and culture studies major program, leading to a BA degree, and to the film and video studies minor program.

**Lower Division Requirements**

A minimum of 44 credit hours must be completed including the following.

- **FPA 111-3 Issues in the Fine and Performing Arts**
- **FPA 130-4 Fundamentals of Film**
- **FPA 131-4 Filmmaking I**
- **FPA 136-3 The History and Aesthetics of Cinema I**
- **FPA 137-3 The History and Aesthetics of Cinema II**
- **FPA 230-5 Filmmaking II**
- **FPA 231-5 Filmmaking III**
- **FPA 233-2 The Techniques of Film**

*plus two of

- **FPA 236-3 Cinema in Canada**
- **FPA 237-3 Selected Topics in Film and Video Studies**
- **FPA 238-3 Screenwriting I**

**Music Major Program**

The bachelor of fine arts – major in music is a flexible program that offers several options for the music student who wishes to pursue an interest in composition, electroacoustic music, world music or interdisciplinary collaboration. Complementary courses in music history, theory and criticism provide an integral balance to the in-depth studio nature of the program.

The program takes full advantage of the opportunities to experience and study other art forms that are provided in the School for the Contemporary Arts. Students are required to take studio courses in other art disciplines as well as interdisciplinary courses in history, theory and criticism.

**Entry to specific courses required for the Music major is by interview,** usually scheduled for early spring and late summer. Contact the general office to make an appointment.

In addition to the 85 credit hours that constitute the BFA – major in music, students are required to fulfill the 30 credit Faculty of Arts breadth requirement, within the minimum 120 credit hours required for the degree.

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 42 credit hours including:

- 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 242-3 Western Music in the 17th through 19th Centuries
- FPA 244-3 Theory of Contemporary Music
- FPA 245-3 Music Composition I

plus two of:

- FPA 141-3 Introduction to Music Performance
- FPA 240-3 Contemporary Music Performance I
- FPA 243-3 Gamelan I

plus one of:

- FPA 246-3 Music Composition II
- FPA 247-3 Electroacoustic Music I

plus one of:

- FPA 249-3 Selected Topics in Music I
- CMNS 258-3 Introduction to Electroacoustic Communication

plus one of:

- FPA 127-3 History of Dance: Origins to the 20th Century
- FPA 136-3 The History and Aesthetics of Cinema I
- FPA 137-3 The History and Aesthetics of Cinema II
- FPA 167-3 History of Art: Renaissance to Modern
- FPA 168-3 History of Art: 20th Century
- FPA 211-3 Introduction to Contemporary Theory in the Arts
- FPA 216-3 Introduction to the Fine and Performing Arts in Canada
- FPA 227-3 History of Dance: 20th Century
- FPA 257-3 Foundations of Theatre I
- FPA 258-3 Foundations of Theatre II

plus two FPA studio courses outside Music.

Upper Division Requirements

A minimum of 43 credit hours must be completed, which includes 24 credit hours selected from the list below, of which 9 credit hours must be at the 400 division.

- 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
- FPA 448-3 Directed Study in Music I
- FPA 449-3 Directed Study in Music II

*plus two of:

- FPA 311-5 The Arts in Context: Selected Topics
- FPA 313-5 The Arts in Context: Enlightenment and Romanticism
- FPA 314-5 The Arts in Context: Modernism
- FPA 315-5 The Arts in Context: The Contemporary Period

*of which one must be FPA 314 or 315.

plus two FPA courses other than music (CMNS 358 or 359 may be substituted for one of these FPA non-music courses).

plus three additional credit hours in an upper division FPA course. An additional music course may be used for this requirement.

Theatre Major Program

The bachelor of fine arts – major in theatre 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.

In addition to the 85 credit hours required for the BFA – major in theatre, students are required to fulfill the 30 credit hour Faculty of Arts breadth requirement, within the 120 credit hours required for the degree.

Entry to FPA 250, 252, 254 and to the major in theatre is by audition, usually scheduled for early spring and late summer. Contact the general office to make an audition appointment.

Students who wish to enrol in the theatre major program normally take FPA 151 and 152, and are advised to take other required courses, prior to auditioning for entry to the program.

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. Students whose primary interest is technical theatre and design are referred to the extended minor program.

Lower Division Requirements

A minimum of 47 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 151-3 Introduction to Acting I
- FPA 152-3 Introduction to Acting II
- FPA 170-3 Introduction to Technical Theatre
- 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 Foundations of Theatre I
- FPA 258-3 Foundations of Theatre II

plus one of:

- FPA 171-3 Stage and Production Management
- FPA 270-3 Technical Theatre

plus one of:

- FPA 127-3 History of Dance: Origins to the 20th Century (or FPA 227)
- FPA 136-3 The History and Aesthetics of Cinema I
- FPA 137-3 The History and Aesthetics of Cinema II
- FPA 167-3 History of Art: Renaissance to Modern
- FPA 168-3 History of Art: 20th Century
- FPA 211-3 Introduction to Contemporary Theory in the Arts
- FPA 216-3 Introduction to the Fine and Performing Arts in Canada
- FPA 242-3 Western Music in the 17th Through 19th Centuries

plus one FPA studio course other than theatre.

Upper Division Requirements

A minimum of 38 credit hours must be completed including all of:

- FPA 350-3 Acting III
- FPA 351-3 Acting IV
- FPA 354-2 Theatre Laboratory III
- FPA 355-2 Theatre Laboratory IV
- FPA 426-3 Dance/Movement Analysis

plus five of:

- FPA 338-3 Screenwriting II
- FPA 339-3 Directing and Acting for Film and Video
- FPA 352-3 Playmaking III
- FPA 353-3 Playmaking IV

plus two of:

- FPA 359-3 Selected Topics in Theatre II
- FPA 370-3 Introduction to Stage Design
- FPA 372-3 Technical Production I
- FPA 373-3 Technical Production II
- FPA 379-3 Selected Topics in the Fine and Performing Arts II
- FPA 382-3 Aesthetics of Performance
- FPA 384-3 Criticism of Performance
- FPA 388-3 Directed Studies in Fine and Performing Arts I
- FPA 390-3 Video Production II
- FPA 450-3 Advanced Studio Skills I
- FPA 453-3 Selected Topics in Directing
- FPA 456-3 Selected Topics in Dramatic Theory
- FPA 458-3 Directed Studies in Theatre I

*plus two of:

- FPA 311-5 The Arts in Context: Selected Topics
- FPA 313-5 The Arts in Context: Enlightenment and Romanticism
- FPA 314-5 The Arts in Context: Modernism
- FPA 315-5 The Arts in Context: The Contemporary Period

*of which one must be FPA 314 or 315.

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 integrated theoretical and critical seminars allows students to understand their own production in relation to current and historical developments in visual art and other disciplines. A strong emphasis is placed on developing an understanding of the position and responsibilities of the artist as part of a larger social community in the contemporary world.

Entry to visual art studio courses, and to the visual art major program is by interview. Contact the general office to make an appointment, and to request an information letter. Students must have completed first year requirements when applying to the major program.

Students are required to complete a total of 79 credit hours in the school, plus the additional Faculty of Arts breadth requirements of 30 credit hours, within the total of 120 hours required for the degree.

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: Renaissance to Modern
- FPA 168-3 History of Art: 20th Century
- 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 262-3 Drawing I
- FPA 263-3 Painting I
- FPA 264-3 Sculpture I
- FPA 265-3 Photography I
- FPA 350-3 Acting III
- FPA 354-2 Theatre Laboratory III
- FPA 355-2 Theatre Laboratory IV
- FPA 426-3 Dance/Movement Analysis

plus five of:

- FPA 338-3 Screenwriting II
- FPA 339-3 Directing and Acting for Film and Video
- FPA 352-3 Playmaking III
- FPA 353-3 Playmaking IV
- FPA 359-3 Selected Topics in Theatre II
- FPA 370-3 Introduction to Stage Design
- FPA 372-3 Technical Production I
- FPA 373-3 Technical Production II
- FPA 379-3 Selected Topics in the Fine and Performing Arts II
- FPA 382-3 Aesthetics of Performance
- FPA 384-3 Criticism of Performance
- FPA 388-3 Directed Studies in Fine and Performing Arts I
- FPA 390-3 Video Production II
- FPA 450-3 Advanced Studio Skills I
- FPA 453-3 Selected Topics in Directing
- FPA 456-3 Selected Topics in Dramatic Theory
- FPA 458-3 Directed Studies in Theatre I

*plus two of:

- FPA 311-5 The Arts in Context: Selected Topics
- FPA 313-5 The Arts in Context: Enlightenment and Romanticism
- FPA 314-5 The Arts in Context: Modernism
- FPA 315-5 The Arts in Context: The Contemporary Period

*of which one must be FPA 314 or 315.
FPA 242-3 Western Music in the 17th Through 19th Centuries
FPA 257-3 Foundations of Theatre I
FPA 258-3 Foundations of Theatre II
plus two additional FPA courses other than visual art, one of which must be a studio.

**Upper Division Requirements**

A minimum of 40 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 461-3 Studio in Visual Art VI
plus at least two of
FPA 362-3 Drawing II
FPA 363-3 Painting II
FPA 364-3 Sculpture II
FPA 365-3 Photography II
FPA 369-3 The Arts Topics in Visual Art II
FPA 390-3 Video Production II
plus at least two of
FPA 335-4 Introduction to Film Theory
FPA 370-3 Introduction to Stage Design
FPA 379-3 Selected Topics in the Fine and Performing Arts II
FPA 382-3 Aesthetics of Performance
FPA 384-3 Criticism of Performance
FPA 388-3 Directed Studies in Fine and Performing Arts I
FPA 411-5 Selected Topics in Contemporary Theory
FPA 412-5 Senior Seminar in Art and Culture Studies
FPA 426-3 Dance/Movement Analysis
FPA 469-3 Directed Project in Visual Art

**Note:** With permission other upper division courses germane to the student’s visual art program may count toward this requirement. Students should be aware that some of these courses have prerequisite requirements beyond those that can be applied to the major requirement.

*plus at least two of
FPA 311-5 The Arts in Context: Selected Topics
FPA 313-5 The Arts in Context: Enlightenment and Romanticism
FPA 314-5 The Arts in Context: Modernism
FPA 315-5 The Arts in Context: The Contemporary Period
one of which must be FPA 314 or 315.

**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 arts in context requirement at the upper division.

**Lower Division Requirements**

A minimum of 12 credit hours in FPA must be completed including one studio course.

**Upper Division Requirements**

A minimum of 17 credit hours in FPA must be completed including at least one arts in context course (FPA 311, 313, 314, 315).

**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 The Arts in Context: Selected Topics
FPA 313-5 The Arts in Context: Enlightenment and Romanticism
FPA 314-5 The Arts in Context: Modernism**
FPA 315-5 The Arts in Context: The Contemporary Period**
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 388-3 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 Courses*
both of
FPA 111-3 Issues in the Fine and Performing Arts
FPA 216-3 Introduction to the Fine and Performing Arts in Canada
plus two of the following, one of which must be a history or theory course
FPA 104-3 Music Fundamentals
FPA 120-3 Introduction to Contemporary Dance
FPA 124-3 Dance Improvisation
FPA 127-3 History of Dance: Origins to the 20th Century
FPA 129-3 Fundamental Integration of Human Movement
FPA 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 20th Century
FPA 141-3 Introduction to Music Performance
FPA 145-3 Introduction to Music Composition and Theory
FPA 147-3 Introduction to Electroacoustic Music
FPA 151-3 Introduction to Acting I
FPA 152-3 Introduction to Acting II
FPA 160-3 Introductory Studio in Visual Art I
FPA 161-3 Introductory Studio in Visual Art II
FPA 163-3 Issues in Spatial Presentation
FPA 167-3 History of Art: Renaissance to Modern
FPA 168-3 History of Art: 20th Century
FPA 170-3 Introduction to Technical Theatre
FPA 171-3 Stage and Production Management
FPA 211-3 Introduction to Contemporary Theory in the Arts
FPA 227-3 History of Dance: The 20th Century
FPA 238-3 Cinema in Canada
FPA 237-3 Selected Topics in Film and Video Studies
FPA 242-3 Western Music in the 17th Through 19th Centuries
FPA 243-3 Gamelan I
FPA 257-3 Foundations of Theatre I
FPA 258-3 Foundations of Theatre II
FPA 270-3 Technical Theatre
FPA 290-3 Video Production I

**Upper Division Requirements**

A minimum of 15 credit hours must be completed as follows.

Three courses must be completed from the following.
FPA 311-5 The Arts in Context: Selected Topics
FPA 313-5 The Arts in Context: Enlightenment and Romanticism
FPA 314-5 The Arts in Context: Modernism
FPA 315-5 The Arts in Context: The Contemporary Period
FPA 411-5 Selected Topics in Contemporary Theory
FPA 412-5 Advanced Seminar in Art and Culture Studies

**Dance Extended Minor**
The extended minor in dance is intended primarily for students pursuing a BA general degree with a view to teaching dance in the public schools, but may be also used in combination with other academic interests. The program is balanced with dance technique, composition and theory, and some work in a relevant art discipline other than dance.

**Entry to FPA 122 and the extended minor in dance is by audition,** usually scheduled for early spring and late summer. Contact the general office to make an audition appointment.

Students who do not have sufficient dance training to audition for entry into this program may register in FPA 120.

**Lower Division Requirements**

A minimum of 28 credit hours in dance must be completed including all of
FPA 122-4 Contemporary Dance I
FPA 123-4 Contemporary Dance II
FPA 129-3 Fundamental Integration of Human Movement
FPA 220-4 Contemporary Dance III
FPA 221-4 Contemporary Dance IV
FPA 224-3 Dance Composition I
one of
FPA 123-7 History of Dance: Origins to the 20th Century
FPA 227-3 History of Dance: The 20th Century
one of
FPA 104-3 Music Fundamentals
FPA 111-3 Issues in the Fine and Performing Arts
FPA 140-3 Music in the 20th Century
FPA 141-3 Introduction to Music Performance
FPA 151-3 Introduction to Acting I
FPA 170-3 Introduction to Technical Theatre

**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 Repertoire I
FPA 327-3 Repertoire II
FPA 420-4 Contemporary Dance VII
FPA 421-4 Contemporary Dance VIII
FPA 424-3 Directed Repertory
Film Extended Minor

The extended minor in film is designed for students who wish to apply their studies in a broad range of other programs within the University to film and video production. Film has affinities with many other disciplines, including social sciences and humanities, English, business and communications. Students from other areas of contemporary arts may develop specific skills such as composing for film, multimedia installation, or directing actors by combining an extended minor in film with another in the appropriate area.

Entry to all film production courses is by questionnaire and interview. Contact the school by early February to request an information letter and questionnaire.

Lower Division Requirements

A minimum of 32 credit hours must be completed including all of
FPA 111-3 Issues in the Fine and Performing Arts
FPA 130-4 Fundamentals of Film
FPA 131-4 Filmmaking I
FPA 230-5 Filmmaking II
FPA 231-5 Filmmaking III
FPA 233-2 The Techniques of Film
plus two of
FPA 136-3 The History and Aesthetics of Cinema I
FPA 137-2 The History and Aesthetics of Cinema II
FPA 236-3 Cinema in Canada
FPA 237-3 Selected Topics in Film and Video Studies
plus one of
FPA 120-3 Introduction to Contemporary Dance
FPA 147-3 Introduction to Electroacoustic Music
FPA 151-3 Introduction to Acting I
FPA 163-3 Issues in Spatial Presentation
FPA 170-3 Introduction to Technical Theatre
FPA 211-3 Introduction to Contemporary Theory in the Arts
FPA 216-3 Introduction to the Fine and Performing Arts in Canada
FPA 238-3 Screenwriting I
FPA 290-2 Video Production I

Upper Division Requirements

A minimum of 15 credit hours must be completed including at least two of
FPA 300-3 Film Sound
FPA 332-3 Film Production Seminar
FPA 334-3 Selected Topics in Film and Video Production I
FPA 338-3 Screenwriting II
FPA 339-3 Directing and Acting for Film and Video
FPA 390-3 Video Production II
FPA 399-2 Techniques of Video plus one of
FPA 311-5 The Arts in Context: Selected Topics
FPA 313-5 The Arts in Context: Enlightenment and Romanticism
FPA 314-5 The Arts in Context: Modernism
FPA 315-5 The Arts in Context: The Contemporary Period
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 program allows students to gain experience in a particular area. Students may use this minor for teaching in the schools.

Entry to specific courses required for the extended minor in music is by interview, usually scheduled for early spring and late summer. Contact the general office to make an appointment.

Lower Division Requirements

A minimum of 27 credit hours must be completed including all of
FPA 140-3 Music in the 20th Century
FPA 141-3 Introduction to Music Performance
FPA 145-3 Introduction to Music Composition and Theory
FPA 147-3 Introduction to Electroacoustic Music
FPA 242-3 Western Music in the 17th through 19th Centuries
plus three 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 of
FPA 111-3 Issues in the Fine and Performing Arts
FPA 127-3 History of Dance: Origins to the 20th Century
FPA 136-3 The History and Aesthetics of Cinema I
FPA 137-3 The History and Aesthetics of Cinema II
FPA 167-3 History of Art: Renaissance to Modern
FPA 168-3 History of Art: 20th Century
FPA 211-3 Introduction to Contemporary Theory in the Arts
FPA 216-3 Introduction to the Fine and Performing Arts in Canada
FPA 227-3 History of Dance: The 20th Century
FPA 236-3 Cinema in Canada
FPA 242-3 Western Music in the 17th through 19th Centuries

Upper Division Requirements

A minimum of 17 credit hours must be completed including all of
FPA 370-3 Introduction to Stage Design
FPA 372-3 Technical Production I
plus two of
FPA 371-3 Stage Lighting
FPA 373-3 Technical Production II
FPA 379-3 Selected Topics in the Fine and Performing Arts
FPA 382-3 Aesthetics of Performance
FPA 384-3 Criticism of Performance
FPA 388-3 Directed Studies in Fine and Performing Arts
FPA 390-3 Video Production II
FPA 426-3 Dance/Movement Analysis
plus one of
FPA 311-5 The Arts in Context: Selected Topics
FPA 313-5 The Arts in Context: Enlightenment and Romanticism
FPA 315-5 The Arts in Context: Modernism
FPA 316-5 The Arts in Context: The Contemporary Period

Visual Art Extended Minor

Those students who wish to obtain a BA degree by completing two extended minors are directed to the extended minor in visual art. 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 interview. Contact the general office to make an appointment.

Lower Division Requirements

A minimum of 27 credit hours must be completed including all of
FPA 111-3 Issues in the Fine and Performing Arts
FPA 130-3 Introduction to Contemporary Dance
FPA 137-3 History and Aesthetics of Cinema I
FPA 140-3 Music in the 20th Century
FPA 147-3 Introduction to Electroacoustic Music
FPA 163-3 Issues in Spatial Presentation
FPA 167-3 History of Art: Renaissance to Modern
FPA 168-3 History of Art: 20th Century
FPA 211-3 Introduction to Contemporary Theory in the Arts
FPA 227-3 History of Dance: The 20th Century
FPA 236-3 Cinema in Canada
FPA 242-3 Western Music in the 17th through 19th Centuries
FPA 290-2 Video Production I

Upper Division Requirements

A minimum of 17 credit hours must be completed including all of
FPA 370-3 Introduction to Stage Design
FPA 372-3 Technical Production I
plus two of
FPA 371-3 Stage Lighting
FPA 373-3 Technical Production II
FPA 379-3 Selected Topics in the Fine and Performing Arts
FPA 382-3 Aesthetics of Performance
FPA 384-3 Criticism of Performance
FPA 388-3 Directed Studies in Fine and Performing Arts
FPA 390-3 Video Production II
FPA 426-3 Dance/Movement Analysis
plus one of
FPA 311-5 The Arts in Context: Selected Topics
FPA 313-5 The Arts in Context: Enlightenment and Romanticism
FPA 315-5 The Arts in Context: Modernism
FPA 316-5 The Arts in Context: The Contemporary Period

Visual Art Extended Minor

Those students who wish to obtain a BA degree by completing two extended minors are directed to the extended minor in visual art. 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 interview. Contact the general office to make an appointment.

Lower Division Requirements

A minimum of 27 credit hours must be completed including all of
FPA 111-3 Issues in the Fine and Performing Arts
FPA 130-3 Introduction to Contemporary Dance
FPA 137-3 History and Aesthetics of Cinema I
FPA 140-3 Music in the 20th Century
FPA 147-3 Introduction to Electroacoustic Music
FPA 163-3 Issues in Spatial Presentation
FPA 167-3 History of Art: Renaissance to Modern
FPA 168-3 History of Art: 20th Century
FPA 211-3 Introduction to Contemporary Theory in the Arts
FPA 227-3 History of Dance: The 20th Century
FPA 236-3 Cinema in Canada
FPA 242-3 Western Music in the 17th through 19th Centuries
FPA 290-2 Video Production I

Upper Division Requirements

A minimum of 17 credit hours must be completed including all of
FPA 370-3 Introduction to Stage Design
FPA 372-3 Technical Production I
plus two of
FPA 371-3 Stage Lighting
FPA 373-3 Technical Production II
FPA 379-3 Selected Topics in the Fine and Performing Arts
FPA 382-3 Aesthetics of Performance
FPA 384-3 Criticism of Performance
FPA 388-3 Directed Studies in Fine and Performing Arts
FPA 390-3 Video Production II
FPA 426-3 Dance/Movement Analysis
plus one of
FPA 311-5 The Arts in Context: Selected Topics
FPA 313-5 The Arts in Context: Enlightenment and Romanticism
FPA 315-5 The Arts in Context: Modernism
FPA 316-5 The Arts in Context: The Contemporary Period

Visual Art Extended Minor

Those students who wish to obtain a BA degree by completing two extended minors are directed to the extended minor in visual art. 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 interview. Contact the general office to make an appointment.

Lower Division Requirements

A minimum of 27 credit hours must be completed including all of
FPA 111-3 Issues in the Fine and Performing Arts
FPA 130-3 Introduction to Contemporary Dance
FPA 137-3 History and Aesthetics of Cinema I
FPA 140-3 Music in the 20th Century
FPA 147-3 Introduction to Electroacoustic Music
FPA 163-3 Issues in Spatial Presentation
FPA 167-3 History of Art: Renaissance to Modern
FPA 168-3 History of Art: 20th Century
FPA 211-3 Introduction to Contemporary Theory in the Arts
FPA 227-3 History of Dance: The 20th Century
FPA 236-3 Cinema in Canada
FPA 242-3 Western Music in the 17th through 19th Centuries
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 370-3 Introduction to Stage Design
FPA 390-3 Video Production II
one of:
FPA 311-6 The Arts in Context: Selected Topics
FPA 313-6 The Arts in Context: Enlightenment and Romanticism
FPA 314-5 The Arts in Context: Modernism
FPA 315-5 The Arts in Context: The Contemporary Period
plus one additional upper division FPA course. An additional visual art course may be used to fulfill this requirement.

Joint Major in Art and Culture Studies and Anthropology
This joint major in art and culture studies and anthropology, and art and culture studies and sociology are interdisciplinary programs that offer students opportunities to link the study of contemporary arts with the social sciences. Students may undertake a program of study that explores the interrelationships between fine and performing arts, cultural criticism, intercultural relations, and social, economic or political processes. Alternatively, they may choose to select courses that pertain to one or two areas in particular.

Art and Culture Studies Lower Division Requirements
Students are required to complete 18 credit hours as follows.

Interdisciplinary Theory Core Courses
FPA 111-3 Issues in the Fine and Performing Arts and one of
FPA 211-3 Introduction to contemporary Theory in the Arts
FPA 216-3 Introduction to the Fine and Performing Arts in Canada

Disciplinary History Courses
two of:
FPA 127-3 History of Dance: Origins to the 20th Century
FPA 136-3 The History and Aesthetics of Cinema I
FPA 137-3 The History and Aesthetics of Cinema II
FPA 140-3 Music in the 20th Century
FPA 167-3 History of Art: Renaissance to Modern
FPA 168-3 History of Art: 20th Century
FPA 227-3 History of Dance: The 20th Century
FPA 242-3 Western Music in the 17th Through 19th Centuries
FPA 257-3 Foundations of Theatre I
FPA 258-3 Foundations of Theatre II

Studio Courses
two of:
FPA 104-3 Music Fundamentals
FPA 120-3 Introduction to Contemporary Dance
FPA 124-3 Dance Improvisation
FPA 129-3 Fundamental Integration of Human Movement
FPA 141-3 Introduction to Music Performance
FPA 145-3 Introduction to Music Composition and Theory
FPA 147-3 Introduction to Electroacoustic Music
FPA 151-3 Introduction to Acting I
FPA 152-3 Introduction to Acting II
FPA 160-3 Introductory Studio I Visual Art I
FPA 161-3 Introductory Studio in Visual Art II
FPA 163-3 Issues in Spatial Presentation
FPA 170-3 Introduction to Technical Theatre
FPA 171-3 Stage and Production Management
FPA 243-3 Gamelan I

FPA 270-3 Technical Theatre
FPA 279-3 Special Topics in the Fine and Performing Arts
FPA 290-2 Video Production I

Note: With permission, other studio courses can substitute for those listed. Students are advised that for some studio courses, permission to register is selective and may be based on an interview or audition. Contact the School for the Contemporary Arts for more detail regarding specific studio courses.

Anthropology Lower Division Requirements
Students are required to complete 20 credit hours as follows including all of
SA 101-4 Introduction to Anthropology (A)
SA 255-4 Introduction to Social Research (SA)
SA 245-4 Introduction to Visual Anthropology (SA)
plus eight additional credit hours at the 200 level chosen from the following.
SA 201-4 Anthropology of Contemporary Life* SA 203-4 Comparative Ethnic Relations (SA)*
SA 263-4 Peasants, Proletariat and the Global Economy (A)
SA 217-4 Conflict, Violence and War (SA)
SA 218-4 Illness, Culture and Society (SA)
SA 286-4 Native Cultures of BC (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
***with permission from the Department of Sociology and Anthropology to fulfill credit requirements

Art and Culture Studies Upper Division Requirements
Students are required to complete 18 credit hours as follows.

Interdisciplinary Theory Core
Two courses must be completed from the arts in context series as follows.
FPA 311-5 The Arts in Context: Selected Topics
FPA 313-5 The Arts in Context: Enlightenment and Romanticism
FPA 314-5 The Arts in Context: Modernism
FPA 315-5 The Arts in Context: The Contemporary Period
plus a minimum of eight credit hours chosen from:
FPA 330-3 Film Sound
FPA 382-3 Aesthetics of Performance
FPA 384-3 Critical Discourse, Performance
FPA 390-3 Video Production II
FPA 392-2 Techniques of Video
FPA 411-5 Selected Topics in Contemporary Theory
FPA 412-5 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 Upper Division Requirements
Students are required to complete 20 credit hours including both of:
SA 301-4 Key Ideas in Anthropology (A)
SA 356-4 Qualitative Methods (SA)
plus additional credit hours chosen from the following.
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 Anthropology of Domestic Life (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 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 371-4 The Environment and Society (SA)
SA 388-4 Comparative Studies of Minority Indigenous Peoples (SA)
SA 400-4 Canadian Ethnic Minorities (SA)
SA 401-4 The politics of Culture in Contemporary Societies (A)*
SA 402-4 The Uses of Anthropology (A)*
SA 451-4 Advanced 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 467-4 Anthropology of the Self (A)
SA 486-4 Issues in Northwest Coast Studies (A)
SA 495-4 Selected Regional Areas (SA)
SA 496-4 Directed Readings in Anthropology (A)
SA 472-4 Anthropology and the Past (A)
SA 447-4 Selected Issues in Social Policy Analysis (SA)

*highly recommended
**applicable only when the topic is anthropology

Joint Major in Art and Culture Studies and Sociology
Art and Culture Studies Lower Division Requirements
Students are required to complete 18 credit hours as follows.

Interdisciplinary Theory Core Courses
FPA 111-3 Issues in the Fine and Performing Arts and one of
FPA 211-3 Introduction to Contemporary Theory in the Arts
FPA 216-3 Introduction to the Fine and Performing Arts in Canada

Disciplinary History Courses
two of:
FPA 127-3 History of Dance: Origins to the 20th Century
FPA 136-3 The History and Aesthetics of Cinema I
FPA 137-3 The History and Aesthetics of Cinema II
FPA 140-3 Music in the 20th Century
FPA 167-3 History of Art: Renaissance to Modern
FPA 168-3 History of Art: 20th Century
FPA 227-3 History of Dance: The 20th Century
FPA 242-3 Western Music in the 17th Through 19th Centuries
FPA 257-3 Foundations of Theatre I
FPA 258-3 Foundations of Theatre II

Studio Courses
two of:
FPA 104-3 Music Fundamentals
FPA 120-3 Introduction to Contemporary Dance
FPA 124-3 Dance Improvisation
FPA 129-3 Fundamental Integration of Human Movement
FPA 141-3 Introduction to Music Performance
FPA 145-3 Introduction to Music Composition and Theory
FPA 147-3 Introduction to Electroacoustic Music
FPA 151-3 Introduction to Acting I
FPA 152-3 Introduction to Acting II
FPA 160-3 Introductory Studio I Visual Art I
FPA 161-3 Introductory Studio in Visual Art II
FPA 163-3 Issues in Spatial Presentation
FPA 170-3 Introduction to Technical Theatre
FPA 171-3 Stage and Production Management
FPA 243-3 Gamelan I

FPA 270-3 Technical Theatre
FPA 279-3 Special Topics in the Fine and Performing Arts
FPA 290-2 Video Production I

SA 112-3 History of Dance: Origins to the 20th Century
SA 136-3 The History and Aesthetics of Cinema I
SA 137-3 The History and Aesthetics of Cinema II
SA 140-3 Music in the 20th Century
SA 167-3 History of Art: Renaissance to Modern
SA 168-3 History of Art: 20th Century
SA 227-3 History of Dance: The 20th Century
SA 242-3 Western Music in the 17th Through 19th Centuries
SA 257-3 Foundations of Theatre I
SA 258-3 Foundations of Theatre II

Note: Some courses listed have prerequisites beyond those that can be applied to the joint major program requirements.

Anthropology Upper Division Requirements
Students are required to complete 20 credit hours including both of:
SA 301-4 Key Ideas in Anthropology (A)
SA 356-4 Qualitative Methods (SA)
plus additional credit hours chosen from the following.
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 Anthropology of Domestic Life (A)
SA 340-4 Social Issues and Social Policy Analysis (SA)
SA 345-4 Issues in Canadian Ethnic Relations (SA)
SA 327-4 Sociology of Knowledge (S)
SA 326-4 Ecology and Social Thought (S)
SA 322-4 Sociology of Religion (S)
SA 320-4 Population and Society (SA)
SA 304-4 Social Control (S)
SA 303-4 Ethnic Conflicts (SA)
SA 325-4 Political Sociology (S)
SA 326-4 Ecology and Social Thought (S)
SA 327-4 Sociology of Knowledge (S)

Students are required to complete 19 credit hours including all of
SA 150-4 Introduction to Sociology (S)
SA 250-4 Introduction to Social 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 202-4 Post-Industrial Societies (S)
SA 203-4 Comparative Ethnic Relations (SA)
SA 231-4 The Sociology of Domestic Life (S)
SA 216-4 Sociology of Leisure (S)
SA 250-4 Introduction to Sociological Theory (S)
SA 260-4 Individual and Society (S)
SA 217-4 Conflict, Violence and War (SA)
SA 294-4 Special Topics in Sociology and Anthropology (SA)**

**applicable only when the topic is Sociology

Art and Culture Studies Upper Division Requirements

Students are required to complete 18 credit hours as follows.

Interdisciplinary Theory Core
Two courses must be completed from the Arts in

Context series as follows.

FPA 311-5 The Arts in Context: Selected Topics
FPA 313-5 The Arts in Context: Enlightenment and
Romanticism
FPA 314-5 The Arts in Context: Modernism
FPA 315-5 The Arts in Context: The Contemporary Period

or a minimum of eight credit hours chosen from
FPA 330-3 Film Sound
FPA 382-3 Aesthetics of Performance
FPA 384-3 Criticism of Performance
FPA 390-3 Video Production II
FPA 393-2 Techniques of Video

FPA 411-5 Selected Topics in Contemporary Theory
FPA 412-5 Advanced Seminar in Art and Culture Studies
FPA 436-3 Advanced Seminar in Film and Video Studies
FPA 439-3 Directed Study in Film and Video

Some courses listed have prerequisites

plus an additional 12 credit hours chosen from the following.
CMNS 334-4 Cultural Policy*
SA 300-4 Canadian Social Structure (SA)
SA 302-4 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)

School of Criminology


Director
M.A. Jackson BA (Calif), MA, PhD (Tor)
Professor Emeritus
E.A. Fattah LLL (Cairo), MA, PhD (Montr), FRSc, Channel

Professors
N.T. Boyd BA (WOnt), LLB, LLM, Law Soc Upper Canada
R.R. Corrado BA (Mich), MA, PhD (Ntheam)
R.L. Brantingham BA (Cal), MA (Fordham), MS, PhD (Florida State)
R.N. Verduen-Jones BA, MA, MBA (CM), LLM, JD (Yale)

Associate Professors
E.O. Boyanovsky BA (WOnt), MS, PhD (Wis)
J. Brockman BA (Sask), MA (Alta), LLM (Calg), LLM (Br Col)
B. Burch BA (Qu), MA (Tor), PhD (Br Col)
D.E. Chun BA (Br Col), MA, PhD (Tor)

D.F. Cousineau BA, MA, PhD (Alta)
K. Field BA, PhD (Calif)
W.G. Glackman BA (Calif), MA, PhD (S Fraser)
R.M. Gordon BA (LaTrobe), MA (S Fraser), PhD (Br Col)

D. Lacombe BA (Sher), MA, PhD (Tor)*

J.A. Osborne LLL (Edin), MA (Tor), LLM (Br Col), Associate Vice-President, Academic
T.S. Palys BA, MA (Manti), PhD (Car)

Assistant Professors
G.S. Anderson BSc, MSc, PhD (S Fraser)
M. Carter BA, LLB, LLM (Sask)

Adjunct Professors
K. Attaullah BA (Ghana), MA (Man), PhD (S Fraser)
Campbell BA (Calg), LLM (Alta)
D. Chappell BA, LLB (Tasmania), PhD (Camb)

D. Diebold LLM (Br Col)

M. Findlay BA, LLM (ANU), LLM (Syd)
D. Evans MB, CHB (Liverpool), DPM, MRC Psych (Royal Coll of Physicians)
M. HESSING BA (Denver), MA (Syracuse), PhD (Br Col)

J. Jiwan BA (Bristol), MA, PhD (S Fraser)

A. Oosthoek BA (York), MA (Car)
K. Rosso BA (Sask), MA, PhD (S Fraser)
T. Tobin LLL (Calg)

Lecturers
E. Elliott, BPE (Ott), MSW (Car), PhD (S Fraser)

C. Singer BSc, MA, PhD (Tor)

Instructor
G. Davies BA, MA (S Fraser)

Associate Members
S. Boyd, Women’s Studies
J.R.P. Oglott, Psychology
C.D. Webster, Psychology

C. Yerbury, Distance Education

Advisor
Ms. M. McIvor, 2644 Diamond Building, (604) 291-3645

*Joint appointment with Sociology and Anthropology

Criminology offers courses leading to a bachelor of arts degree to students interested in a comprehensive, interdisciplinary approach to criminology.

School of Criminology

The study of criminology attempts the unification of all aspects of crime by an interdisciplinary and integrative approach. The curriculum is designed to assist students to acquire an in-depth understanding of the complexities of criminal, delinquent, and deviant behavior and of society reaction to crime and deviance. Students concurrently acquire a theoretical and practical knowledge of the criminal justice system and its components, and gain insights into the philosophy, sociology, and present state of criminal law.

A wide range of disciplines including psychology, sociology and anthropology, political science, business administration, economics, philosophy, computing science, and mathematics are integrated with criminology courses into a curriculum which covers the following areas.

Understanding Individuals, Society, the System and the Law

Understanding the individual in society
Understanding human behavior
Understanding the criminal justice system
Understanding criminal behavior
Understanding the law
Understanding specific criminal problems

Learning the Techniques

Research methods and techniques
Techniques of intervention

Field Work
Enrolment Limitations

Admission
The school limits admission to the upper division of its major, minor and honors programs. Entry into the major/honors or minor in the School of Criminology will be on the basis of a formal application made to the school by May 15 or by September 15, for admission to upper division effective the following September or January respectively. Students are eligible to apply for entry to the major/honors program after successful completion of 60 credit hours, including the lower division group A and group B required courses. Students are eligible to apply for entry to the minor program after successful completion of 60 credit hours including CRIM 100 or 101 or 102 in addition to CRIM 131 and 135. Students should make application to the school during the semester in which they are completing the above requirements. If completion is to take place during a summer semester, students should make application during the spring, and will be admitted for the fall semester conditional upon successful completion of the requirements in summer.

With the approval of the Office of the Dean of Arts, the School of Criminology will establish a yearly quota — the number of students to be admitted into the major/honors or minor. This quota will be established on the basis of projected available course space and school resources. In advance of each competition, the school will announce the minimum cumulative grade point average below which students will not be considered for admission. The school will receive and review all applications from those eligible for consideration, and in its screening decisions will consider all relevant materials, including cumulative grade point, practical experience, letters of recommendation and other material the student wishes to submit in support of the application.

Continuation in Major, Honors or Minor
To continue as a criminology major or minor, students must maintain a 2.25 CGPA. Students whose CGPA falls below 2.25 will not be allowed to register in any upper division CRIM courses including those offered through distance education. When it is restored to 2.25, students will be readmitted after review and approval of the director of undergraduate programs.

For honors continuance, a CGPA of 3.00 must be maintained. Those whose CGPA falls below a 3.00 will not be allowed to register in CRIM 499 and, therefore, will not 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 requirements following and General Information). Students majoring in criminology must obtain a minimum grade of C- in all required group A and group B courses.

Lower Division (normally the first 60 credit hours)
During the first four levels, students are required to complete 20 courses (60 credit hours) including at least the following:

• seven courses from group A
• seven courses from group B
• an additional five courses of general electives

The Faculty of Arts breadth requirements must be completed for graduation and the general electives should be considered for that purpose.

Students may not complete the group B requirements with courses other than those listed below unless they obtain permission to do so from the school’s undergraduate curriculum committee prior to taking the courses.

Group A – Lower Division Requirements
Students are required to complete both CRIM 100-5 Introduction to Criminology I and CRIM 102-5 Introduction to Criminology II or all of CRIM 101-3 Introduction to Criminology and CRIM 103-3 Psychological Explanations of Criminal and Deviant Behavior and 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 and CRIM 135-3 Introduction to Canadian Law and Legal Institutions: A Criminal Justice Perspective and CRIM 220-3 Research Methods in Criminology and CRIM 230-3 Criminal Law plus one of CRIM 203-3 Historical Reaction to Crime and Deviance and CRIM 210-3 Law, Youth and Young Offenders and CRIM 213-3 The Female Offender and CRIM 231-3 Introduction to the Judicial Process and CRIM 241-3 Introduction to Corrections and CRIM 251-3 Introduction to Policing

Group B – Lower Division Requirements
Students are required to complete seven courses, including all of PSYC 100-3 Introduction to Psychology I and PSYC 102-3 Introduction to Psychology II and SA 150-4 Introduction to Sociology and plus one of POL 100-3 Introduction to Politics and Government and POL 151-3 The Administration of Justice and plus one of PSYC 210-4 Data Analysis in Psychology and STAT 101-3 Introduction to Statistics and 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 PHI 101-3 Critical Thinking and PHI 100-3 Knowledge and Reality and PHI 110-3 Introduction to Logic and Reasoning and PHI 120-3 Introduction to Moral Philosophy and PHI 150-3 History of Philosophy I and PHI 151-3 History of Philosophy II and PHI 220-3 Introduction to Social and Political Philosophy and PHI 244-3 Introduction to the Philosophy of Natural and Social Science and PHI 280-3 Introduction to Existentialism and plus one of CNS 160-3 The Social Background of Canada and CMNS 110-3 Introduction to Communication Studies and CMNS 130-3 Explorations in Mass Communication and CMNS 210-3 History of Communication and CMNS 230-3 Introduction to Communication Media and CMNS 253-3 Introduction to Information Technology: The New Media and CMPT 001-3 Computers and the Activity of People and CMPT 103-3 Introduction to PASCAL Programming and CMPT 104-2 Computer Programming and CMPT 201-4 Data and Program Abstraction and ECON 100-3 Introduction to Economics and ECON 101-3 The Canadian Economy and ENGL 199-3 Introduction to University Writing and HIST 101-3 Canada to Confederation and HIST 102-3 Canada since Confederation and HIST 201-3 The History of Western Canada and PHIL 210-4 Natural Deductive Logic and PHIL 220-3 Introduction to Social and Political Philosophy and PHIL 244-3 Introduction to Philosophy of Natural and Social Science and POL 100-3 Introduction to Politics and Government and POL 210-3 Introduction to Political Philosophy and POL 221-3 Introduction to Canadian Government and POL 222-3 Introduction to Canadian Politics and POL 251-3 Introduction to Canadian Public Administration and PSYC 106-3 Social Issues and PSYC 221-3 Introduction to Cognitive Psychology and PSYC 241-3 Introduction to Abnormal Psychology and PSYC 250-3 Child Psychology and PSYC 260-3 Introduction to Social Psychology and PSYC 270-3 Introduction to Personality and SA 202-4 Post-Industrial Society and SA 203-4 Comparative Ethnic Relations and SA 250-4 Introduction to Sociological Theory and SA 260-4 Individual and Society

General Electives — Lower Division Requirements
Students are required to complete an additional five courses of general electives which can be chosen from group A, group B, or any other 100/200 level courses or the transfer equivalent thereof. Refer to the Faculty of Arts breadth requirements when selecting general electives.

Note: Declared criminology major students will normally complete all lower division group A and B requirements before proceeding to upper division. Students may proceed to upper division courses without having completed these lower division courses only with the express written approval of the criminology undergraduate curriculum and articulation committee.

Upper Division
Among the remaining credit hours required for the degree, students must complete a minimum of 48 credit hours in courses numbered 300 and above, of which at least 36 credit hours must be in upper division courses in criminology chosen from group A below. The remaining 12 credit hours may be taken from group A and/or from group B below. For any given semester, the School of Criminology may add relevant courses to those listed in group B. Students may not complete their group B electives with...
courses other than those on the approved group B list unless they obtain permission to do so from the school’s undergraduate curriculum committee prior to taking the courses.

**Group A – Upper Division Requirements**

Students are required to complete a minimum of 36 credit hours including the following three courses.

- CRIM 300-3 Current Theories and Perspecitves in Criminology
- CRIM 320-5 Advanced Research Issues in Criminology
- CRIM 330-3 Criminal Procedure and Evidence

plus a minimum of 25 credit hours from upper division courses in criminology (excluding CRIM 301). See Criminology in the Undergraduate Courses within this Calendar for the listing of upper division criminology courses.

**Group B – Upper Division Requirements**

An additional 12 required hours may be chosen from the following group B courses and/or from upper division CRIM courses (excluding CRIM 301).

- PSYC 306-3 Psychological Assessment Procedures
- PSYC 355-3 Psychology of Adolescence and Youth
- PSYC 357-3 Psychology of Adulthood and Aging
- PSYC 369-3 Law and Psychology
- PSYC 370-3 Theories of Personality
- PSYC 373-3 Behavior Therapies
- PSYC 375-3 Fundamentals of Clinical Psychology
- PSYC 385-5 Evolution and Social Behavior
- PSYC 469-5 Selected Topics in Psychosocial Issues
- PSYC 470-5 Selected Topics in Personallity
- SA 300-4 Canadian Social Structure
- SA 303-4 Ethnic Conflicts
- SA 304-4 Social Control
- SA 321-4 Social Movements
- SA 327-4 Sociology of Knowledge
- SA 351-4 Classical Marxist Thought
- SA 355-4 Quantitative Methods
- SA 358-4 The Philosophy of the Social Sciences
- SA 362-4 Society and the Changing Global Division of Labor
- SA 364-4 Urban Communities and Cultures
- SA 366-4 Native Peoples and Public Policy
- SA 387-4 Canadian Native Peoples
- SA 400-4 Canadian Ethnic Minorities
- STAT 302-3 Analysis of Experimental and Observational Data
- STAT 410-3 Statistical Analysis of Sample Surveys
- STAT 430-3 Statistical Design and Analysis of Experiments

**Joint Major in Psychology and Criminology**

Please refer to the Department of Psychology section for requirements.

**Honors Program**

The School of Criminology has a structured honors program for its outstanding undergraduate students. The program dovetails with the criminology major and consists of two semesters of advanced course work and supervised research. Honors breadth requirements must be completed for graduation so general electives should be considered for that purpose.

**Minor Program**

Students who minor in criminology must complete one of CRIM 100-5 Introduction to Criminology I

**Admission Procedure**

Eligible students are normally identified by the school and invited to apply for program admission. The selection process normally takes place each April for admission to the following September. Students who feel they are eligible may also apply to the director of undergraduate programs.

**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. C. Medford, 2644 Diamond Building, (604) 291-3645

This program is for students who have already completed a bachelor’s degree in a discipline other than criminology to expand their knowledge of criminology through a recognized program. This diploma allows students to pursue individual interests in specific areas of criminology and is available through distance education courses, on campus and Simon Fraser University at Harbour Centre.

For information about post baccalaureate diploma program general regulations, refer to Continuing Studies.

**Program Requirements**

- completion of lower level prerequisite courses CRIM 100 or 101 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 or 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)
- May 1 (fall semester admission)
- October 1 (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. C. Medford, 2644 Diamond Building, (604) 291-3645

The University offers two criminology certificate programs: the general certificate in criminology and the advanced certificate in criminology. Both certificates are primarily directed toward undergraduates and criminal justice professionals, but are open to all. Those who hold a bachelor’s degree (in any field of study) should refer to the post baccalaureate diploma in criminology.

The certificates are not designed to satisfy specific employment credentials. Rather, the general certificate provides a basic theoretical and descriptive foundation in criminology, and the advanced certificate program provides an in-depth understanding of criminology through more intensive study.

Courses in these certificate programs are offered through the Centre for Distance Education and assist students in understanding the complexities of illegal behaviors, as well as society’s reactions to these behaviors.

Admission Requirements
Students applying for admission must meet undergraduate admission deadlines, as set out in this Calendar. Application forms, accompanied by official documents, must be submitted to the Office of the Registrar. In addition to applying for University admission, all new students must apply in writing to the School of Criminology for admission to the certificate programs. Letters should be submitted to the advisor.

General Certificate
Program Requirements
• successful completion of 60 credit hours, including 12 courses as below
  • a minimum grade of C- in each of the courses required for the certificate
• at least three of the 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 Philosophical Concepts 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

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
• in addition to these four courses, at least 16 credit hours must be 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 Simon Fraser University’s general certificate in criminology, or two years (equivalent to 60 Simon Fraser University credit hours) of accredited course work at a university or community college, or completion of a certificate or diploma in criminology from a BC regional college prior to entering the advanced certificate program

Note: Students who have not previously completed a criminology certificate or diploma are required to take
- CRIM 100 or 101 or 102 in addition to CRIM 131 and 135, and obtain a minimum grade of C- in each.
- successful completion of 18 credit hours from criminology courses numbered 300/400 (please 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 listing of criminology courses currently available through distance education)
- completion of the certificate within five years of admission to the program.

Co-operative Education Program
This program is offered to qualified students who wish to acquire practical experience in criminology. The program entails planned semesters of study and employment in the area of the student’s choice.

To be eligible for admission to the co-operative education program, 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
- CRIM 104-3 Sociological 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 102-3 Introduction to Statistics
- STAT 203-3 Introduction to Statistics for the Social Sciences

and have a CGPA of not less than 2.75. Transfer students must have completed at least 15 credit hours at Simon Fraser University.

For further details, see Co-operative Education. 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 Economics

Chair
N.D. Olewiler BA (Col), MA (S Fraser), PhD (Br Col)

Professors Emeriti
P. Copes BA, MA (Br Col), PhD (LSE), DMIiSc (Royal Roads), DrPhilos (Tromsø), FANSRF
J.P. Herzog BS, PhD (Calif), R.G. Lipsey BA (Br Col), MA (Tor), PhD (LSE)
K. Strand BA (Wash State), MS, PhD (Wis)
R.G. Harris BA (Qua), PhD (Br Col), FRSCAn

Professors
L.A. Boland BS (Bradley), MS, PhD (Ill)
J.F. Chant BA (Br Col), PhD (Duke)
J.W. Dean BSc (Car), 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)
B.C. Eaton BA, PhD (Colorado)
S. Gliberman BA (Brooklyn), MA (Calif), PhD (NY)
R.R. Grauer BCom, MBA (Br Col), PhD (Calif)*
H.G. Grubel BA (Rutgers), PhD (Yale)
R.G. Harris BA (Qua), PhD (Br Col), FRSC
R.A. Holmes BA, MA (Sask), PhD (Indiana)*
R.A. Jones BSc MA (Br Col), MA, PhD (Brown)
P.E. Kennedy BA (Qua), PhD (Wis)
M.H. Khan BSc, MA (Sind), MSoSc (Inst Soc Stud), PhD (Wageningen)
M.A. Lebowitz BS (NY), MS (Wis)
R.G. Lipsey BA (Br Col), MA (Tor), PhD (Lond), FRSCAn
D.R. Maki BA (Minn), PhD (Iowa State)
Upper Division BUEC courses

Non-majors who meet the current CGPA entrance requirements have the same access as approved students in economics and Business programs to upper division BUEC courses.

Transfer Students

Students transferring to Simon Fraser University will be considered on the basis of their entrance CGPA (calculated for grades received in courses transferable to the University). Transfer students must be admitted to the University before they may apply for admission to the department’s major, honors or minor programs. Students who meet these requirements will be admitted to the program under a provisional status and will retain the provisional status until 15 credit hours have been completed at Simon Fraser University. To continue, the CGPA for these 15 credit hours must equal or exceed the CGPA entrance requirement for non-transfer students.

Requirements for the BA Degree

All majors and honors students must meet requirements for the BA degree in either the honors or general program as described in the Faculty of Arts section of this Calendar. Students are encouraged to fulfill Faculty requirements early in their programs and to obtain broadly-based backgrounds before entering upper division courses. Major and honors students must complete the lower division requirements for their respective degree in the first 60 hours of credit prior to acceptance into major or honors programs (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 each of the following courses with a grade of at least C- prior to admission to the major program.

BUEC 232-3 Elementary Economic and Business Statistics I
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
MATH 157-3 Calculus for the Social Sciences I (or equivalent)

Two 200 division ECON or BUEC courses (in addition to BUEC 232)

Plus:
- one 000, 100 or 200 level English or philosophy course
- one 100 or 200 level history or political science course
- one 100 or 200 level sociology/anthropology or psychology course
- 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 department or faculty upper division requirements. Normally, majors will include 45 credit hours of upper division credit in their last 60 credit hours of work toward the degree.

At least 30 credit hours of upper division credit in economics is required, including

BUEC 333-3 Elementary Economic and Business Statistics II
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory

and at least two 400 division ECON or BUEC courses

Group Requirements

To meet the requirements for the major program, students must include at least one of the following:

ECON 102-3 Twentieth Century Economies
ECON 110-3 Foundations of Economic Ideas
ECON 208-3 History of Economic Thought
ECON 250-3 History of Economic Development A
ECON 252-3 History of Economic Development B
ECON 309-5 Introduction to Marxist Economics
ECON 353-5 Economic History of Canada
ECON 395-5 Comparative Economic Systems
ECON 404-3 Honors Seminar in Methodology of the Social Sciences
ECON 409-3 Seminar in Economic Thought
ECON 450-3 Seminar in Quantitative Economic History
ECON 451-3 Seminar in European Economic History

Joint Major in Business Administration and Economics

Lower Division Requirements

The requirements are the same as those for the economics major and the 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 303 is waived.

BUEC 333, which must be taken, will count as upper division economics hours rather than upper division business administration hours.

- at least two 400 division BUS or BUEC courses* (exclusive of Co-op Practicum and BUS 478)
- three courses beyond the core must be completed within the requirements of a concentration plus
- at least 25 credit hours of upper division credit in BUEC** or economics including

BUEC 333-3 Elementary Economic and Business Statistics II
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory

and at least two 400 division ECON or BUEC** courses.

*These courses may be within the areas of concentration.

**BUEC courses may count only once as business administration or economics credit.

Group Requirements

In meeting the requirements for the joint major program, students must include at least one of the following courses.

ECON 110-3 Foundations of Economic Ideas
ECON 102-3 Twentieth Century Economies
ECON 208-3 History of Economic Thought
ECON 250-3 History of Economic Development A
ECON 252-3 History of Economic Development B
ECON 309-5 Introduction to Marxist Economics
ECON 353-5 Economic History of Canada
ECON 395-5 Comparative Economic Systems
ECON 404-3 Honors Seminar in Methodology of the Social Sciences
ECON 409-3 Seminar in Economic Thought
ECON 450-3 Seminar in Quantitative Economic History
ECON 451-3 Seminar in European Economic History

Joint Major in Economics and Political Science
Please refer to the Department of Political Science section for requirements.

Joint Major in Geography and Economics

Joint Major in Geography and Economics – Environmental Specialty
Please refer to the Department of Geography section for requirements.

Joint Major in Latin American Studies and Economics
Please refer to the Latin American Studies section for requirements.

Honors Program
In addition to the lower division courses for the major in economics, students must receive credit for at least 50 credit hours of upper division credit in economics including the following.

BUEC 333-3 Elementary Economic and Business Statistics II
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory
ECON 331-5 Introduction to Mathematical Economics
ECON 402-3 Advanced Topics in Microeconomics
ECON 403-3 Advanced Topics in Macroeconomics
ECON 435-5 Quantitative Methods in Economics
ECON 499-6 Honors Seminar in Economics

BUEC 333-3 Elementary Economic and Business Statistics II

ECON 301-5 Intermediate Microeconomic Theory
ECON 331-5 Introduction to Mathematical Economics
ECON 402-3 Advanced Topics in Microeconomics
ECON 403-3 Advanced Topics in Macroeconomics
ECON 435-5 Quantitative Methods in Economics
ECON 499-6 Honors Seminar in Economics

Courses under Honors Program in the Faculty of Business Administration upper division hours (see Core Courses under Honors Program in the Faculty of Business Administration section of the Calendar) and an area of concentration and at least three 400 division business administration courses*

ECON 301-5 Intermediate Microeconomic Theory

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 credit hours of upper division credit in economics or BUEC courses, taken following the completion of 60 credit hours.

Note: Students majoring in business administration may not count BUEC 333 as part of the required credit hours in economics.

Co-operative Education
This co-op education program, for qualified students who wish to acquire practical experience in economics, entails planned semesters of study and employment in the student’s choice of area.

To be eligible for admission to the co-operative education program, students must have completed 30 credit hours including ECON 103 (or 200) and ECON 105 (or 205). At least 12 of these 30 credit hours must be completed at Simon Fraser University with a minimum CGPA of 2.50.

Arrangements for work semesters are made through the Faculty of Arts co-op co-ordinator at least one semester in advance. Students should refer to the Co-operative Education section of the Calendar for further details.

Joint Honors in Business Administration and Economics
Students must include at least one course from the economics group requirements.

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 (see Core Courses under Honors Program in the Faculty of Business Administration section of the Calendar) and an area of concentration and at least three 400 division business administration courses* (exclusive of co-op practicum and BUS 478) plus at least 32 credit hours of upper division credit in economics or BUEC including ECON 301-5 Intermediate Microeconomic Theory

Department of English


Chair
P. Delany BCom (McG), AM (Stan), MA, PhD (Calif), FRSL, FRScCan

Professors Emeriti
R.F. Blasser BA, MA, MLS (Calif)
P.M. Buitemhuis BA, MA (Oxt), PhD (Yale)
F.H. Candelaria BA (Texas), PhD (Missouri)
J.R. Curtis BA (Yale), MA (Mich), PhD (C’nell)
G.R. Elliott BA, MA (Br Col), AM (Harv)
E.F. Harden AB (Prin), AM, PhD (Harv)
R.N. Maud AB, PhD (Harv)
J. Mills BA (Br Col), MA (Stan), MTS (Br Col)
A. Rudrum BA (Lond), PhD (Nott)

Professors
S.A. Black BA, MA (Calif State), PhD (Wash)
G. Bowering BA, MA (Br Col)
R.M. Coe BA (CUNY), MA (Utah), PhD (Calif)
P. Delany BCom (McG), AM (Stan), MA, PhD (Calif), FRSL, FRScCan
S. Delany BA (Wellesley), MA (Calif), PhD (Col)
S. Djwa BEd, PhD (Br Col), FRScCan
C. Gerson BA (S Fraser), MA (Dal), PhD (Br Col)
K. Mezei BA (York), MA (Car), PhD (Qu)
R.A. Miki BA (Manit), MA (S Fraser), PhD (Br Col)
M. Page MA (Camb), DPSA (Oxt), MA (McM), PhD (Calif)
M. Steig BA (Reed), MA, PhD (Wash)
D. Stouck BA (McM), MA (Tor)
J. Sturrock BA, MA (Oxt), PhD (Br Col)
J. Zaslove BA (Case W Reserve), PhD (Wash)*

Associate Professors
C.M. Banerjee BA, MA (Delhi), PhD (Kent State)
H. DeRoo BA (McM), MA (Car), PhD (Lond)
J.E. Gallagher BA (St Michael’s, VT), PhD (Notre Dame, Ind)
J. Giltrow BA, MA, PhD (S Fraser)
M.D. Harris BA (Harv), PhD (Buffalo)
K.F. Paulson BA (St Olaf), MA (Minn), PhD (Calif)
E.A. Schellenberg BEd, BA (Winn), MA, PhD (Ott)
M.A. Stouck BA (McM), MA, PhD (Tor)

Assistant Professors
P. Budra BA, MA, PhD (Tor)
L. Davis BA (Sask), MA, PhD (Calif)
M.A. Gillies BA (Alta), MA, PhD (Oxt)
T. Gieve BA, MA (S Fraser), PhD (Johns H)
P. Keen BA (St Andrews), BA (Dal), MA (Br Col), PhD (York)
M. Linley BA (Wlaur), MA, PhD (Qu)
P.M. St. Pierre BA (Br Col), MA (Qu), PhD (Syd)

Senior Lecturers
T. Bose BA, MA (Cal), BLit (Oxt), PhD (Br Col)
S. Roberts BA, MA (S Fraser)

Lecturers
A. Hungerford BA, MA (S Fraser)
R. Ramsey BA, MA (Br Col), PhD (Tor)

Laboratory Instructors
M. Sawatsky BA, MA (S Fraser)
B. Souder BA (Car), MA (S Fraser)
W. Strachan BA (McG), MA (Mich), PhD (S Fraser)
M. Valiquette BA, MA (S Fraser)

Advisors
Ms. H. Newcombe, 6137 Academic Quadrangle, (604) 291-3371
Ms. H. Skibeneycky, 6133 Academic Quadrangle, (604) 291-4835

*joint appointment with Humanities

The associate chair and other faculty are available to give advice about the Department of English. Enquire at the departmental office. Students planning to enter the honors program are particularly encouraged to consult with departmental advisors about the nature of the program.

Major Program

Lower Division Requirements
Normally, an English major, before proceeding to upper division English courses, shall obtain credit or standing for two of
ENGL 101-3 Introduction to Fiction
ENGL 102-3 Introduction to Poetry
ENGL 103-3 Introduction to Drama
ENGL 104-3 Introduction to Prose Genres
ENGL 105-3 Introduction to Issues in Literature and Culture
ENGL 199-3 Introduction to University Writing

and both of
ENGL 204-3 Medieval and Renaissance Literature
ENGL 205-3 Seventeenth and Eighteenth Century Literatures in English

and two of
ENGL 206-3 19th Century Literatures in English
ENGL 207-3 20th Century Literatures in English
ENGL 210-3 Advanced University Writing
ENGL 212-3 Introduction to the Study of Language
ENGL 214-3 Introduction to the Study of Rhetoric
ENGL 216-3 Introduction to Critical Approaches to Literature
Any one, but not more than one, of ENGL 101, 102, 103, 104, 105 and 199 may be replaced by any three unspecified 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 [eg. ENGL (3) – Writing].

A student who enters the University with 18 transfer credits in English will be deemed to have met the department’s lower division requirements for a major in English provided those credits are transferable to any one of ENGL 101, 102, 103, 104, 105 or 199; some as any one of ENGL 204 or 205; and some as any one of ENGL 206, 207, 210, 212, 214 or 216. However, students may only use one English course of equivalent and Women's Studies

Joint Major in English

An extended minor consists of the lower division requirements for a major and the upper division requirements for a minor. Approval by the Department of English advisor is required for an extended minor in English.

Co-operative Education Program

This program is designed for students who wish to acquire work experience in areas related to English studies. The program entails planned semesters of study and employment in an area of the student’s choice. To be admitted to this program, students must have completed 30 credit hours with a minimum CGPA of 3.0. Prior to admission, students must have completed five English courses (15 credit hours of credit) including the lower division requirements for a minor in English.

College transfer students must complete at least 15 credit hours at Simon Fraser University before becoming eligible for admission to the co-operative education program. They also must satisfy the requirements shown above, or the equivalent.

Transfer students who have participated in co-operative education programs elsewhere may be credited with the semester(s) already taken. The applicability of such semesters depends on the evaluation.

Arrangements for the work semesters are made through the department’s as well as the Faculty of Arts co-operative education co-ordinators.

In order 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, refer to the Co-operative Education section.

First Nations Studies Program

6188 Academic Quadrangle, (604) 291-595 Tel, (604) 291-4989 Fax

Associate Professor

M. Boelscher-Ignace, MA (George August Universitat), PhD (S Fraser), co-ordinator, SCES/SFU Program in Kamloops*

Advisor

Ms. H. Coleman, 6188 Academic Quadrangle, (604) 291-5995

*joint appointment with Sociology and Anthropology

The minor program offers courses in the study of traditional and contemporary issues involving the aboriginal peoples of North America and Canada in particular. Designed for both First Nations students and non-Native students, its focus is on traditional cultures, languages and histories of First Nations, as well as such issues as Indian-White relations, the development of federal and provincial policy towards Native peoples, aboriginal rights and title questions, issues of economic development and self-governance and gender and intergenerational issues. The objective of the minor is to present and examine critically the above issues, taking into account the perspectives of aboriginal peoples. It will expose students to research methods pertinent to past, present and future issues affecting aboriginal peoples.

In this respect, it is especially relevant for First Nations students who wish to put knowledge of Native issues and research skills to practice in serving their communities and nations.

This program may be taken in conjunction with any major or honors bachelor’s degree, or with a bachelor of general studies degree. It is expected that First Nations studies courses will be taught by faculty with appointments in First Nations or joint appointments in First Nations and other disciplines.
Lower Division Requirements
At least nine lower division credit hours are required including:
- FNST 101-3 The Cultures, Languages and Origins of Canada's First Peoples
- FNST 201-3 Canadian Aboriginal Peoples' Perspectives on History
and at least one course from:
- ARCH 200-3 Special Topics in World Prehistory (when topic is ancient peoples of British Columbia)
- ARCH 223-3 The Prehistory of Canada
- BISC 272-3 Special Topics in Biology (when topic is Native Ethnobotany)
- HIST 201-3 The History of Western Canada
- LING 231-3 Introduction to an Amerindian Language I
- LING 232-3 Introduction to an Amerindian Language II
- LING 260-3 Language, Culture, and Society (when topic appropriate)
- SA 286-4 Native Cultures of British Columbia (A)
- STAT 203 (formerly 103) (or equivalent) and SA 255 (or equivalent course in research methods) are strongly recommended.

Other courses which have First Nations content may be applied toward the minor as electives, subject to approval by the steering committee.

Upper Division Requirements
At least 15 upper division credit hours are required, including at least six credit hours from:
- FNST 301-3 Issues in Applied Native Studies Research
- FNST 401-3 Aboriginal Rights and Government Relations
- FNST 402-3 The Discourse of Native Peoples

If all of the above courses are completed, the extra three credit hours may be applied to the required nine credit hours as specified below.

Students must also complete at least nine credit hours from:
- ARCH 332-3 Special Topics in Archaeology I*
- ARCH 333-3 Special Topics in Archaeology II*
- ARCH 360-5 Native Cultures of North America
- ARCH 378-3 Pacific Northwest North America
- ARCH 379-3 American Southwest
- ARCH 386-3 Archaeological Resource Management
- ARCH 479-3 Directed Readings*
- CRIM 419-3 Indigenous Peoples, Crime, and Criminal Justice
- FNST 301-3 Issues in Applied First Nations Studies Research**
- FNST 401-3 Aboriginal Rights and Government Relations**
- FNST 402-3 The Discourse of Native Peoples**
- 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 I**
- LING 432-3 Language Structures II**
- SA 386-4 Native Peoples and Public Policy
- SA 387-4 Canadian Native Peoples
- SA 388-4 Comparative Studies of Minority Indigenous Peoples

* when offered as Archaeological field school.

Credit accumulated in the certificate in native studies research may be applied toward the minor in First Nations studies.

Co-operative Education
In conjunction with other departments in the Faculty of Arts, and other faculties offering the co-operative education program, eligible students wishing to undertake a minor in First Nations studies may apply to participate in the co-op program for work placements in native organizations or with employers in the private, public and non-profit sectors.

Certificate in Native Studies Research
This program provides a unique opportunity to explore the history and prehistory, culture, language and contemporary situation of Canadian native peoples, and to acquire basic skills in researching native issues. Particular emphasis is on the study of native people in the interior of British Columbia.

Offered through the Simon Fraser University/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 credit hours are earned by completing six required courses. The remaining nine credit hours are selected from the specified list of optional courses.
- completion of a practicum, where the student can apply acquired research skills in a supervised setting.
- minimum grade point average of 2.0 calculated on all courses applied to the certificate. Duplicate courses are counted only once.
- completion of the certificate normally within five years of program admission.

Core Courses
- ARCH 273-3 Archaeology of the New World
- 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
- SA 101-4 Introduction to Anthropology

Optional Courses
- ARCH 200-3 Special Topics in World Prehistory*
- ARCH 332-3 Special Topics in Archaeology I*
- ARCH 333-3 Special Topics in Archaeology II*
- ARCH 336-3 Special Topics in Prehistoric and Indigenous Art*
- ARCH 360-5 Native Cultures of North America

Department of French

Chair
G. Poirier BA (Laval), MA, PhD (McG)

Professors
- M.G. Faucherre LèsL, DRÉdCry (Paris), Chev. Palmes Acad (France), FRSScan
- G. Merler BA (Br Col), MA, PhD (Laval)

Associate Professors
- R. Davison BA, MA, PhD (McG)
- G. Poirier BA (Laval), MA, PhD (McG)
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, in French and Spanish, and in French and humanities. A certificate program in French language proficiency is also offered for those who wish to enhance their knowledge of French for cultural, professional or employment purposes.

**Initial Course Selection**

Native French speakers, or those who received secondary education entirely within a French-speaking community will not normally be admitted to a French language course numbered 100 to 300 inclusive (except FREN 199 and 299).

**French Language Placement Test**

Students fitting into the following categories need not take the placement test but should register in the course indicated below.

- **BC grade 12 French completed within the last three years who received a final grade of A:** register in FREN 201
- **BC grade 12 French completed (irrespective of grade) within the last three years and who have subsequently spent at least six weeks in a francophone environment:** register in FREN 201
- **BC grade 12 French completed within the last three years who do not meet the above two conditions:** register in FREN 151
- **Students who have completed grade 11 French within the last three years and have taken no more French since:** register in FREN 101
- **Fewer than three years of French taken in high school and no other French:** register in FREN 100
- **No French at all:** register in FREN 099
- **High school taken in a francophone educational system in a francophone country or province:** register in FREN 230/240, 270, or 301

All others are required to take the placement test including the following.

- **French immersion, programme cadre, IB and AP students**
- **Students who have taken any credit/credit French course of six or more weeks duration since high school**
- **Students who have lived (minimum 30 months) in a francophone environment**
- **Special cases and any students seeking advice on eligibility to earn challenge credit for 151, 201, and/or 202, and/or 206**

Those required to take the placement test are urged to consult the **Course Timetable and Exam Schedule** for dates and times of the tests.

**Course Challenge**

Up to 12 credit hours of lower division French courses may be challenged by students receiving advanced placement. Courses open to challenge are: FREN 151, 201 or 216, 202 and 206. Students may challenge lower level language courses only when registered in one of FREN 201 (or 216), 202, 206, or 301. Challenge of language courses lower than the one actually registered in may be initiated by filling out and signing a course challenge form, obtainable from the French general office. The challenge must be approved by the department and submitted to the Office of the Registrar prior to the tenth day of classes. Successful completion (with a grade of at least C) of the language course actually taken automatically adds the challenge credit to the student’s transcript. See **Course Challenge in the Registration section**.

**Hons, Major, Extended Minor Programs**

To be approved in a program, a student must have successfully completed (i.e. obtained a minimum grade of 2.0 or better in each of) the following courses or equivalents: FREN 151, 201 or 216, 202, 206, 300 or 340 and 270. Students who place in FREN 301 in the placement test will complete only FREN 230/240 and FREN 270 prior to acceptance in the program.

Only one of FREN 300 or 330 may be used in partial fulfilment of the upper division requirements of honors, major, extended minor, joint major and certificate programs.

For a degree in French, the following courses are required.

**Lower Division Requirements**

- **FREN 151-3 French I**
- **FREN 201-3 Intermediate French I**
- **FREN 202-3 Intermediate French II**
- **FREN 206-3 Intermediate French III**
- **FREN 270-3 Introduction to French Linguistics I**
- **FREN 230-3 Introduction to French-Canadian Literature**
- **FREN 240-3 Introduction to French Literature: Modern French Literature**

*Exemption is gained by successful completion of a more advanced French language course. Lower division language courses may be challenged (see above).

**Upper Division Requirements**

- **Major**
  - FREN 301-3 Advanced French Composition I
  - FREN 360-3 Intermediate French Literature
  - FREN 370-3 Introduction to French Linguistics II

- **Honors**
  - FREN 301-3 Advanced French Composition I
  - FREN 360-3 Intermediate French Literature
  - FREN 370-3 Introduction to French Linguistics II

In addition, the honors student must acquire proficiency (i.e. the equivalent of two semesters) in another language in addition to English and French.

**Extended Minor**

Students must complete both of

- **FREN 301-3 Advanced French – Composition I**
- **FREN 302-3 Advanced French – Composition II**

and one of

- **FREN 360-3 Intermediate French Literature**

A further six credit hours of French, to be chosen from among the remaining courses at the 300 and 400 division, must be completed.

**Note:** LING 360 or FREN 310 may be counted towards the upper division requirements for the major, honors and extended minor programs in French in a bachelor of education degree program, and/or for the major and honors programs in French in a bachelor of arts degree.

LING 360 and FREN 310 may not both be used in partial fulfillment of these requirements.

**Courses in French**

Courses are offered in the following fields.

**French Language**

- **FREN 109-3 French for Beginners**
- **FREN 100-3 Introductory French I**
- **FREN 101-3 Introductory French II**
- **FREN 151-3 French I**
- **FREN 199-3 Writing French I: Spelling and Grammar**
- **FREN 201-3 Intermediate French I**
- **FREN 202-3 Intermediate French II**
- **FREN 205-3 French Language: Oral Practice**
- **FREN 206-3 Intermediate French III**
- **FREN 216-3 French for Immersion Program**

**French Linguistics**

- **FREN 301 and 302** represent the formal culmination (but not the end) of the student’s training in French language use. FREN 270 and 370 represent the bridge between this knowledge of French (i.e. ability to use) and a knowledge about French (i.e. how to approach, analyse and describe various linguistic aspects of the French language). These latter concerns form the central objectives of the 400 division French linguistics courses.

**Linguistic Theories**

- **FREN 270-3 Introduction to French Linguistics I**
- **FREN 370-3 Introduction to French Linguistics II**

**Structure of French**

- **FREN 411-4 Modern French: Morphology**
- **FREN 412-4 Modern French: Syntax**
- **FREN 413-4 Modern French: Phonology**
- **FREN 420-3 French Semantics and Lexicology**

**Evolution of French**

- **FREN 407-4 History of French: Phonology**
- **FREN 408-4 History of French: Morphology and Syntax**

**French Dialects**

- **FREN 421-3 Varieties of French**
- **FREN 422-3 Canadian French**

**French Applied Linguistics**

- **FREN 310-3 Linguistics and French Language Learning**
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 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 17th, 18th and 19th centuries 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 remains on close textual analysis rather than literary history.

400 Division Courses on Literary Movements
FREN 461-3 French Medieval Literature
FREN 462-3 French Renaissance Literature
FREN 463-4 Literature of the Seventeenth Century
FREN 465-4 Literature of the Eighteenth Century
FREN 467-3 Romanticism
FREN 470-4 Realism to Naturalism
FREN 476-3 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 intended for students who, once they have acquired a sufficient background in linguistics and literary criticism, wish to explore the relationship between the two disciplines.

FREN 406-3 French Stylistics
FREN 480-2 Seminar I
FREN 491-3 Readings in French Linguistics and/or Literary Criticism
FREN 492-3 Honors Essay

In addition, two courses are available to students who do not wish to specialize in French. These are taught in English.

FREN 198-3 Reading French I
FREN 342-4 Literature in Translation from the Francophone World

Joint Major in English and French Literatures

The joint major is an interdepartmental program, usually within a BA, designed for students who are interested in exploring the many close relationships between English and French literatures.

Advisors
Ms. R. Gould, Department of French, 8108A Classroom Complex, (604) 291-4505
Dr. J. Viswanathan, Department of French, (604) 291-4923
Dr. M. Harris, Department of English, (604) 291-3127
Ms. H. Newcombe, Department of English, 6137 Academic Quadrangle, (604) 291-3371

Lower Division Courses

The same lower division course prerequisites as they appear for both English and French majors must be fulfilled.

French

all of
FREN 151-3 French I
FREN 201-3 Intermediate French I
FREN 202-3 Intermediate French II
FREN 206-3 Intermediate French III
(or exemption from these four courses FREN 151, 201, 202, 206)

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 20 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 I
FREN 360-3 Intermediate French Literature

(6 credit hours)

plus 14 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 370-3 Introduction to French Linguistics II
FREN 490-3 Linguistics and Literary Criticism

English

Students are required to 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 prospectsives) in English and French literatures must plan their program in consultation 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
M. Covell, Political Science
G. Merler, French
C.R. Day, History

Advisors
Ms. R. Gould, Department of French, 8108A Classroom Complex, (604) 291-4505
Ms. J. Koczwarski, Department of History, 6026 Academic Quadrangle, (604) 291-4429
Ms. J. Harrington, Department of Political Science, 6070 Academic Quadrangle, (604) 291-3588

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 make the emphasis is on the role played in the world by French language, literature, history and politics; hence the courses selected may represent a variety of interests and fields.

The attention of students is drawn to courses offered by the Canadian studies program which might be of interest.

Lower Division Requirements

As prerequisites, the following are required for a total of 42 credit hours.

12 credit hours of History
12 credit hours of political science
15 credit hours of French
3 credit hours of additional History or political science

The following are required for a total of 47 credit hours.

16 credit hours of history
16 credit hours of political science
15 credit hours of French (FREN 301, 360 or 370 and nine credits of 400 level courses)

History

Students must take 12-15 credit hours of lower division history and at least 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 Selections, which offers a list of sample courses suitable to the program. Such choices must fit with the thematics of the joint major to the steering committee’s satisfaction.

Political Science

Students must take 12-15 lower division credit hours and at least 16 credit hours of upper division political science. Students may choose courses in consultation with the departmental assistant of political science or the representative of the Department of Political Science on the program steering committee after reviewing the Guidelines for Course Selection. It is emphasized that such choices must fit in with the thematics 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**

At least 15 credit hours (or exemption) are required including all of:

- FREN 151-3 French I (or exemption)
- FREN 201-3 Intermediate French I (or exemption)
- FREN 202-3 Intermediate French II (or exemption)
- FREN 206-3 Intermediate French III (or exemption)

One of:

- FREN 230-3 Introduction to French-Canadian Literature
- FREN 240-3 Introduction to French Literature: Modern French Literature
- FREN 270-3 Introduction to French Linguistics

**Suggested**

FREN 205-3 French Language: Oral Practice

**Upper Division**

FREN 301-3 Advanced French – Composition I

One of:

- FREN 360-3 Intermediate French – Literature
- FREN 370-3 Introduction to French Linguistics

**Note:** Students wishing to complement this joint major program specialization with greater competence in oral and written French may take FREN 300 or 330 and FREN 302 in addition to the above requirements. FREN 330 is highly recommended.

At least nine hours must be at the 400 level. Students may choose courses in consultation with the French Department’s departmental assistant or the representative of the Department of French on the program steering committee and after reviewing the Guidelines for Course Selection.

**Joint Major in French and Humanities**

Please refer to the Humanities Program section for requirements.

**Joint Major in French and Spanish**

The joint major in French and Spanish offers a framework for students interested in exploring the linguistic, literary and cultural affinities between the two areas of study (see Spanish Program).

**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 in French and Education**

The Department of French and Faculty of Education jointly offer a post baccalaureate diploma in French and education, comprising a set of organized courses for practising or future teachers of French. This program includes courses directly related to the pedagogy of French as a second language as well as courses enhancing previous competence in the French language, or knowledge of French literature or linguistics.

**Admission Requirements**

Students must seek admission or re-admission to the University and, once admitted, they must separately apply to the student advisor of the Department of French for admission to the diploma program.

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 206.

Application packages are available from the Department of French and the Faculty of Education. Before applying to this diploma program, students should 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 French and education list of courses below. A minimum cumulative grade point average of 2.5 is necessary for courses applied toward the diploma.

The diploma must be completed within five years of the date of admission to the program. For teachers seeking a reclassification, note that, since integrated programs are looked upon as upgrading work, all courses included in such programs must be taken no more than 10 years before the date of reclassification 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 coursework in education and/or in French may be considered to fulfill requirements for this program. A maximum of six transfer credits in each of French and education may be awarded.

**French Requirements**

Students normally choose 15 credit hours from the following courses.

- FREN 310-3 Linguistics and French Language Learning
- FREN 313-3 The Acquisition of Vocabulary
- FREN 312-3 Corrective Phonetics

The remaining credit hours may be selected from 300 and 400 level French courses with the exception of FREN 342. In addition, students should note that only one of FREN 300 or 330 will count towards the 15 upper division credits required for the diploma.

Please note that all course selections must be approved by the advisor in the Department of French.

Students whose undergraduate record includes credit hours from the above courses or equivalents must select approved substitutes from among upper division French courses. Students with no previous undergraduate courses in French linguistics or French literature are required to take the lower level prerequisites FREN 270 and/or FREN 230/240.

**Education Requirements**

Students normally choose 15 credits from among the following courses.

A minimum of two of:

- EDUC 361-3 Contemporary Issues and New Developments in Educational Practice
- EDUC 441-4 Multicultural Education
- EDUC 450-4 French Curriculum Studies

The remaining credit hours may be selected from the following courses.

- 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 477-4 Natural Sciences
- EDUC 480-4 French as a Second Language
- EDUC 481-4 French Immersion and Programme-cadre de Français**

**offered in French during summer institutes.**

• this course may be substituted with EDUC 826 if EDUC 473 has already been taken, but special permission is required.

• this course may be substituted with EDUC 858 if EDUC 481 has already been taken, but special permission is required.

**Certificate in French Language Proficiency**

Advisor

Ms. R. Gould, 8108A Classroom Complex
(604) 291-4505

This program is intended for school teachers wanting to improve oral and written proficiency in French, students, whether enrolled in a degree program or not, and for those wishing to enhance their knowledge of the language for cultural reasons or professional needs. The program is not intended for native speakers of French.

Recommendations for the award of the certificate will be made by the Department of French and the Faculty of Arts.

**Admission**

Normal admission regulations to Simon Fraser University will apply.

**Requirements**

Students must successfully complete 29 credit hours, of which 20 hours are earned by completing seven required courses. The remaining nine credit hours may be selected from any other French courses, excluding FREN 100, 101, 198, 298, 140 and 341.

All of:

- FREN 151-3 French I
- FREN 201-3 Intermediate French I
- FREN 202-3 Intermediate French II
- FREN 205-3 French Language: Oral Practice
- FREN 206-3 Intermediate French III
- FREN 301-3 Advanced French – Composition I

One of:

- FREN 230-3 Introduction to French-Canadian Literature
- FREN 240-3 Introduction to French Literature: Modern French Literature

Recommended

One of:

- FREN 300-3 Advanced French – Conversation
- FREN 330-3 The Francophone World

and

- FREN 302-3 Advanced French – Composition II

The program normally takes at least five to six semesters to complete.

A minimum grade point average of 2.5 is calculated on all Simon Fraser University 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
- or challenge credit for exempted courses (subject to University regulations governing approval of challenge credit), up to a maximum of six hours and/or
- successful completion of other French courses at Simon Fraser University, excluding FREN 100, 101, 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 the General Information section), credits accumulated toward the certificate program should be counted in accordance with regulations governing certificate standing in Geography. Students interested in a bachelor of arts degree in Geography should refer to the Faculty of Science section.

**BA Major Program**

Students should check that they have fulfilled the requirements of the Faculty of Arts as detailed in the Faculty of Arts section.

Transfer students may enter the geography program without having fulfilled all lower division requirements. See the department academic advisor as soon as possible about entering the program.

**Supporting Courses Outside Geography**

Students will profit greatly by selecting a wide range of subjects outside geography: economics, sociology and anthropology, political science, history, and many areas in the Faculty of Science can be of great value to the prospective geographer. Students may wish to complete a minor in one of these fields. Any geography faculty member will be pleased to advise.

Students with or claiming advanced standing in geography should consult an undergraduate advisor in the department concerning the structure of their programs.

**Lower Division Requirements**

Students must complete GEOG 100-3 Human Geography

GEOG 111-3 Physical Geography (6 credit hours)

Students must also complete one 200 level course from section A (see below), both GEOG 221 and 241 from section B, and one course from section C.

(12 credit hours)

**Section A – Physical Geography**

GEOG 221-3 Geomorphology I

GEOG 222-4 Geography of Resource Development

**Section B – Human Geography**

GEOG 241-4 Geography of Urban Regions

GEOG 242-4 Geography of the Third World

**Section C – Techniques and Special Requirements**

GEOG 250-3 Cartography I

GEOG 251-3 Methods in Spatial Analysis

GEOG 253-3 Aerial Photographic Interpretation

**Section D – Regions**

GEOG 162-3 Canada

GEOG 263-3 Selected Regions

GEOG 265-3 Geography of British Columbia

**Upper Division Requirements**

Students are expected to consult with a departmental advisor when they formally declare a major in Geography. Those who do not seek advice from the department run a risk of prolonging their programs.

Students must complete 20 credit hours of 300 level courses, including at least one course from section A (see below).

(20 credit hours)

Additionally, 12 credit hours of 400 level courses must be completed, including at least one course from section D (see below).

(12 credit hours)

Total 32 credit hours

**Section A – Physical Geography**

GEOG 311-4 Hydrology I

GEOG 313-4 Geomorphology II

GEOG 314-4 Climatology II

GEOG 315-4 Regional Ecosystems

GEOG 316-4 Ecosystem Biogeochemistry

GEOG 317-4 Soil Science

GEOG 411-4 Hydrology II

GEOG 412-4 Glacial Processes and Environments

GEOG 413-4 Geomorphology III

GEOG 414-4 Climatology III

GEOG 415-4 Advanced Biogeochemistry

GEOG 416-4 Pleistocene Geology

GEOG 417-4 Soil Science II

GEOG 418-4 Land Evaluation

GEOG 419-4 Mass Transfer in the Biosphere

**Section B – Human Geography**

GEOG 301-4 Geography of Urban Regions

GEOG 302-4 Geography of Economic Development

GEOG 303-4 Geography of the Third World

GEOG 304-4 Urban Transportation

GEOG 305-4 Multinational Corporations and Regional Development

GEOG 427-4 Selected Topics in the Geography of Development

GEOG 441-4 Geography of Urban Regions

GEOG 442-4 Geography of Economic Development

GEOG 443-4 Regional Development and Planning I

GEOG 444-4 Regional Development and Planning II

GEOG 445-4 Regional Development and Planning III

GEOG 446-4 Geographic Information Systems

GEOG 447-4 Historical Geography I

GEOG 448-4 Historical Geography II

GEOG 449-4 Environmental Processes and Urban Development

GEOG 450-4 Environmental Workshop

GEOG 451-4 Historical Geography I

GEOG 452-4 Historical Geography II

GEOG 453-4 Historical Geography III

**Section C – Techniques and Special Requirements**

GEOG 250-3 Cartography I

GEOG 251-3 Methods in Spatial Analysis

GEOG 253-3 Aerial Photographic Interpretation

GEOG 162-3 Canada

GEOG 263-3 Selected Regions

GEOG 265-3 Geography of British Columbia

**Upper Division Requirements**

Students are expected to consult with a departmental advisor when they formally declare a major in Geography. Those who do not seek advice from the department run a risk of prolonging their programs.
The following courses.

- **BA Honors Program**

  Students are expected to consult with a departmental advisor when they formally declare an honors minor in geography. Those who do not seek advice from the department run a risk of prolonging their programs. Students must complete the following requirements for the major program (see above) plus at least 400 level hours from courses in the 300 and 400 level listings and the following courses.

  - GEOG 491-4 Honors Essay
  - Total 50 credit hours

  **BA Minor Program**

  Students are expected to consult with a departmental advisor when they formally declare a minor in geography. Those who do not seek advice from the department run a risk of prolonging their programs. Students must complete the following requirements for the major program (see above) plus at least 400 level hours from courses in the 300 and 400 level listings and the following courses.

  - GEOG 491-4 Honors Essay
  - Total 50 credit hours

  **Upper Division Requirements**

  Students must complete the following requirements for the major program (see above) plus at least 400 level hours from courses in the 300 and 400 level listings and the following courses.

  - GEOG 491-4 Honors Essay
  - Total 50 credit hours

  **Section C – Techniques and Special Requirements**

  Also required is one course selected from the list (see above) plus the following:

  - GEOG 221-3 Economic Geography
  - GEOG 215-3 Biogeography
  - GEOG 111-3 Physical Geography
  - GEOG 387-4 Geography and Gender
  - GEOG 386-4 Medical Geography
  - GEOG 385-4 Food Production and the Environment
  - GEOG 381-4 Political Geography
  - GEOG 327-4 Geography of Tourism and Outdoor Recreation
  - GEOG 386-4 Medical Geography
  - GEOG 387-4 Geography and Gender

  plus 12 credit hours from

  - GEOG 424-4 Geography of the Third World
  - GEOG 426-4 Industrial Change and Local Development
  - GEOG 444-4 Regional Development and Planning II
  - GEOG 449-4 Environmental Processes and Urban Development

  **Languages Other Than English**

  Some graduate schools require some proficiency in a language other than English. Those who contemplate graduate studies in geography should include courses in languages other than English in their programs.

  **Joint Major in Geography and Business Administration**

  Refer to the Faculty of Business Administration section for requirements.

  **Joint Major in Geography and Economics – Environmental Specialty**

  Students must complete the same requirements as for the economics major program and also complete ECON 280; the latter course can be counted as one of the 200 level requirements.

  **Economics**

  Students must complete 25 credit hours in economics including

  - ECON 301-5 Intermediate Microeconomic Theory
  - ECON 305-5 Intermediate Macroeconomic Theory
  - ECON 362-4 Economics of Natural Resources
  - BUEC 333-3 Elementary Economic and Business Statistics II

  plus at least two 400 level BUEC or ECON courses and, to satisfy economics group requirements, at least one of the following:

  - ECON 100-3 Introduction to Economics
  - ECON 102-3 Twentieth Century Economies
  - ECON 208-3 History of Economic Thought
  - ECON 250-3 History of Economic Development A
  - ECON 252-3 History of Economic Development B
  - ECON 309-5 Introduction to Marxian Economics

  **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.

  **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):

one of
GEOG 251-3 Methods in Spatial Analysis
STAT 101-3 Introduction to Statistics
STAT 203-3 Introduction to Statistics for the Social Sciences
STAT 270-3 Introduction to Probability and Statistics

all of
GEOG 250-3 Cartography I
GEOG 253-3 Aerial Photographic Interpretation
GEOG 352-4 Methods in Spatial Analysis II
GEOG 353-4 Remote Sensing
GEOG 354-4 Introduction to Geographic Information Systems

three of
GEOG 351-4 Cartography II
GEOG 355-4 Technical Issues in Geographic Information Systems
GEOG 452-4 Advanced Issues in Geographic Information Systems
GEOG 453-4 Digital Image Processing

Under special circumstances, students may substitute, from approved courses, up to eight of the above 12 credits to satisfy this requirement.

Certificate in Urban Studies
This certificate encourages and facilitates the study of the nature and functions of the contemporary city from an interdisciplinary perspective of geography, political science, sociology and anthropology and is available to undergraduate students who wish to have a concentration in the area of urban studies.

Completion of the program is possible in one year but additional semesters may be required. The certificate is especially suited for those contemplating careers in urban planning, governance, consulting and/or who wish to participate in the Faculty of Arts co-operative education program.

Admission Requirements
Normal requirements for admission to Simon Fraser University apply. Students must complete GEOG 100 and POL 151 and/or POL 100 prior to formal admission to the certificate program.

Course Requirements
Successful completion of eight courses for a total of 27/29 credit hours including the following required courses.

GEOG 261-3 Introduction to Urban Geography
POL 252-3 Local Democracy and Governance
SA 201-4 Anthropology of Contemporary Life
and at least two of
GEOG 325-4 Geography of Service Activities
GEOG 362-4 Geography of Modern Industrial Societies
GEOG 362-4 Geography of Urban Development
GEOG 383-4 Regional Development and Planning I
POL 352-4 Urban and Local Government in Canada
POL 354-3 Comparative Metropolitan Governance
SA 364-4 Urban Communities and Cultures

and at least four of
GEOG 424-4 Urban Transportation
GEOG 441-4 Geography of Urban Regions
GEOG 444-4 Regional Development and Planning II
GEOG 448-4 Public Policy, Theory and Human Geography
GEOG 449-4 Environmental Processes and Urban Development
POL 458-4 Selected Topics in Local and Urban Government and Politics
POL 454-4 Urban Public Policy Making

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 the co-operative education program, students must have completed 28 credit hours with a minimum cumulative grade point average 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 250-3 Cartography I
GEOG 251-3 Methods in Spatial Analysis
GEOG 253-3 Aerial Photographic Interpretation

College transfer students must complete at least 15 credit hours at Simon Fraser University before being eligible for admission to the co-op program and must satisfy the requirements above or their equivalents.

College transfer students who have participated in co-op programs elsewhere may be credited with the semester(s) already taken. The applicability of such semesters depends on the evaluation of the Department of Geography.

To continue in the co-op education Program, students must maintain a minimum CGPA of 2.5 in the course work.

The following four courses are completed during four work semesters.

GEOG 302-0 Geography Practicum I
GEOG 303-0 Geography Practicum II
GEOG 402-0 Geography Practicum III
GEOG 403-0 Geography Practicum IV

For further details, refer to the Co-operative Education section. Interested students should contact the geography and earth sciences co-operative education co-ordinator, telephone (604) 291-5954.

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Post Baccalaureate Diploma in Urban Studies
This program, administered by the Department of Geography, provides an opportunity for individuals who have previously completed a bachelor’s degree, or equivalent, to expand knowledge in theoretical and descriptive terms of the nature and functions of cities in contemporary society. The program emphasizes an holistic view of contemporary metropolises in which geographic, social, political, environmental, economic and cultural perspectives are explored.

Program completion normally requires two years and is of special interest to those who wish to develop careers in the urban setting, professionals who seek mid-career advancement in urban planning, consulting and related professions, and those who desire a better understanding of the contemporary metropolis. This diploma is offered through the Departments of Geography, Political Science, and Sociology and Anthropology.

Credits applied to one diploma may not be applied to another Simon Fraser University certificate, diploma or degree, and vice versa.

Course Requirements
A GPA of 2.5 is required for program admission. Students must complete eight courses totalling at least 30 credit hours, of which 14/16 hours will be completed at the third year level and 14/16 credit hours at the fourth year. Completion is expected within five years of program admission. A GPA of 2.5 on courses used for the diploma is required.

All students must take a non-credit workshop composed of seminars and panel discussions about relationships between urban development and the social sciences. Participants include practising professionals and faculty.

Students must complete at least four of
GEOG 325-4 Geography of Service Activities
GEOG 344-4 Geography of Modern Industrial Societies
GEOG 362-4 Geography of Urban Development
GEOG 383-4 Regional Development and Planning I
POL 352-4 Urban and Local Government in Canada
POL 354-3 Comparative Metropolitan Governance
SA 364-4 Urban Communities and Cultures

and at least four of
GEOG 424-4 Urban Transportation
GEOG 441-4 Geography of Urban Regions
GEOG 444-4 Regional Development and Planning II
GEOG 448-4 Public Policy, Theory and Human Geography
GEOG 449-4 Environmental Processes and Urban Development
POL 458-4 Selected Topics in Local and Urban Government and Politics
POL 454-4 Urban Public Policy Making

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 the co-operative education program, students must have completed 28 credit hours with a minimum cumulative grade point average 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 250-3 Cartography I
GEOG 251-3 Methods in Spatial Analysis
GEOG 253-3 Aerial Photographic Interpretation

College transfer students must complete at least 15 credit hours at Simon Fraser University before being eligible for admission to the co-op program and must satisfy the requirements above or their equivalents.

College transfer students who have participated in co-op programs elsewhere may be credited with the semester(s) already taken. The applicability of such semesters depends on the evaluation of the Department of Geography.

To continue in the co-op education Program, students must maintain a minimum CGPA of 2.5 in the course work.

The following four courses are completed during four work semesters.

GEOG 302-0 Geography Practicum I
GEOG 303-0 Geography Practicum II
GEOG 402-0 Geography Practicum III
GEOG 403-0 Geography Practicum IV

For further details, refer to the Co-operative Education section. Interested students should contact the geography and earth sciences co-operative education co-ordinator, telephone (604) 291-5954.

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Gerontology Program
2800 Harbour Centre, (604) 291-5065 Tel, (604) 291-5066 Fax, http://www.harbour.sfu.ca/gero, gero@sfu.ca
Director
G.M. Gutman BA (Br Col), MA (Alta), PhD (Br Col)
Professor
G.M. Gutman BA (Br Col), MA (Alta), PhD (Br Col)
Associate Professor
A.V. Wister BA, MA, PhD (W Ont)
Assistant Professor
Y. Carrière BSc, MSc, PhD (Montr)
Adjunct Professors
A. Anis BSS (Dhaka), MA, PhD (Cari)
G. Birch BA, PhD, (Br Col)
S. Brink BA (Madras), MSc, PhD (Purdue)
S. Crawford BHE (Br Col), MSc (Lond), PhD (S Fraser)
K. Dean BA, MA, PhD (Minn)
V. Doyle BA (Vic, BC), EdM (Harv), PhD (S Fraser)
E. Gallagher BSc Nursing (Wind), MSc Nursing (Duke), PhD (S Fraser)
M. Hollandier MSc (Br Col)
D. Jackson AA, BTh ( Sask)
L. McDonald-Miszczak BA (Alta), MA, PhD (Vic)
C. Spencer, LLM (Sask)
L. Trottier BSc (Br Col)
Associate Members
P. Dossa, Sociology and Anthropology
M. Hayes, Geography
W. Parkhouse, Kinesiology
D. Zimmerman, Philosophy
Steering Committee
E.M. Gee, Sociology
R. Gordon, Criminology
R.B. Horstall, Geography
M.M. Kimball, psychology/Women’s Studies
M. Manley-Casimir, Education
W. Parkhouse, Kinesiology
Admission Requirements
- completion of a bachelor's degree from a recognized university with a minimum graduation grade point average of 2.5.
- previous work experience in gerontology or related field for at least one year. Students without this requirement may be admitted, but will be required to undertake a practicum as part of their diploma requirements.
- three letters of reference attesting to the applicant's personal qualities and characteristics, ability to complete a post baccalaureate program of studies and career potential and dedication to the field of gerontology.

Program Requirements
Successful completion of 30 hours of approved course work is required. Of those 30, 19 are earned by completing six required courses listed below. The remaining 11 hours are from the specified list of optional courses. A CGPA of 2.5 is required on courses applied toward the diploma.

Students entering the program without appropriate work experience will be required to complete a practicum in order to graduate.

Required Courses
GERO 300-3 Introduction to Gerontology
GERO 301-3 Research Methods in Gerontology
GERO 400-3 Seminar in Applied Gerontology
KIN 461-3 Physiological Aspects of Aging
PSYC 357-3 Psychology of Adulthood and Aging
SA 420-4 Sociology of Aging

Optional Courses
CRIM 411-3 Crime and Victimization of the Elderly
EDUC 351-3 Teaching the Older Adult
GEOG 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 410-3 Special Topics in Gerontology I
GERO 411-3 Special Topics in Gerontology II
GERO 412-3 Special Topics in Gerontology III
KIN 460-3 Cellular Mechanisms and Theories of Aging
PSYC 456-5 Psychology of Adulthood and Aging
SA 319-4 Culture, Ethnicity and Aging
SA 461-4 Special Topics in Sociology and Anthropology (when topic is medical anthropology)

Notes:
Most diploma program courses have prerequisites. A student who has not completed appropriate prerequisites may be required to do so before registering in the diploma program courses. Contact the program advisor for information on prerequisites and general program requirements.

Students are advised to take GER0 300 and 301 when they begin the program, and GERO 400 near the end of their program.
HIST 318-4 Early Modern France
HIST 319-4 France since 1800
HIST 331-4 Germany from the Reformation to 1815
HIST 332-4 Germany since 1815
HIST 334-4 Russia to 1900
HIST 335-4 20th Century Russia
HIST 336-4 Absolutism and Enlightenment
HIST 337-4 The Balance of Power in Europe
HIST 338-4 World War II
HIST 339-4 The British Empire and Commonwealth
HIST 360-4 The History of Science: 1100-1725
HIST 361-4 The History of Science: The 18th Century to the Present
HIST 402-4 Renaissance Italy
HIST 403-4 The European Reformation
HIST 404-4 Religion, Society and Politics in England 1503-1660
HIST 405-4 Early Modern English Society
HIST 406-4 The Industrialization of Europe
HIST 407-4 Popular Culture in Great Britain and Europe
HIST 408-4 Liberty and Authority in 19th Century Thought
HIST 410-4 History of Science, Technology and Everyday Life 1870-1950
HIST 411-4 Class and Gender in Modern Europe
HIST 412-4 Marxism and the Writing of History
HIST 414-4 The Impact of the Great War
HIST 415-4 Victorian Britain
HIST 416-4 The French Revolution
HIST 417-4 France in Modern Times
HIST 418-4 Modern Spain and the Civil War
HIST 419-4 Modernization and Reform in Russia 1860-1930
HIST 420-4 The History of Russian Foreign Policy from Catherine the Great to Stalin

Group 2 – North America
HIST 322-4 Atlantic Migration
HIST 324-4 Slavery in the Americas
HIST 326-4 The History of Native People in Canada
HIST 327-4 Canadian Labor and Working Class History
HIST 328-4 The Province of Quebec from Confederation
HIST 329-4 Canadian Family History
HIST 340-4 United States Foreign Policy
HIST 379-4 The Transformation of American Culture 1830-1900
HIST 380-4 Industrial Culture in Modern America
HIST 383-4 The American Dream in the Twentieth Century
HIST 385-4 Canadian and BC Art
HIST 423-4 Problems in the Diplomatic and Political History of Canada
HIST 424-4 Problems in the Cultural History of Canada
HIST 425-4 Gender and History
HIST 426-4 Law and Society in Historical Perspective
HIST 428-4 Problems in the Social and Economic History of Canada
HIST 430-4 France
HIST 431-4 British North America, 1760-1850
HIST 435-4 The Canadian Prairies
HIST 436-4 British Columbia
HIST 446-4 The Revolutionary and Early National Period in the United States
HIST 450-4 The Era of the American Civil War
HIST 451-4 Innocence and Corruption in Nineteenth Century American Myth
HIST 452-4 The US in the Progressive Era
HIST 453-4 The US Between the Wars
HIST 454-4 Gender and Sexuality in US History
HIST 484-4 History of Women in North America

Group 3 – Africa, Asia, Latin America, Middle East
HIST 324-4 Slavery in the Americas
HIST 343-4 Africa and the Slave Trade
HIST 344-4 East Africa
HIST 346-4 Central Africa
HIST 348-4 A History of 20th Century South Africa
HIST 350-4 Continuity and Change in the Ottoman Empire and Turkey from 1453 to 1938
HIST 352-4 Religion and Politics in Modern Iran
HIST 354-4 Imperialism and Modernization in Asia and the Middle East
HIST 355-4 The Arab Middle East in the Twentieth Century
HIST 409-4 Problems in Latin American Regional History
HIST 459-4 Problems in the Political and Social History of Latin America
HIST 465-4 The Emergence of the Israelis and Palestinians in Historical Perspective
HIST 467-4 Change and Revolution in Modern Egypt
HIST 469-4 Islamic Social and Intellectual History
HIST 473-4 The Making of South African Society
HIST 474-4 Modern Chinese Identities
HIST 481-4 British India
HIST 482-4 Emergent African Nationalism
HIST 483-4 The Struggle for Identity in Sub-Saharan Africa

Consult one of the department’s advisors before beginning the program. These interdisciplinary courses below have some Canadian history content.

CNS 160-3 The Social Background of Canada
CNS 210-3 Foundations of Canadian Culture
CNS 391-3 Special Canadian Topics
CNS 490-3 Canadian Intellectual Tradition

Concentration in Middle Eastern and Islamic History
Students may qualify for this concentration by completing two of
HIST 151-3 The Modern Middle East
HIST 249-3 The Origins of Islam and the Emergence of Islamic Civilization
HIST 251-3 The Western Imperial Presence in the Middle East and North Africa
HIST 252-3 Islamic India
plus four of
HIST 350-4 Continuity and Change in the Ottoman Empire and Turkey from 1453 to 1938
HIST 352-4 Religion and Politics in Modern Iran
HIST 354-4 Imperialism and Modernization in Asia and the Middle East
HIST 355-4 The Arab Middle East in the Twentieth Century
HIST 465-4 The Emergence of the Israelis and Palestinians in Historical Perspective
HIST 467-4 Change and Revolution in Modern Egypt
HIST 469-4 Islamic Social and Intellectual History

Honors Program
This program enables eligible undergraduates to enhance the quality of the undergraduate experience. In an intensive format of 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, ordinarily 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 admission to the program. Honors students must complete the following.

HIST 300-4 Approaches to History
HIST 305-2 Honors Tutorial
HIST 400-4 Seminar in Historical Methods
HIST 498-8 Honors Essay

In addition to the 18 credit hours of honors courses, 44 upper division credit hours are also required. Students are encouraged to take courses outside the Department of History but at least 50 of the 62 upper division hours must be in history courses. See Faculty of Arts honors requirements.

Minor Program
Students intending to enter the minor program must obtain at least nine hours credit in 100 and 200 division course work in history.

Minor students must obtain credit in 300 and 400 division work, totaling 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, and the Spanish, Latin American Studies, and Humanities programs will be considered by the Department of History for designated credit toward the minor in history. Students wishing to use such courses for the minor must obtain prior approval from the departments’ advisors.

Languages Other Than English
Although not required for a BA degree in history, it is often useful to have acquaintance with a language other than English for many history courses. For this reason students, especially those who intend to pursue graduate courses, should consider including a second language in their programs.

Joint Major in History and Humanities
Program information may be found in the Humanities section.

Joint Major in History and Latin American Studies
The attention of students is drawn to the joint major program in history and Latin American studies. See the Latin American Studies section.

Joint Major in History and Canadian Studies
The attention of students is drawn to the joint major program of history and Canadian studies. See the Canadian Studies section.

Joint Major in French, History and Politics
This joint major offers a framework for the study of the language, history, politics and culture of the French-speaking people of Canada and the world. It prepares for careers in civil service, politics (either with an emphasis on Canadian government and politics or on international relations), diplomatic service, international organizations, journalism, teaching and archival work. For further details, see the Department of French section.

Extended Minor Program
An extended minor program consists of the lower division requirements for a major and the upper division requirements for a minor. Other criteria may be set by individual departments and programs. A student must have their program approved by the advisor for the extended minor program.

The extended minor in history requires 18 credit hours in 100 and 200 division course work and 16
credit hours in 300 and 400 division, with at least four credit hours in each level.

**Public History**

6025 Academic Quadrangle, (604) 291-3446

**Advisor**

Mrs. R. Jantz, 6025 Academic Quadrangle, (604) 291-3446

Courses are designed for general interest and for pre-professional training in the public sector of history — in museums, archives, business, labor, ethnic and administrative history work. They can count towards majors, minors and honors in history.

A post-graduate diploma and a certificate program are available. Completion requires participation in one or more internships.

**Post Baccalaureate Diploma in Public History**

This diploma is available for students who have already completed a bachelor's degree. The program is a historical study as it is practised in non-academic settings — in museums, archives, government agencies, cultural societies, conservation authorities, businesses, families, and other public and private institutions.

The program offers an opportunity for ordered and sequential study based on established undergraduate courses in Canadian and public history. It combines core courses in history with optional ones in related disciplines and it recognizes the importance of applied skills by requiring appropriate work experience or internship in the Public History program, or completion of a special project.

For information about the post baccalaureate diploma program general regulations, refer to Continuing Studies.

**Program Requirements**

- successful completion of an approved program of 30 hours of third and fourth year courses, or graduate level courses if appropriate. Of those 30, 12 are to be taken in the set of core courses described below.
- program completion within five years of admission. Most students are expected to finish within two or three years. Students must maintain a GPA of 2.5 on courses used for the diploma.

**Core Courses**

HIST 301-4 Heritage Preservation
HIST 302-4 Archives Methods and Uses
HIST 303-4 Museums Method and Use
and one of
HIST 435-4 The Canadian Prairies
HIST 436-3 British Columbia

**Optional Courses**

ARCH 336-3 Special Topics in Prehistoric and Indigenous Art
ARCH 372-5 Material Culture Analysis
CMNS 362-4 Evaluation Methods for Applied Communication Research
GEOG 344-4 Geography of Modern Industrial Societies
GEOG 375-4 Historical Geography I
GEOG 475-4 Historical Geography II
HIST 326-4 The History of Native People in Canada
HIST 385-4 Canadian and BC Art
HIST 424-4 Problems in the Cultural History of Canada
HIST 428-4 Problems in the Social and Economic History of Canada

To fulfill the optional course requirement, students may, upon the recommendation of the program coordinator, select a course not included among listed options, but with content appropriate to the program. Internships consist of appropriate documented work experience, e.g. employment (normally two years or more), substantial volunteer work in a historical institution, participation in the public history Internship, or completion of a special project. Those without such experience should contact the program coordinator. These jobs in archival, museum and other institutions will be supervised, paid and non-credit.

**Certificate in Public History**

The certificate program is available to those without a bachelor's degree. Credits earned in the program may be applied toward a bachelor's degree.

The program is interdisciplinary. It combines core courses in history with optional ones in related disciplines and it recognizes the importance of applied skills by requiring appropriate work experience or internship in the public history program, or completion of a special project. It also offers opportunities for students to participate in credit free academic and professional events.

Courses are available on a full or part time basis, during the day and evening, on the Burnaby Mountain campus, through Simon Fraser University at Harbour Centre and distance education.

**Admission**

Admission is governed by the University's admissions regulations.

**Program Requirements**

The student must successfully complete 24 credit hours, with 12 of these 24 credit hours earned by completing the following.

HIST 102-3 Canada since Confederation
HIST 201-3 The History of Western Canada
and two of
HIST 301-4 Heritage Preservation
HIST 302-4 Archives Methods and Uses
HIST 303-4 Museums Method and Use

The student must complete at least four courses (one of which must be history) from the following totalling at least 12 credit hours.

ARCH 223-3 The Prehistory of Canada
ARCH 336-3 Special Topics in Prehistoric and Indigenous Art
ARCH 372-5 Material Culture Analysis
ARCH 386-3 Archaeological Resource Management
ARCH 349-5 Management of Archaeological Collections
CMNS 261-3 Documentary Research in Communication
CMNS 362-4 Evaluation Methods for Applied Communication Research
ECON 101-3 The Canadian Economy
ECON 261-3 Resources and The Economy of British Columbia
GEOG 241-3 Social Geography
GEOG 344-4 Geography of Modern Industrial Societies
GEOG 375-4 Historical Geography I
HIST 326-4 The History of Native People in Canada
HIST 385-4 Canadian and BC Art
HIST 424-4 Problems in the Cultural History of Canada
HIST 428-4 Problems in the Social and Economic History of Canada
HIST 435-4 The Canadian Prairies
HIST 436-4 British Columbia

To fulfill the optional course requirement, students may, upon the recommendation of the program coordinator, select a course not included among listed options, but with content appropriate to the program. Internships consist of appropriate documented work experience, e.g. employment (normally two years or more), substantial volunteer work in a historical institution, participation in the public history Internship, or completion of a special project. Those without such experience should contact the program coordinator. These jobs in archival, museum and other institutions will be supervised, paid and non-credit.

**Notes:**

Credits applied toward this certificate may not be applied toward any other Simon Fraser University certificate or diploma, but they may be applied toward major program or minor program requirements or toward a bachelor’s degree under the normal regulations governing those programs.

At least 18 of the required 24 credit hours must be completed at Simon Fraser University. Credit for a maximum of two courses (totaling not more than six credit hours) of comparable content and level may be transferred from previous university/college study toward the requirements of the program upon the recommendation of the Department of History.

Non-credit seminars and lectures complementing public history study are strongly recommended for all certificate students. Writing improvement, legal research, and communication media skills are examples.

**Co-operative Education Program**

Co-operative education is a system which combines work experience with academic studies. Students spend alternate semesters on campus and in paid, study related jobs which provide practical experience in the social sciences and interpretive skills and complements a degree in history.

Interested students can complete either a general co-op program or have the co-op work semesters qualify as the internship portion of the public history program. Arrangements for the work experiences are made through the department’s co-op co-ordinator and the University’s Office of Co-op Education. For details, refer to the Co-operative Education section.

**Humanities Program**


**Co-ordinator**

S. Duguid BA (III), MA, PhD (S Fraser)
Professor Emeritus
T.J. Kirschen BA (Roosevelt), MA, PhD (Chic)

**Professors**

P.E. Dutton BA (WOnt), MA, PhD (Tor), MSL, MSD (Pontif Inst Tot), joint appointment with History
J. Zsiove BA (Case WReserve), PhD (Wash), joint appointment with English

**Associate Professors**

I. Angus BA, MA (Wat.), PhD (York), joint appointment with Sociology and Anthropology
S. Duguid BA (III), MA, PhD (S Fraser), joint appointment with graduate Liberal Studies Program

**Assistant Professors**

L. Armstrong BA, MA (Dal), MDiv, MA, PhD (Tor), joint appointment with History
D. Clavero ProfHist (Saragossa), MA, PhD (Br Col)
T. Yu BA (HK), MA, PhD (Br Col), joint appointment with Interdisciplinary Studies

**Adjunct Professor**

P. Kingsley MLitt (Camb), PhD (Lond)
The 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, the study of the humanities raises critical questions about the achievements and controversies associated with the concept of civilization itself. Students will be encouraged to examine the knowledge and ideas central to the humanities and to integrate these concerns with their degree programs in original and critical ways.

Students must get approval and advice from the coordinator and/or advisor before being admitted.

Joint Major in English and Humanities

This joint major is for those interested in exploring the various relationships between the study of English literature and humanities. Interested 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 (see Department of English).

Humanities

Students must complete 15 credit hours which must include

- HUM 102-3 Classical Mythology
- and two of
- HUM 201-3 Great Texts in the Humanities I
- HUM 202-3 Great Texts in the Humanities II
- HUM 203-3 Great Texts in the Humanities III
- and two further humanities courses.

Upper Division Requirements

English

Students must complete 20 credit hours in upper division English courses, as follows. One from the series ENGL 300-308, one from the series ENGL 310-322, and the remainder from anywhere in the series ENGL 300-394 and ENGL 441-446. A CGPA of 2.0 in English must be maintained.

Humanities

Students must complete 20 credit hours comprising five courses that may include HUM 400-5.

Recommended

- HUM 305-4 Medieval Studies
- HUM 307-4 Carolingian Civilization
- HUM 311-4 Humanists and Humanism in the Italian Renaissance
- HUM 312-4 Renaissance Studies
- HUM 321-4 The Humanities and Critical Thinking

Joint Major in French and Humanities

This is an inter-departmental program for students who are interested in exploring 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 (see Department of French).

Humanities

Students must complete 15 credit hours which must include

- HUM 102-3 Classical Mythology
- and two of
- HUM 201-3 Great Texts in the Humanities I
- HUM 202-3 Great Texts in the Humanities II
- HUM 203-3 Great Texts in the Humanities III
- and two further humanities courses.

Upper Division Requirements

French

Students must complete 20 upper division hours in French including

- FREN 301-3 Advanced French — Composition I
- and one of
- FREN 360-3 Intermediate French Literature
- FREN 370-3 Introduction to French Linguistics II
- plus 14 credit hours from the 400 level French linguistics or literature offerings. FREN 461 and 462 is recommended.

Humanities

Students must complete 20 credit hours comprising five courses that may include HUM 400. HUM 307 and 311 are recommended.

Joint Major in History and Humanities

This joint major is designed for those interested in exploring the various relationships between the two disciplines. Students must plan their program in consultation with advisors in each department.

Lower Division Requirements

History

Students must complete the lower division requirements of the history major program (see Department of History).

Humanities

Students must complete 15 credit hours of credit which must include

- HUM 102-3 Classical Mythology
- and two of
- HUM 201-3 Great Texts in the Humanities I
- HUM 202-3 Great Texts in the Humanities II
- HUM 203-3 Great Texts in the Humanities III
- and two further humanities courses.

Upper Division Requirements

History

Students must complete the upper division requirements of the history major program (see Department of History).

Recommended

- HUM 320-4 The Humanities and Philosophy
- HUM 321-4 The Humanities and Critical Thinking

Philosophy

Students must complete 21 credit hours which must include PHIL 301.

Minor Program

Lower Division Requirements

Students must complete three lower division humanities courses for a total of nine credit hours. Because humanities study requires familiarity with philosophical concepts and an awareness of the past, it is recommended that students take one of HIST 105/106, PHIL 150 or 151 in their program. One of these courses may be counted in lieu of one lower division humanities course.

Upper Division Requirements

Students must complete 16 credit hours in upper division humanities courses comprising four courses or three courses plus HUM 400. Students with a strong interest in completing an individual research project are encouraged to including an individual research project to 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. Students must complete lower and upper division requirements as set out below.

Lower Division Requirements

Students must complete 18 credit hours of credit which must include a minimum of three lower division humanities courses. Because the study of the
humanities requires familiarity with philosophical concepts and an awareness of the past, students must also include the following. At least one of HIST 105-3 Western Civilization from the Ancient World to the Reformation Era and HIST 106-3 Western Civilization from the Reformation Era to the 20th Century and at least one of PHIL 150-3 History of Philosophy I and PHIL 151-3 History of Philosophy II. The remaining three credits can be chosen from the list above or from the lower division humanities course list.

Upper Division Requirements
Requirements are the same as for the minor program (see above).

Post-Baccalaureate Diploma in Humanities
This diploma is available for students who have already completed a bachelor’s degree. For information about the post-baccalaureate diploma program general regulations, refer to Continuing Studies.

Program Requirements
Students must successfully complete an approved program comprising 30 credit hours of upper division or graduate courses including at least 16 credits in humanities courses. Students should include HUM 400. The remaining 14 hours are selected in consultation with an advisor in the subject or discipline which most closely fits the goals of the student. For more information about the program contact the humanities advisor.

Latin American Studies Program
Director
M. Escudero-Faust BA, MA (S Fraser), PhD (Br Col)
Associate Members
R.E. Boyer, History
J. Brohman, Geography
A. Ciria, Political Science
M. Escudero, Interdisciplinary Studies
M. Gates, Anthropology
G. Otero, Sociology and Anthropology
G. Spurling, Interdisciplinary Studies
P.L. Wagner, Geography*
*emeritus
Advisor
Ms. N. Ludington, 6193 Academic Quadrangle, (604) 291-4790

Changes are being considered that may significantly affect programs in Latin American studies. Students contemplating entering one of the programs offered by this department are advised to check with the advisor regarding the status of the program in which they are interested. The advisor may be contacted at (604) 291-4790.

The Latin American studies program offers courses that specialize in the study of contemporary Latin America from a multidisciplinary perspective. The programs provide a sound background for students intending to pursue careers in teaching, journalism, travel, community relations, law, diplomacy, government, international trade, international development projects, as well as those intending to pursue advanced scholarly work. An integral complement to the degrees offered is the multidisciplinary field school in Latin America.

Minor Program
Latin American Studies is an interdisciplinary program designed to offer students the maximum opportunity to integrate their understanding of Latin America and its relationship with Canada, the Pacific Rim, and the world.

Language Requirements
Although all courses are taught in English, students must demonstrate a reading knowledge of Spanish (the equivalent of two college level courses) or Portuguese or, in exceptional circumstances, French. This ability is a recommended skill for upper division courses that frequently requires independent investigation of specialized topics.

Lower Division Requirements
Students must complete a total of 12 credit hours of Latin American Studies credit, including the following. 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 hours of Latin American studies, including at least 12 in LAS 300 and 400 division courses. The remaining three credit hours may be taken from upper division Latin American content courses.

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

Joint Major Programs
The Latin American studies program offers an interdisciplinary joint major in Latin American studies combined with selected disciplines leading to a bachelor of arts or a bachelor of business administration. Courses used for credit toward the upper division Latin American studies requirements may not be used as part of the other discipline’s credit requirements, or vice versa. The individual disciplines participating in the joint major program are anthropology, archaeology, business administration, communication, economics, geography, history, political science, sociology and Spanish.

Language Requirements
Students must complete the following four courses, or equivalents.
SPAN 102-3 Introductory Spanish I
SPAN 103-3 Introductory Spanish II
SPAN 201-3 Intermediate Spanish I
SPAN 202-3 Intermediate Spanish II

Latin American Studies Requirements
Lower Division Requirements
A minimum of 12 lower division hours is required including the following.

Upper Division Requirements
A minimum of 40 upper division credit hours is required, including at least 20 upper division credits in Latin American studies, and from 20 to 32 upper division credits in the joint discipline selected, as specified below.

Note: Students must also satisfy the lower division requirements of the selected joint discipline. (Please consult with appropriate department.)

Business Administration
Refer to the Business Administration section.

A minimum of 40 upper division credit hours is required, including at least 20 upper division credits in Latin American studies, and from 20 to 32 upper division credits in the joint discipline selected, as specified below.

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
Students must complete 20 credit hours in upper division anthropology. Students must fulfill the theory and methods requirements as specified for the anthropology major program.

Archaeology
Students must complete 20 credit hours in archaeology in the 300 and 400 division.

Economics
Students must complete 25 upper division credit hours including ECON 301, 305-5, and BUEC 333 and at least two 400 level economics courses.

Geography
Students must complete 32 credit hours in Geography as specified: 20 credit hours of 300 division courses including at least one course from Section A; and 12 credit hours of 400 division courses including at least one regional course on Latin America.

History
Students must complete 30 credit hours in upper division history, as required for history majors.

Political Science
Students must complete 32 credit hours in upper division political science, as required for political science majors. (POL 337 may not be used to satisfy LAS requirements.)

Sociology
Students must complete 20 credit hours in upper division sociology. Students must fulfill the theory and methods requirements as specified for the social science major program.

Spanish
Students must complete 20 credit hours in upper division Spanish.
Courses with Exclusive Latin American Content

Students are advised to consult the Undergraduate Courses or department concerned regarding prerequisites and descriptions for the courses listed. Because departments offer courses which are taught by a number of faculty with different professional interests, it should be noted that credit will be given for particular courses only when they are taught by instructors shown above as associated faculty. Other courses may be offered in addition to the ones below. Please consult with the Latin American studies advisor for a complete list each semester.

ARCH 273-3 Archaeology of the New World
ARCH 330-3 Prehistory of Latin America
BUS 439-3 North American International Trade Issues
GEOG 263-3 Selected Regions*
GEOG 466-4 Latin American Regional Development
HIST 208-3 Latin America: The Colonial Period
HIST 209-3 Latin America: The National Period
HIST 458-4 Problems in Latin American Regional History
HIST 459-4 Problems in the Political and Social History of Latin America
PUL 337-4 Government and Politics: Selected Latin American Nations I
SA 263-4 Peasants, Proletarians and the Global Economy*
SA 321-4 Social Movements*
SA 363-4 Processes of Development and Underdevelopment
SA 392-4 Latin America
SPAN 352-3 Texts of the Colonial Period
SPAN 456-5 Selected Topics in Modern Latin American Narrative
SPAN 457-5 Selected Topics in Modern Latin American Poetry and Theatre
*when the selected region is Latin America

Courses with Partial Latin American Content

Courses with partial Latin American content, or in which Latin America may be emphasized in a given semester, may be used to fulfill program requirements when their content is appropriately focused on the Latin American region. In questionable situations, consult course outlines in the department’s general office and confer with the advisor of the Latin American studies program for specific authorization. Students wishing to take a special topics course for credit toward a program in Latin American studies should have the course approved by the co-ordinator.

ARCH 379-3 American Southwest
CMNS 322-4 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 325-4 Studies in History I (Special Topics)
HIST 346-4 Studies in History II (Special Topics)
POL 342-4 Relations Between Developed and Developing Nations
POL 345-4 The Nation-State and the Multinational Corporation
POL 433-4 Comparative Developing Systems
SPAN 240-3 Introduction to Hispanic Literature
SPAN 460-3 Selected Topics

Field School

The LAS field school is unique in Canada, providing the opportunity to complete a full semester in Latin America, and at the same time, to gain through direct experience a deeper insight into the culture, politics, and economy of this increasingly important region. A group of three faculty and up to 30 students travel every second year to a selected location.

Co-operative Education

This co-op program is not available during the 1998/99 academic year. Students interested in taking a co-op program in this area are advised to check with the Faculty of Arts advisor (604) 291-5921 regarding the status of the co-op program.

Department of Linguistics


Chair
P. McFetridge BA, MA, PhD (S Fraser)

Professors Emeriti
G.L. Bursill-Hall MA (Camb), PhD (Lond), LLD (S Fraser)
J.A. Foley BA (Nebraska), PhD (MIT)
B.E. Newton MA (Ox)

Professors
D.B. Gerds BA (Missouri), MA (Br Coll), PhD (Calif)
N.J. Lincoln BA (Lond), MA (Alta), PhD (C'nell)
E.W. Roberts BA (Wales), MA, PhD (Camb)
R. Saunders BA (Penn State), AM, PhD (Brown)

Associate Professors
R.C. DeArmond BA (Waash), MA, PhD (Chic)
P. McFetridge BA, MA, PhD (S Fraser)
T.A. Perry BA (Wabash), MA, PhD (Indiana), Associate Dean of Arts

Assistant Professors
N. Hedberg BA, PhD (Minn)
Z. McRobbie PhD (EL Bud), PhD (Manit)
M. Munro BED, MSc, PhD (Alta)
J.M. Sosa Prof/Ling (Venezuela Central), MA (Lond), PhD (Mass)

Associated Faculty
F. Popowich, Computing Science
W. Turnbull, Psychology
J. Walls, Communication

Advisor
9200 Classroom Complex, (604) 291-5739

The Department of Linguistics offers honors, major and minor programs in linguistics. The department also participates in the interdisciplinary programs of the cognitive science program. Program requirements for the honors, major and minor programs are listed below. Students pursuing a linguistics program are urged to seek advice early in their programs from the department. Full course descriptions are given in Undergraduate Courses.

Courses of Interest to Students Outside the Department

The courses below are general interest courses designed to give insights into language and linguistics. None of these courses has 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 be of interest to students with particular language specialties (when they focus on the language of their interest).
LING 231-3 Introduction to an Amerindian Language I
LING 232-3 Introduction to an Amerindian Language II
LING 431-3 Language Structures I
LING 432-3 Language Structures II

Languages selected as a focus for these courses will be indicated in the Course Timetable and Exam Schedule for the semester in which the course will be 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 credit 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: Full course descriptions are given in the Undergraduate Courses section of this Calendar.
Joint Major in Linguistics and Sociology and Anthropology

Linguistics, sociology and anthropology are kindred disciplines, each concerned with the relation between culture, cognition and social relations. This joint major is aimed at students interested in acquiring a practical multidisciplinary expertise in the sociological or anthropological aspects of the study of language. The joint major should be of special interest to students pursuing the certificate in First Nations language proficiency of the certificate in native studies research, as well as to students interested in the anthropology of sociology of language and in sociolinguistics, anthropological linguistics, or cognitive science.

Lower Division Requirements

Linguistics

Students must complete both of
LING 130-3 Practical Phonetics
LING 220-3 Introduction to Linguistics
and one of
LING 241-3 Languages of the World
LING 260-3 Language, Culture and Society
plus six additional credit hours in 200 division LING courses. Note that LING 221 and 222 are required for most upper division LING courses.

Sociology and Anthropology

Students must complete both of
SA 101-4 Introduction to Anthropology
SA 255-4 Introduction to Social Research
and one of
SA 100-4 Perspectives on Canadian Society
SA 150-4 Introduction to Sociology
and one of
SA 201-4 Anthropology of Modern Life
SA 263-4 Peasants, Proletarians and the Global Economy
SA 286-4 Native Cultures of British Columbia
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.

For students interested in pursuing a sociolinguistic focus, the following is recommended.
SA 250-4 Introduction to Sociological Theory
STAT 203-3 Introduction to Statistics for the Social Sciences

Upper Division Requirements

Linguistics

Students must complete three of
LING 321-3 Phonology
LING 322-3 Syntax
LING 323-3 Morphology
LING 324-3 Semantics
LING 330-3 Phonetics
LING 331-3 Description and Analysis of a First Nations Language I
and one of
LING 332-3 Description and Analysis of a First Nations Language II
LING 408-3 Field Linguistics
LING 409-3 Sociolinguistics

plus nine additional credit hours in upper division LING courses. The following courses are recommended.
LING 407-3 Historical Linguistics
LING 430-3 Native American Languages
LING 441-3 Linguistic Universals and Typology

Sociology and Anthropology

Students must complete both of
SA 301-4 Key Ideas in Anthropology
SA 356-4 Quantitative Methods

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.

Certificate in First Nations Language Proficiency

This certificate program is intended for students who wish to acquire conversational and literacy skills in a particular First Nations language for purposes of teaching this language in elementary or secondary schools or to enhance their knowledge of a First Nations language for cultural reasons or professional objectives.

The certificate consists of 27 hours of course work. At least 12 of these must be earned by completing courses in the First Nations language itself.

The certificate can be taken on a full time or part time basis. Advanced placement through course challenge to a maximum of nine credit hours is possible for individuals who are already fluent in their language. Credit may be applied to a specific language and can be achieved by examination from an instructor in that language with the approval of the department.

Program Requirements

Students must complete or achieve equivalent credit for the following.
LING 130-3 Practical Phonetics
LING 220-3 Introduction to Linguistics
LING 231-3 Introduction to an Amerindian Language I*
LING 232-3 Introduction to an Amerindian Language II*
LING 331-3 Description and Analysis of a First Nations Language*
LING 332-3 Description and Analysis of a First Nations Language II*

In addition, students must complete at least nine credit hours selected from among the following courses.
LING 241-3 Languages of the World
LING 260-3 Language, Culture and Society
LING 360-3 Linguistics and Language Teaching
LING 430-3 Native American Languages
LING 431-3 Language Structures I*
LING 432-3 Language Structures II*

*These courses may only be counted towards a certificate if the subject matter of each is the same.

Certificate in Teaching ESL Linguistics

The department offers this certificate for students preparing to teach English as a second language. While the certificate by itself is not a specific employment credential, it constitutes preparation for advanced study in applied linguistics and ESL, and, when combined with appropriate professional certification, provides the specialized linguistic knowledge necessary for teaching English language skills in an environment in which some or all of the students are not native speakers of English.

The program will normally take five to six semesters to complete. The certificate may be earned concurrently with a major or minor in linguistics.

Monolingual students who have never studied any language other than English are strongly advised to take at least two courses (six credit hours) in a language other than English.

Program Requirements

The program requires successful completion of 12 credit hours as set out below, with a minimum grade point average of 2.0 calculated on the basis of grades in the specified required courses.

Lower Division

Required courses
LING 110-3 The Wonder of Words
LING 130-3 Practical Phonetics
LING 200-3 Introduction to the Description of English Grammar
LING 220-3 Introduction to Linguistics

Upper Division

Required courses
EDUC 220-3 Introduction to Education Psychology
LING 221-3 Introduction to Phonology
LING 241-3 Languages of the World
LING 260-3 Language, Culture, and Society

Recommended courses
EDUC 468-4 Recent Advances in the Teaching of English as a Second Language
LING 350-3 Language Acquisition

Post Baccalaureate Diploma in Teaching English as a Second Language

The Department of Linguistics and the Faculty of Education jointly offer this program. Students should apply to the departmental advisor for admission to the diploma program and should seek admission to the University separately. Applicants will be admitted by the joint steering committee made up of members of the Department of Linguistics and the Faculty of Education under the following general requirements.

• completion of a bachelor’s degree
• demonstrated knowledge of spoken and written English (see English Language Requirements in the Admission and Readmission section).
• an undergraduate concentration in one or more related disciplines such as linguistics, education, English or psychology. Completion of the certificate in TESL linguistics or an equivalent preparation is accepted as fulfilling this requirement. Students may be admitted on the condition that they take LING 310 in addition to the general requirements of the program.
• some academic training or demonstrated ability in a language other than English

Course Requirements

Students are required to complete a minimum of 12 credit hours chosen from the following three areas:
linguistics, education, and individual and social development. The requirements are as follows.

**Linguistics**

The program requires an understanding of the general principles of linguistic theory and analysis, as well as the linguistic structure of the English language, and acquaintance with a wide range of structures typical of the languages of English learners.

Students are required to take a total of 12 credit hours in upper division linguistics courses, consisting of the following:

- any two of
  - LING 321-3 Phonology
  - LING 322-3 Syntax
  - LING 323-3 Morphology
  - LING 324-3 Semantics
  - LING 330-3 Phonetics (6 credit hours)

**Note:** Students whose undergraduate record includes at least 12 credit hours from the above list or their equivalents must select approved substitutes from among 400 level linguistics courses to fulfill the requirement of six credit hours in this section.

Students may also select approved substitutes from among 400 level linguistics courses to fulfill the requirement of six credit hours in this section.

**Mathematics Program**

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Information on advisors and faculty members is in the *Department of Mathematics and Statistics* section in the Faculty of Science. Course descriptions and prerequisites are in the *Mathematics*, *Statistics*, and *Mathematics and Computing (MACM)* sections of *Undergraduate Courses*.

The Department of Mathematics and Statistics offers a program of study within the Faculty of Arts leading to the degree of bachelor of arts with a major or honors in mathematics. Students interested in a bachelor of science degree in mathematics should refer to Faculty of Science.

Requirements for the bachelor of arts in mathematics are set out below.

**Prerequisite Grade Requirement**

Students must obtain a C− grade or higher in mathematics and statistics courses and normally will not be permitted to enrol in any mathematics or statistics course for which a D grade or lower was obtained in any prerequisite.

**General Requirements**

Students planning to complete a bachelor of arts with a major or honors in mathematics must satisfy the Faculty of Arts requirements.

**Upper Division Requirements**

**Major**

At least 45 credit hours in upper division courses of which at least 30 must be in upper division mathematics, statistics or mathematics/computing science; mathematics majors will be required to take at least three 400 division mathematics, statistics or mathematics/computing science courses, none of which may be a directed studies, job practicum or honors essay course. Neither STAT 301 nor 302 nor 403 may be counted as part of the 30 credit hours. See *Faculty of Arts Breadth Requirements* for a listing of departments.

**Honors**

At least 60 credit hours in upper division courses, of which at least 50 must be in upper division mathematics, statistics or mathematics/computing science; mathematics honors students require at least five 400 division mathematics, statistics or mathematics/computing science courses, none of which may be a directed studies, job practicum or honors essay course. Neither STAT 301 nor 302 nor 403 may be counted as part of the 50 credit hours. See *Faculty of Arts Breadth Requirements* for a listing of departments.

**Extended Minor Program**

An extended minor program consists of the lower division requirements for a major and the upper division requirements for a minor. Other criteria may be set by individual departments and programs. A student must have their program approved by the advisor for the extended minor program.
Upper Division Requirements

Students are required to complete at least 30 credit hours upper division credit including the following courses.

PHIL 301-3 Epistemology at least one of
PHIL 320-3 Social and Political Philosophy
PHIL 321-3 Moral Issues and Theories
PHIL 421-4 Ethical Theories at least one of
PHIL 341-3 Philosophy of Science
PHIL 343-3 Philosophy of Mind
PHIL 344-3 Philosophy of Language I at least two of
PHIL 350-3 Ancient Philosophy
PHIL 353-3 Locke and Berkeley
PHIL 354-3 Descartes and Rationalism
PHIL 355-3 Hume and Empiricism
PHIL 451-4 Kant
PHIL 452-4 19th Century European Philosophy
PHIL 453-4 Background to Analytical Philosophy

Honors Program

An honors program is offered for students interested in advanced work in philosophy, and is strongly advised for students who plan to pursue a postgraduate degree in philosophy.

Course Requirements

Entering students must first complete 60 credit hours including 16 hours of philosophy, must fulfill lower division requirements for the philosophy major program listed above, and must complete PHIL 301. A GPA of 3.0 or higher for all philosophy courses normally is expected for entrance to, and continuation in, the program but does not by itself guarantee either. Students proposing honors must submit an application (available in the department office), and consult the undergraduate advisor. After one semester in the honors program, a candidate must, in consultation with the undergraduate advisor, devise a program of studies. Consideration of the application and proposed program of studies will be based on the department’s assessment of the student’s potential for advanced work.

Students pursuing honors must

• fulfill the requirements of the philosophy major program

• complete a total of at least 50 credit hours of upper division courses in philosophy

• complete two honors tutorials in the last semester, or last two semesters, of the program

Tutorials offer sufficient time to examine in depth several philosophical topics in a general area such as ethics, metaphysics, philosophy of mind, etc. The honors candidate must achieve a grade of B or higher in each honors tutorial to receive the honors degree.

Minor Program

Course Requirements

Students must complete at least eight philosophy courses including at least five courses in the upper division. These courses may be either an individually designed program or those given in the core program below.

one of
PHIL 100-3 Knowledge and Reality
PHIL 110-3 Introduction to Logic and Reasoning
all of
PHIL 120-3 Facts and Values
PHIL 203-3 Metaphysics
PHIL 301-3 Epistemology

plus at least four additional upper division courses

With the help of the undergraduate advisor, a student may design a minor program with an emphasis that complements a special interest. For example, programs may be designed for students with an interest in law, language, natural or social science, history of ideas, social theory, value theory or logic.

Extended Minor Program

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

Joint Major in Philosophy and Humanities

Program information may be found in the Humanities section.

Seminars and Special Topics Courses

A student may not enrol in a philosophy seminar or selected topics course which deals with a general topic for which the student has received credit in another philosophy seminar or special topics course.

Reading Lists and Course Outlines

Reading lists and course outlines are available at the Department of Philosophy. The content of some courses varies considerably.

Program in Cognitive Science

Program information may be found within the Faculty of Arts section.

Upper Division Courses Listed by Field (partial listing)

Epistemology and Metaphysics

The following two courses are continuations of PHIL 100 and 203 at a more advanced level.

PHIL 301-3 Epistemology
PHIL 455-4 Contemporary Issues in Epistemology and Metaphysics

Logic

The following two courses offer concentrated work in logic and are continuations of PHIL 210 and 214.

PHIL 310-3 Modal Logic and its Applications
PHIL 314-3 Topics in Logic I

Ethics and Aesthetics

The following are continuations of PHIL 120 and 220, and present a wide range of issues and topics in ethics, and in political and social philosophy.

PHIL 320-3 Social and Political Philosophy
PHIL 321-3 Moral Issues and Theories
PHIL 421-4 Ethical Theories

The following course is a continuation of PHIL 242.

PHIL 325-3 Philosophy of Art II

History of Philosophy

The following are continuations of PHIL 150 and 151, and examine, at a more advanced level, the philosophical foundations of Western culture.

PHIL 350-3 Ancient Philosophy
PHIL 353-3 Locke and Berkeley
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 329-4 Selected Topics in Canadian Government and Politics
POL 347-4 Introduction to Canadian Foreign Policy
POL 422-4 Canadian International Security Relations
POL 423-4 BC Government and Politics
POL 424-4 Quebec Government and Politics
POL 425-4 Political Leadership in Canada
POL 426-4 Canadian Political Behaviour
POL 427-4 The Legislative Process in Canada
POL 428-4 Selected Topics in Canadian Government and Politics I
POL 429-4 Selected Topics in Canadian Government and Politics II
*These courses may require special prerequisites.

Field C Comparative Government and Politics
POL 231-3 Introduction to Comparative Government and Politics
POL 330-4 Government and Politics: Selected West European Nations
POL 332-4 Government and Politics: United States
POL 333-4 Soviet and Post-Soviet Political Systems
POL 334-4 East European Political Systems
POL 335-4 Government and Politics: People’s Republic of China I
POL 336-4 Government and Politics: People’s Republic of China II
POL 337-4 Government and Politics: Selected Latin American Nations I
POL 339-4 Selected Topics in Comparative Government and Politics
POL 381-4 Government and Politics: Japan I
POL 392-4 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 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 Public International Law
POL 345-4 The Nation-State and the Multinational Corporation
POL 346-4 International Organizations
POL 347-4 Introduction to Canadian Foreign Policy
POL 348-4 International Conflict Resolution
POL 349-4 Selected Topics in International Relations
POL 352-4 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 in the European Economic Community
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 Introduction to Local Government and Politics
POL 351-4 The Public Policy Process
POL 352-4 Canadian Local and Urban Government and Politics
POL 353-4 Public Administration (Public Sector Management)
POL 354-4 Comparative Metropolitan Governance
POL 355-4 Governing Instruments
POL 357-4 Public Law
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 Issues in Policy Innovation
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
*These courses may require special prerequisites.

Major Program

Lower Division Requirements
Students must complete POL 100 and either POL 201 (formerly POL 213) or STAT 203. If a student plans to take both POL 201 and STAT 203, a Field A credit may be claimed for POL 201. In this situation, it is recommended that POL 201 be taken before STAT 203.
In addition to POL 100 and 201, 12 credit hours in lower division POL courses, covering at least three of the five fields of study, are required.

Upper Division Requirements
Students are required to complete 32 credit hours of upper division POL courses, covering at least three of the five fields of study. Eight of these 32 credit hours must be at the 400 level. This allows a student to concentrate coursework in one field of study while attaining a broader understanding of the political science discipline.

Honors Program
Students with a CGPA of 3.0 and an upper division GPA of 3.33 are encouraged to apply for the honors program.
program. Application forms are available from the departmental advisor. A complete application includes the essay proposal for POL 499 (Honors Thesis) and a letter of evaluation from the faculty member who has agreed to supervise and evaluate the essay. Once the application is submitted, it will be reviewed by the undergraduate studies committee in the semester prior to entrance in the honors program.

**Lower Division Requirements**

Students must complete POL 100 and either POL 201 (formerly POL 213) or STAT 203. If a student plans to take both POL 201 and STAT 203, a field A credit may be claimed for POL 201. In this situation, it is recommended that POL 201 be taken before STAT 203.

In addition to POL 100 and 201, 12 credit hours in the five fields of study, are required.

**Upper Division Requirements**

Students must take a total of 53 credit hours in upper division POL courses, covering at least three fields of study. Of these 53 credit hours, 16 must be concentrated in one field of study and five must be credited from POL 499 (Honors Essay). As well, 16 of these 53 credit hours must be at the 400 level.

An honors program option in each of the fields of study is not always offered. Current information is available from the departmental advisor.

**Minor Program**

Lower Division Requirements

Students must complete POL 100 and at least nine additional credit hours in lower division POL courses.

Upper Division Requirements

Students are required to complete 16 upper division credit hours in any of the fields of study.

Extended Minor Program

The extended minor program is based on the lower division requirements (100 and 200 level courses) of the major program and the upper division requirements (300 and 400 level courses) of the minor program.

**Joint Major in French, History and Politics**

For information see the Department of French section.

**Joint Major in Political Science and Business Administration**

The political science requirements are as follows: 15 credit hours in lower division POL courses, including POL 100, 151 and 251 and six credit hours in two fields other than Field E; 24 credit hours in upper division POL courses including at least eight credit hours in field E and at least 16 credit hours in two fields other than field E. Students are encouraged but not required to take POL 201 or STAT 203.

Students must qualify for, receive admission to, and must remain qualified for continuance in the Faculty of Business Administration as well as being accepted by the Department of Political Science.

Students may opt for a Faculty of Arts or Faculty of Business Administration degree and must satisfy all the requirements of that faculty.

For further information see the political science or business administration departmental advisor. See Faculty of Business Administration for details.

**Joint Major in Political Science and Canadian Studies**

The lower division requirements of this program are identical to those of the major program in political science except that students are encouraged but not required to take POL 201 or STAT 203. The political science requirements for upper division courses are as follows. A student must complete 32 credit hours in three of the five fields of study. Up to 12 credit hours that are available for credit in both political science and Canadian studies may count toward the upper division requirements of both departments.

For further information see the political science or Canadian studies departmental advisor. Complete details are in Centre for Canadian Studies.

**Joint Major in Political Science and Economics**

This program explores the two fields of political science and economics, and is designed to develop a deeper appreciation of the ways in which economic and political phenomena condition and interact with one another in the modern world. Students should 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 STAG 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

Each of the following must be competed with a grade of at least C+ prior to admission to the joint major program.

BUEC 232-3 Elementary Economic and Business Statistics I ECON 103-3 Principles of Microeconomics ECON 105-5 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 PHYH course

**Upper Division Requirements**

Political Science

Students must complete 24 credit hours from at least three political science fields of study, including a minimum of eight credit hours (two courses) in field E. Beyond field E, the following are highly recommended.

BUEC 323-3 Economic and Business Statistics I ECON 208-3 History of Economic Thought ECON 250-3 History of Economic Development (A) ECON 252-3 History of Economic Development (B) ECON 309-5 Introduction to Marxian Economics ECON 353-5 Economic History of Canada ECON 355-5 Comparative Economic Systems ECON 404-3 Honors Seminar in Methodology of the Social Science ECON 409-3 Seminar in Economic Thought ECON 450-3 Seminar in Quantitative Economic History ECON 451-3 Seminar in European Economic History

**Joint Major in Political Science and Latin American Studies**

Political science requirements are identical to the major program except that students are encouraged but not required to take POL 201 or STAT 203. POL 337 may not be used to satisfy Latin American studies requirements.

For further information see the political science or the Spanish and Latin American studies departmental advisor. Complete details are provided in the Latin American Studies Program section.

**Joint Major in Political Science and Women’s Studies**

This program explores both the political dimensions and context of women’s experience, and the impact of women and feminist theory on the practice and study of politics. Consult advisors in both departments.

**Lower Division Requirements**

Political Science

POL 100-3 Introduction to Politics and Government plus one of BUEC 232-3 Elementary Economic and Business Statistics I CRIM 220-3 Research Methods in Criminology POL 201-3 Research Methods in Political Science* PSYC 201-4 Research Methods in Psychology SA 255-4 Introduction to Social Research STA 203-3 Introduction to Statistics for the Social Sciences STA 270-3 Introduction to Probability and Statistics plus an additional nine credit hours of lower division courses taken from three of the five fields of study (field A, C, D and/or E), for a total of 15 lower division credit hours.

*Recommended
Women’s Studies
WS 101-3 Introduction to Women’s Issues in Canada
WS 102-3 Introduction to Western Feminisms
plus three of
WS 200-3 Women in Cross Cultural Perspectives
WS 201-3 Women in Canada, 1600-1920
WS 202-3 Women in Canada, 1920 to the Present
WS 203-4 Female Roles in Contemporary Society
WS 204-3 Women, Science and Technology
WS 205-3 Women and Popular Culture
WS 206-3 Women’s Issues in Health and Health Care

Upper Division Requirements
Political Science
Students must complete 24 upper division credit hours from at least three political science fields of study. It is strongly recommended that POL 416 be included in this selection.

Women’s Studies
Twenty credits in upper division women’s studies courses are required, including one 400 level seminar. Students who have taken WS 311, 312 or 400 have met this requirement.

Co-operative Education Program
The department offers co-operative education for qualified students who wish to obtain practical experience related to their studies in political science. The program entails planned study semesters and employment. This program is competitive. Not all applicants will be able to participate in exactly the placements they choose, but the faculty co-op program does endeavor to provide a placement to all qualified applicants.

To be eligible for admission, students must have completed 30 semester hours with a minimum CGPA of 3.0. Transfer students must complete at least 15 semester hours at Simon Fraser University. For further details, refer to the Co-operative Education section. Arrangements for work semesters are made through the Faculty of Arts co-op coordinator who should be consulted at least one semester in advance.

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M. Kimball BA (Macleaster), PhD (Mich)
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E.M. Coles BSc, PhD (Lond)
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W.R. Krane BA (Windsor), MA, PhD (York)
R.G. Ley BA (S Fraser), MA, PhD (Wat)
R. Mistlberger BA (Ma, McG), PhD (Chic)
M.M. Moretti BA (Brock), MA, PhD (S Fraser)
W. Turnbull BA (Tor), MA, PhD (N Carolina)
R.D. Wright BA (Br Col), MA, PhD (WOnt)

Assistant Professors
M.D. Maraun BA (S Fraser), MA (Guelph), PhD (Tor)
A.E. Thornton BA (Minnesota), MSc (Memphis State), PhD (Memphis)**
N.V. Watson BA, MA (WOnt), PhD (Br Col)

Adjunct Professors
R. Atkinson BA, MA, PhD (Manit)
J. Anderson BA (Harv), PhD (Br Col)
D. Boer BSc, MSc, PhD (Alta)
R. DOLL MSC (BR COL), MSW (TOR.D. Eaves MB, CHB (Liv)
R. Holland BA (York), MD (McMasten), FRCP
E. Huntsman BA (Azusa Pacific), MA (Pepperdine), PhD (Wash)
M. Kendrick BA, MA, PhD (Br Col)
D. Kimura BA, MA, PhD (McG)
W. Koch BA (Montana), MA, PhD (Alta)
A. Kowaz BA (Brandeis), MA, PhD (S Fraser)
R. Kropp BA (Br Col), MA, PhD (S Fraser)
J. McEwan BA (McMaster), MA (Br Col), PhD (Vic)
G.H. Nemetz BA, MA, PhD (Br Col)
C. Smiley BA, MA, PhD (McMasten), PhD (Memphis)
R. Tonkin MDM (McG)
S. Welch PhD (Man)

Associate Members
R. Corrado, Criminology
B.M.F. Galdikas, Archaeology
A. Horvath, Education
R. Judd, Educational Sciences
J. Perkins, Biological Sciences
C. Smiley, Biological Sciences
L. Spence, Biological Sciences

Laboratory Instructors
R. Day BA (Vic), MA, PhD (S Fraser)
L.J. Foster BA, MA (New Br)
E. Michno BA (Wat)

Senior Lecturer
G.D. Poole BA (Br Col), MA (San Diego), PhD (S Fraser)

Advisors
Ms. H. Rhodes, 5252 Classroom Complex, (604) 291-3359
Ms. B. Davino, 5249 Classroom Complex, (604) 291-4840

Letters of Permission
See also the General Information section of the Calendar.

The Department of Psychology does not normally approve letters of permission for students already registered at Simon Fraser University 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 inquiries 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 I
PSYC 102-3 Introduction to Psychology II
PSYC 201-4 Research Methods in Psychology
PSYC 210-4 Data Analysis in Psychology

Note: The above requirement applies to courses transferred from other institutions as well as to courses taken at Simon Fraser University.

PSYC 100 should be taken in the first semester and PSYC 102 should follow PSYC 100 as early as possible. (Concurrent registration in PSYC 100 and 102 is not permitted.) PSYC 201 and 210 should be taken during the first four semesters.

To receive a major in psychology, students must
• meet the graduation requirements of the University (see General Information section) and Faculty of Arts (see Faculty of Arts section – Graduation Requirements)
• successfully complete one course from each of the following groups.
  Group A – PSYC 221 or 280
  Group B – PSYC 241, 250, 260, 270
• successfully complete 30 credit hours in upper division psychology, including either PSYC 307 or 308.
• No more than eight credits in directed studies courses may be applied to the psychology major. A minimum of 15 credit hours of upper division core work in psychology must be completed at Simon Fraser University.

Honors Program
Admission
Psychology majors wishing to apply to the honors program should obtain the appropriate form from the psychology general office. The deadline for application submission is March 15th each year.

Admission requires a CGPA of 3.0 for the following courses.

PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
PSYC 201-4 Research Methods in Psychology
PSYC 210-4 Data Analysis in Psychology

Other admission requirements are as follows.
• successful completion of one course from each of the following groups.
  Group A – PSYC 221 or 280
  Group B – PSYC 241, 250, 260, 270
• completion of 75 credit hours of course work with a minimum cumulative grade point average of 3.0
• a minimum GPA of 3.0 in Simon Fraser University psychology courses
• successful completion of 15 credit hours of psychology course work at Simon Fraser University
• approval and signature of a faculty member willing to advise the honors project. Students having difficulty finding an honors advisor should contact the departmental undergraduate advisor for assistance.
• the department expects to give clear admission to eligible applicants whose Simon Fraser University GPA is at least 3.33. Applications from students with a lower CGPA will be held until spring semester grades are known, and will then be considered on an individual basis.
Continuation
To remain in the honors program, students must:
• maintain a minimum 3.0 or higher grade point average for all courses taken in each semester
• maintain a minimum 3.0 or higher grade point average for all psychology courses taken in each semester
Students not meeting the requirements may be dropped from the program, but may apply for readmission at a later date.

Completion
To receive honors in psychology students must successfully complete 60 upper division credit hours, of which 50 must be in upper division psychology, including:
PSYC 301-4 Intermediate Research Methods and Data Analysis*
plus one of PSYC 307-4 Historical Foundations of Psychology PSYC 308-4 History and Systems of Modern Psychology
plus all of PSYC 402-5 Historical and Theoretical Issues in Psychology
PSYC 490-5 Honors Project**
PSYC 499-5 Honors Project**
taken as soon as possible after PSYC 210 and prior to entry to the honors program
**together comprise the honors project and are taken only after completion of 90 credit hours, with at least 20 in upper division psychology
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 honors graduation requirements of the University and the Faculty of Arts and obtain certification by the undergraduate studies committee that the program has been satisfactorily completed.

Minor Program
To be admitted to the minor program, students must obtain a final course grade of C (2.0) or better in each of the following courses.
PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
PSYC 201-4 Research Methods in Psychology

Note: The above requirement applies to courses transferred from other institutions as well as to courses taken at Simon Fraser University.
For a psychology minor, students must complete one of PSYC 221, 241, 250, 260, 270 or 280 and a minimum of 15 credit hours of upper division psychology courses with a cumulative grade point average of 2.0. No more than 3 credit hours may be in directed studies courses. At least eight upper division credit hours must be taken at Simon Fraser University.
Students who are approved majors or honors in criminology and are intending to do a minor in psychology, and who have successfully completed CRIM 120 (with a final course grade of C [2.0] or better), may request a waiver for PSYC 201 by petitioning the psychology undergraduate advisor. If this waiver is granted, an additional three credit upper division psychology course must be selected to replace it.

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

Joint Major in Psychology and Criminology
This program is for those interested in exploring various relationships between the study of criminology and psychology. Students are encouraged to consult advisors in both the Department of Psychology and the School of Criminology.
To be admitted, students must satisfy the admission requirements for majors in both criminology and psychology (refer to those sections of the Calendar). To continue in the joint major, students must maintain a CGPA of 2.25, and will not be permitted to register in upper division criminology courses with a CGPA of less than 2.25. However, a student whose CGPA is between 2.00 and 2.25 may be eligible for a major in psychology.

Criminology Requirements
Group A Lower Division Requirements

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 203-2 Historical Reaction to Crime and Deviance
CRIM 210-3 Law, Youth, and Young Offenders
CRIM 213-3 The Female Offender
CRIM 231-3 Introduction to the Judicial Process
CRIM 241-3 Introduction to Corrections
CRIM 251-3 Introduction to Policing

Students who opt to take CRIM 220 must obtain from the Department of Psychology a waiver of the PSYC 220 prerequisite for PSYC 210 and all 300/400 division PSYC courses, in advance of attempting to register for any of these courses. Students who opt to 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.

Group B Lower Division Requirements

PSYC 100-3 Introduction to Psychology I*

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 Philosophical Concepts and Reasoning
PHIL 120-3 Introduction to Moral Philosophy
PHIL 150-3 History of Philosophy I
PHIL 151-3 History of Philosophy II
PHIL 220-3 Introduction to Social and Political Philosophy
PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
PHIL 280-3 Introduction to Existentialism

Upper Division Requirements

all of CRIM 300-3 Current Theories and Perspectives in Criminology
CRIM 320-5 Advanced Research Issues in Criminology
CRIM 330-3 Criminal Procedure and Evidence
plus a minimum of 12 credit hours of upper division criminology group A courses (excluding CRIM 369 and 462) and six credit hours of upper division non-criminology (group B) courses other than psychology.

Psychology Requirements

Lower Division Requirements

all of PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
PSYC 210-4 Data Analysis in Psychology*

plus one of CRIM 220-3 Research Methods in Criminology*
PSYC 201-4 Research Methods in Psychology*

plus one of PSYC 221-3 Introduction to Cognitive Psychology
PSYC 280-3 Biological Bases of Behaviour

plus one of PSYC 241-3 Introduction to Abnormal Psychology
PSYC 250-3 Child Psychology
PSYC 260-3 Introduction to Social Psychology
PSYC 270-3 Introduction to Personality

*students must obtain a final course grade of C (2.0) or better in each of these courses.

Upper Division Requirements

Students must complete a minimum of 21 credit hours of upper division psychology courses including at least one of PSYC 307 or 308.

Joint Major in Psychology and Business Administration

For information, see the Faculty of Business Administration section.

Joint Major in Psychology and Women’s Studies

For information, see Department of Women’s Studies.

Co-operative Education Program

The department offers co-operative education for qualified students who wish practical experience in psychology. The program entails planned study semesters and employment in the area of the student’s choice.

Note: This program will not provide training in clinical psychology or therapeutic techniques which can be obtained only through approved clinical psychology graduate programs.

To be eligible for admission, students must have completed 30 credit hours with a minimum CGPA of 3.0. Prior to admission, students must complete PSYC 100, 102, 201 and 210 or their equivalents. Transfer students must complete at least 15 credit hours at Simon Fraser University.

For further details, refer to the co-operative education section. Arrangements for work semesters are made through the Faculty of Arts co-op coordinator who should be consulted at least one semester in advance.
Advice to Students from Other Departments

Students who are not taking a major, minor or honors program in psychology may take psychology courses if they meet the prerequisites or special instructions. The listed prerequisites indicate the minimal background expected by instructors who teach the courses.

Preparation for Graduate Study

Graduate schools generally have more applicants than they can accept. Most psychology graduate schools screen applicants on the following.

- grade point average
- graduate record exam scores
- research experience (e.g. completion of an honors project, employment in research-related areas, completion of independent research projects).
- three letters of recommendation from faculty members

A detailed description of admission requirements in Canadian and US universities may be found in Graduate Study in Psychology published by the American Psychological Association.

For details of University admission requirements see Graduate Studies.

Psychology and Statistics

In most areas of psychology, a level of statistical sophistication is required before one can undertake independent research or evaluate the research of others. The department offers several courses in research methodology and data analysis: PSYC 201, 210, 301, 311, 410 and 430. 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.

Suggested Sequence For First Four Semesters

Typical Program for Majors and Honors in Psychology

Level 1 PSYC 100-3
Level 2 PSYC 102-3
Level 3 PSYC 201-4 and courses at the 200 division Level 4 PSYC 210-4 and courses at the 300 division

Directed Studies Courses (PSYC 493-498 inclusive)

These courses enable an individual student or a small group of students to work with a faculty member on a reading or research project of mutual interest. Common reasons for a student requesting such a course are

- the continuation of a reading or research project begun in a 400 level seminar
- covering material not covered in the regular course offerings
- the completion of a research or reading project which does not fall within the terms of reference of other courses

Directed studies courses may not duplicate material covered in other psychology courses.

The minimum entry requirements are a B (3.0) average and at least 60 credit hours. In addition, department permission is required. Students taking a directed studies course complete an application form (available in the department) in conjunction with the intended instructor.

Students taking psychology major or honors may count no more than eight credit hours of directed studies toward the required number of upper division psychology credits.

Department of Sociology and Anthropology


Affiliation with the two divisions within the department is shown as follows.

A – anthropology
S – sociology

Chair
E. Gee BA, PhD (Br Col)

Professors Emeriti
H. Dickie-Clark BA (Rhode), PhD (Natal) – S
K. Peter BA, MA, PhD (Alta) – S

I.R. Whitaker MA (Camb), DPhil (Osl) – A

Professors

H. Adam Dipl Sociol DrPhil (Fran), Habilitation – S
N. Dyck BA, MA (Sask), PhD (Manc) – A
E. Gee BA, PhD (Br Col) – S
M. Howard BA, MA, PhD (W Aust) – A
M. Kenny BA, MA (Virginia), DipSocAnthrop, DPhil (Oxf) – A
R.W. Wylie BA (Leic) – S

Associate Professors
I. Angus BA, MA (Wat), PhD (York) – S
M. Boelscher-Ignace MA (Göt), PhD (S Fraser)** – A
P. Dossa BA, MA (Edin), PhD (Br Col) – A
M. Gates BA (Sheff), MA, PhD (Br Col) – A
D. Lacombe BA (Sherbrooke), MA, PhD (Tor)* – S
A.T. McLaren BA (Br Col), MA (Iowa), PhD (Lond) – S
G. Otero BA (Montreerry), MA (Tex), PhD (Wis) – S
S. Pigg BA, MA, PhD (C’nell) – A
S. Pigg BA, MA, PhD (Edin) – S
H. Sharma MA (Delhi), MS (Cleveland), PhD (C’nell) – S
G.B. Teeple BA, MA, PhD (Tor), DPhil (Sus) – S
J.M. Whitworth BA (Leic), DPhil (Oxf) – S

Assistant Professors
D. Culhane BA, PhD (S Fraser) – A
K. Froschauer BA, MA (Br Col), PhD (Carl) – S

Lab Instructor
C. Szafnicki BA (Lodz), PhD (Warsaw) – A

Lecturer
G. Nicholas BA (F Pierce Coll), MA (Missouri), PhD (Mass)

Advisor
Ms. K. Payne, 5056 Academic Quadrangle, (604) 291-3726

*Joint appointment with Criminology
**Joint appointment with First Nations Studies

The Department of Sociology and Anthropology offers courses that provide theoretical and analytical tools to better understand the social and cultural forces that affect our lives and those of people in other societies. Such understanding is an important part of general education and should lead to more effective participation in society. Simon Fraser University sociologists and anthropologists conduct research and teach on 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 anthropology. Honors and majors in sociology and anthropology are available only to SA major and honors students.

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.

A number of courses in other departments are relevant to certain areas of sociology and anthropology. Honors and majors in sociology and 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 who may go on for graduate studies should include an appropriate second language in their program.

Note: To assist students in planning an interdisciplinary program, courses listed in the Undergraduate Courses are designated as follows.

A – anthropology
S – sociology

An SA course can be counted as either sociology or anthropology.

Major Programs

General Requirements

Lower division requirements provide students with a broad introduction to both disciplines, to the critical analysis of Canadian society, to the basic logic and methods used in social research, and to the application of these methods to topics of special interest to the student.

Students should complete all lower division requirements before proceeding to upper division courses.

Lower Division Requirements

Students must complete 23 credit hours in lower division courses. The following required courses must be included.

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

*Not required for anthropology major program.
**Students with an equivalent post-secondary statistics course are exempt from this course. It is highly recommended that students take SA 255 before taking SA 250.
In choosing lower division courses, students should keep in mind the prerequisite requirements for upper division courses.

**Upper Division Requirements**

Students must meet requirements in theory and methods courses detailed below (see program options following for specific requirements). In our increasingly information based society, many employers and most graduate schools require considerable knowledge of the processes involved in conceptualizing research problems, information gathering, analysis and presentation. Students are strongly urged to prepare by balancing theory courses with methods courses over and above the required minimum. Beyond this minimum, they may choose to range broadly across the two disciplines or to focus on a special interest. Courses fall broadly into the following groups.

**Anthropological Theory and Institutions of Social Life**

SA 301-4 Key Ideas in Anthropology
SA 323-4 Symbol, Myth and Meaning
SA 332-4 The Anthropology of Domestic Life
SA 364-4 Urban Communities and Cultures
SA 371-4 The Environment and Society
SA 401-4 The Politics of Culture in Contemporary Societies
SA 402-4 The Uses of Anthropology
SA 451-4 Advanced Anthropological Theory
SA 467-4 Anthropology of the Self
SA 472-4 Anthropology and the Fast

**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 Issues in Northwest Coast Studies

**Ethnic Relations**

SA 303-4 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 339-4 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 383-4 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

**Sociology Major Program**

In addition to the lower division requirements specified earlier (see General Requirements), students must complete 32 credit hours in upper division SA courses, 20 of which must be in sociology, with the remaining 12 credit hours in anthropology.

**Theory Requirement**

Theory requirements should be taken as early as possible in the student’s upper division program. Sociology majors must take the following course.

SA 350-4 Classical Sociological Thought

**Methods Requirements**

Methods requirements should be taken as early as possible in the student’s upper division program. Sociology majors must take one of

- POL 315-4 Quantitative Methods in Political Science
- SA 355-4 Quantitative Methods

and one of

- SA 356-4 Qualitative Methods
- SA 357-4 Survey Methods

**Note:** Students are strongly urged to balance theory courses with methods courses over and above the required minimum.

**Anthropology Major Program**

In addition to the lower division requirements specified earlier (see General Requirements), students must complete 32 credit hours in upper division SA courses, 20 of which must be in anthropology, with the remaining 12 credit hours in sociology.

**Theory Requirement**

Theory requirements should be taken as early as possible in the student’s upper division program. Anthropology majors must take the following course.

SA 301-4 Key Ideas in Anthropology

**Methods Requirements**

Methods requirements should be taken as early as possible in the student’s upper division program. Anthropology majors must take the following course.

SA 355-4 Quantitative Methods
SA 356-4 Qualitative Methods
SA 355 and 472 are strongly recommended.

**Note:** Students are strongly urged to balance theory courses with methods courses over and above the required minimum.

**Applied Social Research Stream**

Students wishing a broader preparation in research methods may choose this special stream. Please see the departmental advisor for details.

**Joint Major Programs**

**Joint Major in Archaeology and Anthropology**

See the Archaeology section for requirements.

**Joint Major in Art and Culture Studies and Anthropology**

See the Contemporary Arts section for requirements.

**Joint Major in Art and Culture Studies and Sociology**

See the Contemporary Arts section for requirements.

**Joint Major in Sociology and Anthropology**

In addition to lower division requirements specified earlier (see General Requirements), 40 credit hours in upper division SA courses must be completed, 20 of which must be in sociology and 20 in anthropology.

**Theory Requirements**

Theory requirements should be taken as early as possible in the student’s upper division program. Sociology/anthropology joint majors must take the following courses.

SA 301-4 Key Ideas in Anthropology
SA 350-4 Classical Sociological Thought

**Methods Requirements**

Methods requirements should be taken as early as possible in the student’s upper division program. Sociology/anthropology joint majors must take one of the following courses.

- POL 315-4 Quantitative Methods in Political Science
- SA 355-4 Quantitative Methods
- SA 356-4 Qualitative Methods

**Note:** Students are strongly urged to balance theory courses with methods courses over and above the required minimum.

**Joint Major in Sociology or Anthropology and Canadian Studies**

See the Department of Canadian Studies section for requirements.

**Joint Major in Sociology and Anthropology and Communication**

Sociology, anthropology and communications overlap in many of their concerns: the nature, production, commodification, and politics of culture; the relation between communicative processes and social identity, class, gender, etc. The sociology and anthropology and communication joint major is recommended for students who share these common interests.

Students must fulfill the lower and upper division requirements for both sociology and anthropology, as listed below.

**Lower Division Communication Requirements**

Students must complete a minimum of 18 lower division credit hours (six courses) in communication including

CMNS 110-3 Introduction to Communication Studies
CMNS 130-3 Explorations in Mass Communication
plus one of CMNS 260-3 Introduction to Empirical Communication Research Methods
CMNS 261-3 Documentary Research in Communication
plus three additional lower division CMNS courses

**Lower Division Sociology Requirements**

Students must complete all of

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
and one of

CMNS 260-3 Introduction to Empirical Communication Research Methods
STAT 203-3 Introduction to Statistics for the Social Sciences

**Lower Division Anthropology Requirements**

Students must complete all of

SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 255-4 Introduction to Social Research
and one of

SA 201-4 Anthropology of Contemporary Life
SA 245-4 Introduction to Visual Anthropology
and one of

CMNS 260-3 Introduction to Empirical Communication Research Methods
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 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 one of
CRIM 220-3 Research Methods in Criminology
SA 255-4 Introduction to Social Research
plus one other CRIM course as an elective
plus one of
PHIL 101-3 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 all of
PSYC 102-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
plus one of
PHIL 101-3 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
SA 101-4 Introduction to Anthropology
SA 100-4 Perspectives on Canadian Society
SA 104-4 The Politics of Culture in Contemporary Societies
SA 402-4 The Uses of Anthropology
plus one of
SA 201-4 Anthropology of Contemporary Life
SA 202-4 Post-Industrial Society
SA 204-4 Comparative Ethnic Relations
SA 286-4 Native Cultures of British Columbia
plus one of
SA 300-4 Cultural Studies
SA 304-4 Gender Studies
SA 305-4 Socio-Legal Studies
SA 356-4 Qualitative Methods
SA 357-4 Survey Research

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 Qualitative Methods
SA 357-4 Survey Research

Anthropology Requirements
Lower Division Requirements
For the joint major in anthropology and criminology, students must complete all of
SA 101-4 Introduction to Anthropology
SA 104-4 The Politics of Culture in Contemporary Societies
SA 402-4 The Uses of Anthropology
plus one of
SA 201-4 Anthropology of Contemporary Life
SA 202-4 Post-Industrial Society
SA 204-4 Comparative Ethnic Relations
SA 286-4 Native Cultures of British Columbia
plus one of
SA 300-4 Cultural Studies
SA 304-4 Gender Studies
SA 305-4 Socio-Legal Studies
SA 356-4 Qualitative Methods

Joint Major in Sociology or Anthropology and Criminology
Sociology/anthropology and criminology have some
sociological nature and perception of social problems. This joint
major is recommended for students who share these
concerns.
Admission is contingent upon the enrolment limitation
requirements of the School of Criminology.
Application for admission must follow the general
procedures established by the school.
A grade of 1.67 (C-) or better is required in all non-
elective courses.
The Department of Sociology and Anthropology
offers degrees in sociology or anthropology as well as
a joint degree in sociology and anthropology.
Students who are interested in pursuing a joint
program in sociology or anthropology and
anthropology should contact the advisors in both
departments.
Criminology Requirements
For the either the joint major in sociology and
anthropology and criminology, students must complete the following
requirements totalling a
minimum of 20 credit hours with a 2.25 cumulative
grade point average. The 20 upper division
requirements also have the same CGPA stipulation.
Students must complete all criminology lower division
requirements before application, and before formal
admittance is granted to undertake upper division
requirements courses.
CRIM 369 or 462 may not be used for credit towards
this joint major.

Upper Division Communication Requirements
Students must complete a minimum of 24 upper
division credit hours in communication, including the
following.
Up to two 200 level anthropology or SA courses may not be used to meet this requirement.
one of
CMNS 362-4 Evaluation Methods for Applied
Communication Research
CMNS 363-6 Approaches to Media and Audience
Research

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 Qualitative Methods

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 Key Ideas in Anthropology
SA 356-4 Qualitative Methods
Recommended
SA 401-4 The Politics of Culture in Contemporary
Societies
SA 402-4 The Uses of Anthropology

Joint Major in Sociology or Anthropology and Criminology
Sociology/anthropology and criminology have some
common methods and theoretical concerns; for
example, the relationship between such variables as
class, gender, ethnicity and crime; the social
construction of deviance; the law as a social
phenomenon; and the general social, political, and
economic frameworks of society that condition the
nature and perception of social problems. This joint
major is recommended for students who share these
cconcerns.
Admission is contingent upon the enrolment limitation
requirements of the School of Criminology.
Application for admission must follow the general
procedures established by the school.
A grade of 1.67 (C-) or better is required in all non-
elective courses.
The Department of Sociology and Anthropology
offers degrees in sociology or anthropology as well as
a joint degree in sociology and anthropology.
Students who are interested in pursuing a joint
program in sociology or anthropology and
anthropology should contact the advisors in both
departments.
Criminology Requirements
For the either the joint major in sociology and
anthropology and criminology, students must complete the following
requirements totalling a
minimum of 60 credit hours with a 2.25 cumulative
grade point average. The 60 upper division
requirements also have the same CGPA stipulation.
Students must complete all criminology lower division
requirements before application, and before formal
admittance is granted to undertake upper division
requirements courses.
CRIM 369 or 462 may not be used for credit towards
this joint major.
Upper Division Anthropology Requirements
Students must complete 20 credit hours in anthropology or SA courses, which must include SA 301-4 Key Ideas in Anthropology SA 356-4 Qualitative Methods
See the Latin American Studies Program for complete requirements.

Joint Major in Sociology and Anthropology and Linguistics
See the Department of Linguistics section for requirements.

Joint Major in Sociology or Anthropology and Women’s Studies
See the Department of Women’s Studies section for requirements.

Honors and Joint Honors Programs

General Requirements
See General Requirements under Major Programs.

Sociology Honors Program
In addition to the lower division requirements specified earlier (see Major Program, General Requirements), students must complete 52 credit hours in upper division SA courses, 32 hours of which must be in sociology, with the remaining 20 credit hours in anthropology.
A GPA of 3.33 in all SA courses is required for admission to, and graduation from, the honors program. Also, honors students must complete SA 499.

Theory Requirements
Please refer to Theory Requirements, Sociology Major Program. Theory requirements should be taken as early as possible in the upper divisions.

Methods Requirements
Please refer to Methods Requirements, Sociology Major Program. Methods requirements should be taken as early as possible in the upper division program.

Note: Students are strongly urged to balance theory courses with methods courses over and above the required minimum.

Anthropology Honors Program
In addition to the lower division requirements specified earlier (see Major Program, General Requirements), students must complete 52 credit hours in upper division SA courses, 32 credit hours of which must be in anthropology, with the remaining 20 credit hours in sociology.
A GPA of 3.33 in all SA courses is required for admission to, and graduation from, the honors program. Also, honors students must complete SA 499.

Theory Requirements
Please refer to Theory Requirement, Anthropology Major Program. Theory requirements should be taken as early as possible in the upper division program.

Methods Requirements
Please refer to Methods Requirements, Anthropology Major Program. Methods requirements should be taken as early as possible in the upper division program.

Note: Students are strongly urged to balance theory courses with methods courses over and above the required minimum.

Joint Honors in Sociology and Anthropology
In addition to the lower division requirements specified earlier (see Major Program, General Requirements), students must complete 60 credit hours in upper division SA courses, 32 credit hours of which must be in one discipline, with the remaining 28 credit hours in the other discipline.
A GPA of 3.33 in all SA courses is required for admission to, and graduation from, the honors program. Also, honors students must complete SA 499.

Theory Requirements
Please refer to Theory Requirements, Joint Major in Sociology and Anthropology. Theory requirements should be taken as early as possible in the upper division program.

Methods Requirements
Refer to Methods Requirements, Joint Major in Sociology and Anthropology. Theory requirements should be taken early in the upper division program.

Note: Students are strongly urged to balance theory courses with methods courses over and above the required minimum.

Sociology or Anthropology and Canadian Studies
See the Canadian Studies section for requirements.

Sociology or Anthropology and Latin American Studies
See the Latin American Studies Program section for requirements.

Minor Programs

Sociology Minor Program
Students must complete 12 hours in lower division SA courses, eight which must be in sociology, and 16 hours in upper division sociology courses.

Anthropology Minor Program
Students must complete 12 hours in lower division SA courses, eight of which must be in anthropology, and 16 hours in upper division anthropology courses.

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.

Post Baccalaureate Diploma Programs

Post Baccalaureate Diploma in Ethnic and Intercultural Relations
This program, for students who have already completed a bachelor’s degree, may be completed through a combination of distance education courses, On campus and Simon Fraser University at Harbour Centre.
Ethnic and intercultural relations is the study of ethnically defined conflicts and problems of migration. Such conflicts arise from the ascription of demeaning characteristics to groups of people and, more importantly, result from exclusion. The program explores the causes of unequal treatment, to compare ethnic antagonisms internationally and to develop strategies to improve intergroup relations in Canada in light of this knowledge.

The program is intended for human services professionals (social workers, educators, police, counsellors, personnel managers, health practitioners or civil servants) who are required to perform effectively with clients from a variety of cultural and linguistic backgrounds. It seeks to foster better understanding of the nature of our multi-ethnic society.

For information about the post baccalaureate diploma program general regulations, refer to Continuing Studies.

Program Requirements
Successful completion of an approved program comprised of 30 credit hours of third and fourth year courses.

Required Courses
SA 340-4 Social Issues and Social Policy Analysis
SA 345-4 Issues in Canadian Ethnic Relations
and two of CRIM 311-3 Minorities and the Criminal Justice System
EDUC 441-4 Multicultural Education
HIST 322-4 Atlantic Migration
POL 481-3 Ethnic Politics and National Identity: Comparative Perspectives
SA 303-4 Ethnic Conflicts
SA 386-4 Native Peoples and Public Policy
SA 400-4 Canadian Ethnic Minorities

Optional Courses
CMNS 347-4 Communication in Conflict and Intervention
CRIM 335-3 Human Rights and Civil Liberties
CRIM 419-3 Native North Americans: Crime, Deviance and Criminal Justice
GEOG 420-4 Comparative Cultural Geography
HIST 326-4 The History of Native People in Canada
SA 319-4 Culture, Ethnicity, and Aging
SA 374-4 South Africa: Socio-Political Development
SA 387-4 Canadian Native Peoples
SA 388-4 Comparative Studies of Minority Indigenous Peoples

Other courses fulfilling requirements for the diploma in ethnic and intercultural relations may, from time to time, become available. Please consult the sociology and anthropology departmental assistant for information.

Completion of the diploma must be within five years of admission. Students must maintain a GPA of 2.5 on courses applied toward this diploma.

Acceptance of general Simon Fraser University admission does not automatically guarantee admission to the post baccalaureate diploma program. Students must apply for entry directly to the Department of Sociology and Anthropology.

Post Baccalaureate Diploma in Social Policy Issues
This program is for students who have already completed a bachelor’s degree and may be completed through distance education courses, On campus and at Simon Fraser University at Harbour Centre. It offers an opportunity to apply 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 various substantive social policy issues, the program aims to provide the critical perspectives needed in order to grasp the processes by which social problems are defined, understood, and acted upon both in Canada and in other societies.

For information about the post baccalaureate diploma program general regulations, refer to Continuing Studies.

Program Requirements
Students must successfully complete an approved program comprised of 30 credit hours of third and
fourth year courses, at least 16 are to be taken from the set of core courses described below.

**Core Courses**

Students are required to complete at least four of the following courses, one of which must be SA 340.

- SA 303-4 Ethnic Conflicts
- SA 316-4 Tourism and Social Policy
- SA 319-4 Culture, Ethnicity, and Aging
- SA 320-4 Population and Society
- SA 333-4 Schooling and Society
- SA 335-4 Gender Relations and Social Issues
- SA 340-4 Social Issues and Social Policy Analysis
- SA 363-4 Processes of Development and Underdevelopment
- SA 386-4 Native Peoples and Public Policy
- SA 420-4 Sociology of Aging

**Optional Courses**

An additional four courses from the following list would complete the requirements for the program.

- 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 321-4 Social Movements
- SA 325-4 Political Sociology
- SA 362-4 Society and the Changing Global Division of Labor
- SA 401-4 The Politics of Culture in Contemporary Societies
- SA 400-4 Canadian Ethnic Minorities
- SA 402-4 The Uses of Anthropology
- SA 463-4 Special Topics in Development Studies

To fulfill the optional course requirement, students may instead take additional core courses, or upon the program steering committee's recommendation, select a course not included among listed options, but with content appropriate to the program.

Acceptance of general Simon Fraser University admission does not automatically guarantee admission to this program. Students must apply for entry directly to the Department of Sociology and Anthropology.

**Certificate Program**

**Certificate in Native Studies Research**

Refer to the Faculty of Arts section for details of this certificate program.

**Co-operative Education**

The co-operative education program provides practical experience in the social sciences. The program entails planned study semesters and employment in an area of the student’s choice.

**Requirements**

To be admitted into the program, students must have completed 25 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 206-4 Introduction to Sociological Theory

and one of

- SA 201-4 Anthropology of Contemporary Life
- SA 250-4 Introduction to Anthropological Theory

College transfer students must complete at least 15 credit hours at Simon Fraser University before being eligible for admission to the co-op program. They also must satisfy the requirements above or equivalents.

College transfer students who have participated in co-op programs elsewhere may be credited with the semester(s) already taken. The applicability of such semesters depends on the evaluation of the Department of Sociology and Anthropology.

Arrangements for the work semesters are made through the department’s co-op co-ordinator, and the Faculty of Arts co-op co-ordinator.

In order to continue in the co-operative education program, students must maintain a minimum cumulative GPA of 2.75 in their course work.

For details, refer to Co-operative Education. Interested students should contact the Department of Sociology and Anthropology for information.

**Spanish Program**

6198 Academic Quadrangle, (604) 291-4509 Tel, (604) 291-4989 Fax

Steering Committee Chair

- A. Gómez-Moriana Lic, PhD (Salamanca), MA, PhD (Munich)

Associated Faculty

- D. Clavero, Humanities
- J.M. Sosa, Linguistics

Advisory

Ms. C. Prisland, 6191 Academic Quadrangle, (604) 291-4509 Tel

Changes are being considered that may significantly affect programs in Spanish. Students contemplating entering one of these programs are advised to check with the advisor regarding the status of the program in which they are interested. Contact the advisor at (604) 291-4509

The Spanish Program offers courses that specialize in the study of the language and literature of Spain and Latin America. The programs provide a sound background for students intending to pursue careers in teaching and translation as well as those pursuing advanced scholarly work.

All students must meet the requirements for the bachelor of arts degree described under the Faculty of Arts section of this Calendar.

Work in Spanish programs assumes a knowledge of Spanish. See Interdisciplinary Studies for details concerning Spanish language credit.

**Honors Program**

Students must have their honors program approved by the advisor. Lower division requirements as listed above for the Spanish major must be completed and 50 upper division credit hours including SPAN 349, 350 and 465 is also required. Students must acquire a proficiency (i.e., the equivalent of two semesters) in an additional language other than English.

**Minor Program**

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 240-3 Introduction to Hispanic Literature

Students must also complete 15 hours of upper division Spanish courses.

**Extended Minor Program**

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

**Joint Major in Spanish and Latin American Studies**

In addition to the lower level requirements of the Spanish and Latin American studies major, students must complete 20 upper division credit hours in Spanish, and 20 upper division credit hours in Latin American studies for this joint major.

**Joint Major in French and Spanish**

The Department of French and the Spanish Program offer this joint major which leads to a bachelor of arts. It is designed for those interested in exploring the linguistic, literary and cultural affinities between these two areas of study.

Students contemplating this joint major must develop, with the help of a supervisor in French and/ or Spanish, a coherent program with a concentration in either the literature or linguistics of these two languages.

**French Requirements**

FREN 151-3 French I
FREN 201-3 Intermediate French I
FREN 202-3 Intermediate French II (or exemption from these courses: FREN 151, 201, 202)
FREN 206-3 Intermediate French III
FREN 270-3 Introduction to French Linguistics I and one of
FREN 230-3 Introduction to French-Canadian Literature
FREN 240-3 Introduction to French Literature: Modern French Literature

Students must complete 20 upper division credit hours in French including the following courses.

FREN 301-3 Advanced French — Composition I
FREN 360-3 Intermediate French Literature
FREN 370-3 Introduction to French Linguistics II

The remaining 11 credit hours will be selected from 400 division French courses (see Undergraduate Courses).

**Spanish Requirements**

SPAN 102-3 Introductory Spanish I
SPAN 103-3 Introductory Spanish II
SPAN 201-3 Intermediate Spanish I
SPAN 202-3 Intermediate Spanish II
credit hours must be taken within the Faculty of Arts and the Department of Mathematics and Statistics. See Bachelor of Arts Degree in the Faculty of Arts section for information about general regulations, breadth requirements, upper division credit and other requirements.

Students will also be required by the Department of Mathematics and Statistics to obtain credit for the following courses.

### Lower Division Requirements

#### Mathematics

Students must complete one of

- MATH 151-3 Calculus I
- MATH 154-3 Calculus I for the Biological Sciences
- MATH 157-3 Calculus for the Social Sciences I

plus one of

- MATH 152-3 Calculus II
- MATH 155-3 Calculus II for the Biological Sciences
- MATH 158-3 Calculus for the Social Sciences II

plus both of

- MATH 232-3 Elementary Linear Algebra
- MATH 251-3 Calculus III

#### Statistics

Students must complete both of

- STAT 270-3 Introduction to Probability and Statistics
- STAT 280-3 Applied Probability Models

#### 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

### Upper Division Requirements

#### Mathematics and Computing Science

Students must complete

- MACM 316-3 Numerical Analysis I

#### Probability and Statistics

Students must complete all of

- STAT 330-3 Introduction to Statistical Inference
- STAT 350-3 Linear Models in Applied Statistics
- STAT 402-3 Generalized Linear and Nonlinear Models
- STAT 410-3 Statistical Analysis of Sample Surveys
- STAT 430-3 Statistical Design and Analysis of Experiments
- STAT 450-3 Statistical Theory

Students are also required to complete a minor in another discipline other than mathematics or statistics. The certificate in actuarial mathematics may be used to fulfill this requirement.

Faculty of Arts requirements stipulate that at least three other upper division courses be taken in mathematics, statistics, actuarial mathematics or mathematics/computing science. Students should consult a departmental advisor before selecting these courses. Neither STAT 301 nor STAT 302 may be used to fulfill this requirement.

### Honors Program

A bachelor of arts with honors in statistics requires 132 credit hours, of which at least 65 must be taken within the Faculty of Arts and Department of Mathematics and Statistics. See Bachelor of Arts Degree in the Faculty of Arts section for information about general regulations, breadth requirements, upper division credit and other requirements.

Further, in addition to the above requirements for a major, candidates for an honors degree in statistics will be required to obtain credit for the following.

### Additional Mathematics Requirements

Students must complete all of

- MATH 242-3 Introduction to Analysis

- MATH 320-3 Advanced Calculus of One Variable

- MATH 322-3 Complex Variables

plus one of

- MATH 332-3 Introduction to Applied Algebraic Systems
- MATH 339-3 Groups and Symmetry

plus both of

- MATH 426-3 Introduction to Lebesgue Theory
- MATH 438-3 Linear Algebra

### Additional Statistics Requirements

Students must complete both of

- STAT 420-3 Non-Parametric Statistics
- STAT 460-3 Decision Analysis and Bayesian Inference

### Minor Program

Requirements for the minor program in statistics are listed in Department of Mathematics and Statistics in the Faculty of Science section.

### Extended Minor Program

According to general faculty regulations, an extended minor program must contain the lower division requirements for a major program, plus the upper division requirements for a minor program. For a statistics extended minor, this entails completion of all the course requirements for a minor plus STAT 280 and one of CMPT 100 or 101 or 102. At least seven upper division hours counted toward this requirement must be taken at Simon Fraser.

### Department of Women's Studies


Chair

- M. Griffin Cohen BA (Iowa Wesleyan), MA (NY), PhD (York)**
- Ruth Wynn Woodward Endowed Chair
- S. Thombsi BA (Middx), MA (Colorado)

Professors

- M.Giffin Cohen BA (Iowa Wesleyan), MA (NY), PhD (York)**
- M.M. Kimbal BA (Macalester), PhD (Mich)****
- A. Lebowitz BA (New Rochelle), MA (Wis)
- M.L. Stewart BA (Calg), MA, PhD (Col)**
- S. Wendell BA (NY State), PhD (Br Col)

Associate Professor

- J. Levitin BA, MA (Was), PhD (NY State)*

Assistant Professors

- M. MacDonald BEd (Qu), BSc (McAll), PhD (WOnt)
- H. Zaman, BA (Dhaka), MA, PhD (Man)

Associate Members

- B. Burch, Criminology
- H. Hawkins, Contemporary Arts
- P. Dossa, Sociology and Anthropology
- K. Faith, Criminology
- H. Gay, History
- A.T. McLaren, Sociology and Anthropology
- K. Mezei, English
- B. Pitman, Geography

Advisor

- Ms. B. Korstrom, 5105 Academic Quadrangle, (604) 291-3593

*joint appointment with Contemporary Arts
**joint appointment with History
***joint appointment with Political Science
****joint appointment with Psychology
Major Program

Breadth Requirements
Students will be required to 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 313-4 Women and the Environment

Social Sciences
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 307-4 Women in British Columbia
WS 308-4 Women and Work
WS 309-4 Gender and Development
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 304-3 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 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 hours in women’s studies including one 400 division seminar course. Students who have taken WS 311, 312 or 400 have met this requirement. Students may substitute up to eight credit hours of upper division credit offered by other departments and approved by women’s studies.

Joint Major in English and Women’s Studies
The joint major in English and women’s studies is an inter-departmental program designed for students who are interested in exploring the various relationships between the study of English literature and women’s studies.

Interested students must plan their program in consultation with the department advisors and should consult the Guidelines for Course Selection available from each department.

Advisors
Ms. H. Newcombe, Department of English, 6137 Academic Quadrangle, (604) 291-3571
Ms. B. Korstrom, Department of Women’s Studies, 5105 Academic Quadrangle, (604) 291-3593

Students are encouraged to consult advisors from both departments.

Lower Division Requirements
English
Students must complete the lower division requirements of the English major program.

Women’s Studies
WS 101-3 Introduction to Women’s Issues in Canada
WS 102-3 Introduction to Western Feminisms
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

Upper Division Requirements

English
Students are encouraged to select courses which focus on women writers and/or offer an explicit feminist perspective. Students must complete 20 credit hours in upper division English courses as follows. One from the series ENGL 300-308, one from the series ENGL 310-322 and the remainder from anywhere in the series ENGL 300-394 and ENGL 441-446.

The following are recommended if the student is interested in critical theory.
ENGL 364-4 History and Principles of Literary Criticism
ENGL 366-4 Studies in Critical Approaches to Literature

Women’s Studies
Twenty credit hours in upper division women’s studies courses are required including one 400 level seminar. Students who have taken WS 311, 312 or 400 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 411-4 Feminist Psychoanalytic Theories
WS 313-4 Women and the Environment

The remaining hours are chosen from 300 and 400 division women’s studies courses. Exceptionally, and only with department permission, a maximum of three credit hours of designated women’s studies credit for a course offered by another department may be substituted for three of these remaining credit hours.

Total 40 credit hours

Joint Major in Political Science and Women’s Studies
See the Political Science section for requirements.

Joint Major in Women’s Studies and Psychology
Advisors
Ms H. Rhodes, Department of Psychology, 5252 Classroom Complex, (604) 291-3359
Ms B. Davino, Department of Psychology, 5249 Classroom Complex, (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.

The joint major in psychology and women’s studies is an interdepartmental program designed for students who are interested in exploring various relationships between the study of psychology and women’s studies.

Joint major students (or prospective students) must plan their program in consultation with the program department advisors.

Lower Division Requirements
Psychology
To be admitted to the psychology program, students must obtain a final course grade of C (2.0) or better in each of the following courses.
all of
PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
PSYC 201-4 Research Methods in Psychology
PSYC 210-4 Data Analysis in Psychology

Note: the above requirement applies to courses transferred from other institutions as well as to courses taken at Simon Fraser University.

plus two of
PSYC 221-3 Introduction to Cognitive Psychology
PSYC 241-3 Introduction to Abnormal Psychology
PSYC 250-3 Child Psychology
PSYC 260-3 Social Psychology
PSYC 270-3 Introduction to Personality
PSYC 280-3 Biological Bases of Behavior (18 credit hours)

Women’s Studies
all of
WS 101-3 Introduction to Women’s Issues in Canada
WS 102-3 Introduction to Western Feminisms
WS 203-3 Female Roles in Contemporary Society
plus any two of
WS 200-3 Women in Cross-Cultural Perspective
WS 201-3 Women in Canada, 1600-1920
WS 202-3 Women in Canada, 1920 to the Present
WS 204-3 Women, Science and Technology
WS 205-3 Women and Popular Culture
WS 206-3 Issues in Women’s Health and Health Care

Total 33 credit hours

Upper Division Requirements
Psychology
Twenty psychology upper division credit hours are required, including PSYC 307 or 308. No more than five of these credits may be in directed studies.

Students should select courses within their particular area(s) of study which include information on sex/gender differences and psychology of women. PSYC 364 is recommended.

Women’s Studies
Twenty credit hours in upper division women’s studies courses are required including one 400 level seminar. Students who have taken WS 311, 312 or 400 have met this requirement. WS 411 is recommended.

Exceptionally, and only with the permission of the department, a maximum of three credit hours of designated women’s studies credit for a course offered by another department may be substituted for three of these remaining credit hours.

Total 40 credit hours

Joint Major in Sociology or Anthropology and Women’s Studies
The Departments of Sociology and Anthropology, and Women’s Studies have common interests in teaching and research pertaining to women’s issues and the social sciences. The following joint major program is aimed at students who share these interests. It should be noted that it is possible to take a joint major in sociology or anthropology and women’s studies.

Lower Division Requirements
Sociology
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 250-4 Introduction to Sociological Theory  
SA 255-4 Introduction to Social Research  
STAT 203-3 Introduction to Statistics for the Social Sciences  
SA 231 is highly recommended.  

Anthropology  
SA 101-4 Introduction to Anthropology  
SA 150-4 Introduction to Sociology  
SA 255-4 Introduction to Social Research  
STAT 203-3 Introduction to Statistics for the Social Sciences  
and one of  
SA 201-4 Anthropology of Contemporary Life  
SA 263-4 Peasants, Proletarians and the Global Economy  
SA 286-4 Native Cultures of British Columbia  
SA 293-4 Special Topics in Anthropology  
SA 231 is highly recommended.  

Women's Studies  
WS 101-3 Introduction to Women's Issues in Canada  
WS 102-3 Introduction to Western Feminisms  
WS 200-3 Women in Cross-Cultural Perspectives  
plus two of  
WS 201-3 Women in Canada, 1600-1920  
WS 202-3 Women in Canada 1920 to the Present  
WS 203-3 Female Roles in Contemporary Society  
WS 204-3 Women, Science and Technology  
WS 205-3 Women and Popular Culture  
WS 206-3 Issues in Women's Health and Health Care  

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 Requirements  
SA 301-4 Key Ideas in Anthropology  
SA 356-4 Qualitative Methods  
Students must also complete an additional 12 credit hours of upper division SA credit.  
The following are highly recommended for both sociology and anthropology.  
SA 319-4 Culture, Ethnicity and Aging  
SA 356-4 Qualitative Methods  
SA 332-4 The Anthropology of Domestic Life  
SA 335-4 Gender Relations and Social Issues  
SA 340-4 Social Issues and Social Policy Analysis  
SA 420-4 Sociology of Aging  

Women's Studies  
Twenty credit hours in upper division women's studies courses are required including one 400 level seminar. Students who have taken WS 311, 312 or 400 have met this requirement.  

Minor Program  
A women's studies minor program may be taken with any major or honors bachelor's degree, or with a bachelor of general studies. The program is designed to offer students the maximum opportunity to integrate their understanding of the role of women in their society and culture.  
The nucleus of the department consists of the faculty at the University with full, joint or semester appointments in women's studies.  
For further information, contact the department prior to normal registration.  

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  
Unassigned women's studies transfer credit at the 200 division 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 must complete 16 credit hours, including one 400 level seminar. Students who have taken WS 311, 312 or 400 have met this requirement.  
Those pursuing a minor normally must fulfill lower division requirements before enrolling in 400 division courses, except with permission of the department.  
Additional courses in various departments are designated for inclusion in the minor; a list is available from the department. Other courses which may have high women's studies content will be considered for designated credit toward the women's studies minor upon application by the student to the department. Only five credit hours of designated courses will count toward the minor.  
Candidates for a history honors or major may count either or both of WS 201 and 202 toward the 18 lower division history credits that are required.  

Extended Minor Program  
An extended minor consists of the lower division major requirements and the upper division minor requirements in a subject area. For further information, refer to the Faculty of Arts Extended Minor Program section.  

Certificate Program  
This program provides a combination of academic training in women's studies and practical training in community work on behalf of women. It is open to all who meet normal university requirements for admission.  

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  

Upper Division Requirements  
Twelve credit hours from any 300 or 400 division women's studies courses is required. One course in another department or program may fulfill this requirement, if the course is designated for women's studies credit.  

Practicum  
The practicum consists of satisfactory completion of supervised training and work in a community group which promotes the well-being of women. (No grade will be given for the practicum.) The terms of the practicum will be arranged among the women's studies faculty advisor, the community group and the student. Students are expected to work at the practicum two and a half days a week for 13 weeks. At the end of the period, the women's studies curriculum committee, in consultation with the community group and student, will evaluate the student's performance. Those who have past experience in an appropriate community group, and/or who are working in an appropriate community group while enrolled in this program, may apply to the department to count that work toward partial or full completion of the practicum. The purpose of the practicum is to gain skills and experience in a) applying the knowledge acquired in academic women's studies courses to community work and/or b) applying community work experiences to academic work.  

Co-operative Education  
Women's studies students may participate in co-operative education through the co-operative education program in liberal arts.
Faculty of Business Administration


Dean
J.H. Waterhouse, BSc, MBA (Alta), PhD (Wash)
Associate Dean
L.T. Pinfield, BSc (Leeds), MS (Carnegie Tech), PhD (Stan)

Professors Emeriti
P.L. Cheng BS (Natui 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)
B. Schoner BEng (McG), MBA (W Ont), PhD (Stan)
M.N. Stark, QC, BA, LLB (Br Col)

Ming and Stella Wong Endowed Chair, Professor in International Business
R.L. Tung BA (York), MBA, PhD (Br Col), FRS(C)

Professors
E.U. Choo BSc (Nan), MSc, PhD (Br Col)
P.M. Clarkson BSc (Trent), BA (WOnt), BCom, MBA (Windsor), PhD (Br Col)
D.R. Finley BS (Harding), MA, PhD (American, DC), CPA
R.R. Grauer BCom, MBA (Br Col), PhD (Calif)*
R.A. Holmes BA, MA (Sask), PhD (Indiana)*
C.L. Love BEng, MBA (McM), PhD (Lond)
G.A. Mauser BA, PhD (Calif)
L.N. Meredith BA, MA, PhD (S Fraser)

Associate Professors
M.F. Abdel Magid BCom (Alexandria), MSc, PhD (Ill)
A. Bick BSc, MSc (Tel Aviv), MBA (Jerusalem), PhD (Calif)
G.W. Blazenko BA (S Fraser), MA (WOnt), PhD (Br Col)
G.R. Bushe BA (C'dia), PhD (Case W Reserve)
C.E.N. Emby BCom (Manit), MBA (Br Col), PhD (Alta), CA
A.M.G. Gelardi Cert in Educ (Keele), MSc (Miami, Fla), PhD (Arizona, CA)
I.M. Gordon BA, MA, PhD (S Fraser), CGA
S.J. Havlovic BA, MLHR, PhD (Ohio State)
J.W. Heaney BA, MSc (Sask), MA, PhD (S Fraser), PhD (Alta)
D.C. Parker BCom, MBA (Calg), PhD (WOnt)
G. Polirar BA (Dal), MA (McM), MPhil, PhD (Col)
J.G. Richards BA (Sask), BA (Camb), MA, PhD (Wash, Mo)
R.W. Schwintz AB, PhD (Calif)*
J.P. Sheppard BS (Penn), MBA (Indiana), PhD (Wash)
C.F. Smart BCom, MBA, PhD (Br Col)
A.R. Warburton BA (Br Col), MSc (Montr), PhD (Br Col)

Assistant Professors
N.A.R. Abramson BA (Sask), MBA, MA, PhD (WOnt)
E.W. Bukaszi Jr, BA (J Carroll), MBA, PhD (Arizona)
C.M. Collins-Dodd BCom, PhD (Alta)
K.T. Dirks BBA, MS (Iowa State), PhD (Minn)
C.P. Egri BCom, MSc, PhD (Br Col)

J.N.P. Francis BSc (Wii), MBA (York), PhD (Wash)
P.C. Klein BSc, LLB, MBA (WOnt), PhD (Tor), CFA
H. Merchant BCom (Bom), MBA (Clarion), PhD (Purdue)
Z. Rebmann-Huber BSc, MSc (Br Col), MBA (WOnt)
B.H. Reich BA, MSc, PhD (Br Col)
K.E. Vandezaende BS (N Colorado), PhD (NY)

Adjunct Professors
W.K. McCourt BComm (Br Col), MBA, MA (MD), Z.G. Zhang BSc, MA (Nankai, China), MBA (York), PhD (Wat)

Senior Lecturers
M.R. Fizzell BEd, BCom, MSc (Sask), CMA
J.C. Hsieh BA, MBA (Oregon), CA
B.J. Mackay BA, MA, PhD (Wat), CA

Lecturers
A.C. Carino BA, MA, MBA (S Fraser)
M.K. Johnson BA (Winn), MA, (C’dia)
B.A. Lausch BA (Regina), MIR (Qu)

*
joint appointment with Economics

Undergraduate Degrees Offered
Bachelor of Business Administration (Honors) Bachelor of Business Administration

Programs Offered
BBA – General Program
Major in Business Administration
Joint Major in Business Administration and Communication
Joint Major in Business Administration and Economics

Undergraduate Programs

Director
M.R. Fizzell, BEd, BCom, MSc (Sask), CMA

Advisors
Ms. C. Hamblin BA (S Fraser), undergraduate program co-ordinator, 2389 Lohn Building, (604) 291-4624 Tel, (604) 291-5571 Fax
Ms. M. Czornobay, undergraduate program advisor, 2391 Lohn Building, (604) 291-3747 Tel, (604) 291-5571 Fax

Introduction
The faculty offers honors, major and minor programs, in co-operation with the Faculties of Applied Sciences and Arts. The faculty also offers joint programs. For a complete list, please see Programs Offered above.

The value of a broadly based education is emphasized. Because of this objective, students will take mainly non-business courses during the first 60 hours. During that period students will complete three categories of courses. The first category consists of lower division requirements. These are mainly technical courses to prepare for more advanced upper division business courses. The second category consists of group requirements which roughly correspond to humanities, social sciences and sciences. In the third category, students choose their own courses based on intellectual interest or usefulness in achieving academic goals. The first two categories should be completed during the first 60 hours of the degree program.

The University Calendar in effect at the time the student’s honors or major is approved establishes the degree requirements for the graduation of that student. All students should confirm with the undergraduate program co-ordinator the details of the requirements.

Admission Information

Criteria
Students will be selected competitively from one of four streams.

Category 1 – direct from secondary school
A portion of the annual admission will be selected from secondary school graduates based on the general Simon Fraser University admission requirements plus mathematics 12.*

Category 2 – direct from college
A portion of the annual admission will be selected from students transferring from community colleges or technical institutes. These students must have completed all of the required lower division courses (except BUS 207 and 254 which may be completed after faculty admission**). Students will be selected competitively based on the Simon Fraser University admission grade point average.

Category 3 – all courses at Simon Fraser University
A portion of the annual admission will be selected from students who have completed all of their courses at Simon Fraser University including the lower division requirement courses (except BUS 207 and 254 which may be completed after faculty admission**). Students will be selected competitively based on the cumulative grade point average.

Category 4 – some SFU and other post-secondary courses
A portion of the annual admission will be selected from students who have completed some courses at Simon Fraser University and some courses at other post-secondary institutions including the lower division requirement courses (except BUS 207 and 254 which may be completed after faculty admission**). Students will be selected competitively based on a grade point average which will be a combination of grades earned at Simon Fraser University and other institutions.

To be considered for admission to the faculty, students in categories 2, 3 and 4 must have completed each lower division requirement course with a minimum C- grade. The number of undergraduate students granted entry to the faculty is limited to 400 to 600 new students per academic year.

*or equivalent advanced placement or international baccalaureate courses as listed under General Admission Requirements for British Columbia Secondary Schools.

**if BUS 207 and/or 254 have been taken, they will be calculated into the GPA used for admission to the faculty.

Application Procedures
Students applying under category 1 or 2 should apply to the faculty at the same time that they apply for admission to the University.
Students applying under category 3 or 4 should apply to the faculty after completing their 30th credit hour and before completing the 60th credit hour. Students should apply during the semester in which the lower division requirements, as listed below (except BUS 207 and 254) are completed. Students not accepted upon initial application may reapply. Unsuccessful applicants may appeal through the faculty appeals committee.

Application Deadlines
April 1* for summer semester
August 1* for fall semester
December 1* for spring semester
*application earlier in the semester is recommended
Application forms are available in the undergraduate program offices in the second month of each semester.

International Student Applications
International students are neither Canadian citizens nor Canadian permanent residents. University policy limits the number of international students admitted by the Faculty of Business Administration as majors, minors, or honors students (including joint programs) to ten percent of the total admitted.
This admission decision is not made at the time of the student's university admission but rather when all the lower division requirements (except BUS 207 and 254) have been completed and formal application is made to the faculty.
Admission of international students to the faculty is based on a comparison of international student applicants' academic performance and potential. It is highly competitive. That is, it is anticipated that international students will require a CGPA higher than that required of non-international students. In all cases, a CGPA at least equal to that required of non-international students will be required.

Non-Majors Access to Business Courses
Priority in upper division business courses is given to students who are approved in a business program.
(A business program is defined as major, minor, honors and joint programs.) Students are permitted to undertake the lower division business courses without formal admission to the faculty.
Students other than those accepted into a program in business administration may take upper division business administration courses contingent upon
• space available at the end of the first week of classes
• meeting the prerequisites for the individual course requested
Candidates for a first bachelor's degree 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.
In order 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-(C minus).

Students with fewer than 60 credit hours may enroll in a maximum of 16 credit hours per semester. Those with 60 credit hours or more may enroll in a maximum of 18 credit hours.

Major Program
Students must complete at least 120 credit hours which must include a minimum of 50 credit hours outside the Faculty of Business Administration. Courses taken as part of group requirements (see Group Requirements below) or non BUS or BUEC courses taken as part of the lower division requirements may count toward the 50 credit hours outside business administration.

Lower Division Requirements
BUEC 232-3 Elementary Economic and Business Statistics I
BUS 207-3 Managerial Economics* (or ECON 301-5)
BUS 237-3 Introduction to Computers and Information Systems in Business
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 100-3 Knowledge and Reality
PHIL 120-3 Introduction to Moral Philosophy
*courses listed above with an asterisk (BUS 207 and 254) may be completed following admission to the faculty.

Note: BUEC 333-3 Elementary Economic and Business Statistics II; students planning to major in business administration are advised to take BUEC 333 in the first 60 credit hours (see regulations below governing upper division courses taken in lower division hours).

Group Requirements
To satisfy the three group requirements (groups A, B and C), students must complete the following courses.

Group A
Students must complete four courses from at least two departments from the following:
• all students may take BUEC 333 before completion of 60 credit hours
• at least three 400 division BUS or BUEC courses (excluding practicum courses and BUS 478). These courses may count toward the requirements for the area(s) of concentration.

Further upper division courses in any discipline must be completed to bring the total upper division credit to 45 credit hours minimum.
Students may not register in upper division (300 and 400 level) business administration courses before completing the first 60 lower division credit hours, with two exceptions:
• approved business majors and minors may take upper division BUS courses after the completion of 45 credit hours
• all students may take BUEC 333 before completion of 60 credit hours

Students should note that any 300 or 400 division course taken before the completion of 60 credit hours will not count as fulfilling the 45 hours of upper division credits required in the final 60 hours of the program, or as part of the upper division hours for the major or minor.

Note: ECON courses listed as part of a concentration will fulfill a requirement but will not count as part of the required upper division hours in business administration.

Core Courses
Students majoring in business administration are required to complete all of
BUEC 333-3 Elementary Economic and Business Statistics II
BUS 303-3 Business and Society
BUS 312-4 Business Finance
BUS 336-4 Management Science
BUS 343-3 Introduction to Marketing
BUS 360-3 Business Communication
BUS 393-3 Commercial Law
BUS 478-3 Seminar in Administrative Policy
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 328-3 Financial Accounting: Assets
BUS 321-3 Financial Accounting: Equities
BUS 421-3 Accounting Theory
BUS 424-3 Managerial Accounting II
Human Resource Management
two of*
BUEC 384-3 Industrial Relations
BUEC 385-3 Collective Bargaining
BUS 374-3 Organization Theory
BUS 381-3 Introduction to Human Resource Management
*at least one of these must be selected from BUS 374 or 381
and two of
BUS 432-3 International Human Resources Management
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

International Business
BUS 346-3 International Business
BUS 380-3 Comparative Management
BUS 435-3 Management of International Firms and
and two of
BUS 418-3 International Financial Management
BUS 427-3 Seminar in International Accounting
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 permission of the faculty, be substituted for any of the above courses. These may be offered in another faculty.

Note: students concentrating in international business are strongly advised to consider combining it with another business concentration.

Management Information Systems
BUS 362-4 Information Analysis and Systems Design
BUS 364-3 Information Systems in Organizations and Society
BUS 468-3 Management Issues in Information Systems
CMPT 110-3 Event Driven Programming in Visual Basic
and one of
BUS 462-4 Management Support Systems
BUS 466-3 Managing Data Communications

Management Science
BUS 336-4 Management Science
BUS 473-4 Operations Management
and two of
BUEC 433-5 Forecasting in Business and Economics
BUS 437-3 Decision Analysis in Business
BUS 440-4 Simulation in Management Decision Making
BUS 445-3 Analysis of Data for Management
BUS 446-3 Management Support Systems

Marketing
BUS 343-3 Introduction to Marketing
BUS 347-3 Consumer Behavior
BUS 442-3 Introduction to Marketing Research
and two of*
BUS 344-3 Business to Business Marketing
BUS 445-3 Analysis of Data for Management
BUS 446-4 Marketing Strategy
BUS 447-3 International Marketing Management
BUS 448-4 Advertising and Sales Promotion
BUS 449-3 Marketing and Society
*at least one of these must be selected from 344, 446, or 447

Policy Analysis
one of
BUEC 396-3 The Structure of Industry
BUEC 397-3 Government and Business
BUEC 495-3 Legal Aspects of Economic Relationships
BUS 304-3 Introduction to Business Ethics
BUS 346-3 International Business
BUS 403-3 Seminar in Business and Society
BUS 476-3 Commercial Legal Relations
and either business strategy courses
BUS 450-3 Theoretical Issues in Strategic Management
BUS 452-3 Seminar in Advanced Strategic Analysis or public policy courses
BUEC 391-3 Law in the Economic Society
BUS 498-3 Directed Studies* (or 499*)
*in a topic approved by the area co-ordinator and the faculty.

Honors Program
After the completion of 15 upper division credit hours in business administration, students can apply to enter the honors program. Both the CGPA and GPA for upper division BUS and 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 the requirements of the major program. The honors program requires 12 credit hours of 400 division courses beyond the 120 hours required for the major degree. These hours must be in 400 division BUS or BUEC courses within an area of concentration or in other 400 division courses in the Faculty of Business Administration or 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 232-3 Elementary Economic and Business Statistics I
BUS 237-3 Introduction to Computers and Information Systems in Business
BUS 251-3 Financial Accounting I
BUS 254-3 Managerial Accounting I*
BUS 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 cooperating 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 under Major Program. For joint programs, BUS 360 is recommended but not required.
Students in joint programs may opt for a degree from either faculty involved. 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 either marketing or policy analysis.

Marketing
Required Courses
BUS 343-3 Introduction to Marketing
BUS 347-3 Consumer Behavior
BUS 442-3 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

Policy Analysis
Required Courses
either
BUS 450-3 Theoretical Issues in Strategic Management
BUS 452-3 Seminar in Advanced Strategic Analysis or
BUEC 391-3 Law in the Economic Society
BUS 498-3 Directed Studies (or 499*)
*in a topic approved by the area co-ordinator and the faculty

Communication Lower Division Requirements
CMNS 110-3 Introduction to Communication Theory
CMNS 130-3 Explorations in Mass Communication and four additional lower division courses for a total of 18 hours in communication including
one of CMNS 260-3 Introduction to Empirical Communication Research Methods
CMNS 261-3 Documentary Research in Communication

Communication Upper Division Requirements

Required
one of CMNS 362-4 Evaluation Methods for Applied Communication Research
CMNS 363-6 Approaches to Media and Audience Research
and the course sequence in communication complementary to the marketing or policy analysis chosen in business administration.

Marketing
either
CMNS 221-3 Media and Audiences
CMNS 421-4 Issues Seminar
or
CMNS 223-3 Advertising as Social Communication
CMNS 322-4 Cultural Dimensions in Advertising

Policy Analysis
one of CMNS 333-4 Broadcasting Regulation and Policy in Canada
CMNS 334-4 Cultural Policy
CMNS 335-4 The Newspaper Industry and Press Policy in Canada
and
CMNS 433-4 Issues in Communication Policy (or 436)
or
CMNS 342-4 Science and Public Policy I: Risk Communication
CMNS 442-4 Science and Public Policy II: Standards
Directed studies (readings) and field placement credit will not count as part of the 24-26 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 Elementary Economic and Business Statistics 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 103-3 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 Business Finance
BUS 336-4 Management Science (or BUEC 333)
BUS 343-3 Introduction to Marketing
BUS 364-3 Information Systems in Organizations and Society
BUS 468-3 Management Issues in Information Systems
BUS 478-3 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 354-4 Database Systems and Structures
CMPT 370-3 Information System Design
and one of BUEC 374-3 Organization Theory
and one of BUS 381-3 Introduction to Human Resource Management
and one of BUS 466-3 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 hours of upper division credit in business administration or BUEC,* including the core courses with the following exceptions.

* BUS 303 is 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 hours of upper division credit in economics or BUEC* including

ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory
and at least two 400 division economics or BUEC* courses.

Economics Group Requirements

Students must complete one
ECON 100-3 Introduction to Economics
ECON 102-3 Twentieth Century Economics
ECON 208-3 History of Economic Thought
ECON 293-3 History of Economic Development A
ECON 252-3 History of Economic Development B
ECON 353-5 Economic History of Canada
ECON 395-5 Comparative Economic Systems
ECON 404-3 Honors Seminar in Methodology of the Social Sciences
ECON 409-3 Seminar in Economic Thought
ECON 450-3 Seminar in Quantitative Economic History
ECON 451-3 Seminar in European Economic History

* 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 427-3 Seminar in International Accounting
BUS 380-3 Comparative Management
BUS 434-3 Foreign Market Entry
BUS 435-3 Management of International Firms
BUS 438-3 Multinational Corporate Finance
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.

LAS 140-3 Cultural Heritage of Latin America
LAS 200-3 Introduction to Latin American Issues

The remaining six credit hours are to be taken from the approved list of Latin American content courses in the Latin American Studies Program section of the Calendar, from at least two departments.

Upper Division

Students are required to complete 20 upper division credit hours of Latin American studies credit, including at least 12 credit hours in both LAS 300 and 400 division courses as well as a minimum of two upper division Latin American content courses in disciplines outside the joint major.

Joint Major in Business Administration and Political Science

Business Administration Requirements

Students must complete at least 31 upper division
credit hours in business administration including core courses, and from those policy analysis courses specified below.

either

BUS 450-3 Theoretical Issues in Strategic Management
BUS 452-3 Seminar in Advanced Strategic Analysis
or
BUEC 391-3 Law in the Economic Society
BUS 498-3”* Directed Studies (or 499”)
*in a topic approved by the area co-ordinator and the faculty.

Political Science Requirements

The student must complete a minimum of 15 credit hours of lower division credit in at least three fields of political science including the following.

POL 100-3 Introduction to Politics and Government
POL 151-3 The Administration of Justice
POL 251-3 Introduction to Canadian Public Administration

Students must complete a minimum of 24 upper division political science credit hours from at least three fields, including a minimum of three courses (nine credit hours) from field E, public policy/ administration and local government.

Joint Major in Business Administration and Psychology

Business Administration Requirements

• The student must successfully complete at least one 400 human resource management course.
• Students must successfully complete the Faculty of Business Administration core courses, with the following exception: 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 333.

Note: students who complete BUEC 333 must still fulfill the group 4 requirements below.

Psychology Requirements

Group 1
all of
PSYC 100-3 Introduction to Psychology I*
PSYC 102-3 Introduction to Psychology II*
PSYC 201-4 Research Methods in Psychology*
PSYC 210-4 Data Analysis in Psychology*
PSYC 260-3 Social Psychology

Note: The above requirement applies to courses transferred from other institutions as well as to courses taken at Simon Fraser University.

*to be admitted to the psychology program, students must obtain a final course grade of C (2.0) in each of these courses.

Group 2
one of
PSYC 221-3 Introduction to Cognitive Psychology
PSYC 241-3 Introduction to Abnormal Behavior
PSYC 250-3 Child Psychology
PSYC 270-3 Introduction to Personality
PSYC 280-3 Biological Bases of Behavior

Group 3
one of
PSYC 307-4 Historical Foundations of Psychology
PSYC 308-4 History and Systems of Modern Psychology

Group 4
a minimum of 12 credit hours from
PSYC 301-4 Intermediate Research Methods and Data Analysis
PSYC 303-4 Perception
PSYC 306-3 Psychological Assessment Procedures

PSYC 325-4 Memory
PSYC 370-3 Theories of Personality
PSYC 462-5 Selected Topics in Interpersonal Relations

Group 5
plus six additional credit hours of upper division psychology.

Joint Honors in Business Administration and Economics

Economics Group Requirements

Students must include at least one:
ECON 100-3 Introduction to Economics
ECON 102-3 Twentieth Century Economics
ECON 208-3 History of Economic Thought
ECON 250-3 History of Economic Development A
ECON 252-3 History of Economic Development B
ECON 353-5 Economic History of Canada
ECON 395-5 Comparative Economic Systems
ECON 404-3 Honors Seminar in Methodology of the Social Sciences
ECON 409-3 Seminar in Economic Thought
ECON 450-3 Seminar in Quantitative Economic History
ECON 451-3 Seminar in European Economic History

Lower Division Requirements

The requirements are the same as for the joint major in business administration and economics. Refer to that section.

Upper Division Requirements

• at least 35 credit hours of upper division credit in business administration including the core courses, with the exception of BUEC 333, which is counted as economics upper division credit hours rather than business administration upper division credit hours.
• an area of concentration
• at least three 400 division courses (excluding practicum courses and BUS 478). These courses may be within the area of concentration.

plus at least 32 credit hours of upper division credit in Economics or BUEC including

BUEC 333-3 Elementary Economics and Business Statistics II
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory
ECON 331-5 Introduction to Mathematical Economics
ECON 402-5 Advanced Topics in Microeconomics
ECON 435-5 Quantitative Methods in Economics
ECON 499-5 Honors Seminar in Economics

Exchange Programs

Contacts
C. Hamblin, undergraduate program co-ordinator,
2389 Lohn Building, (604) 291-4624
D. Hucal, exchange co-ordinator, International & Exchange Student Services, 1200 Maggie Benston Student Services Centre, (604) 291-5887

The faculty participates in undergraduate student exchange agreements with the following institutions.

Australia
Swinburne University of Technology

Canada
Laval University

Germany
Justus-Liebig-Universität

Korea
Yonsei University

Mexico
Instituto Tecnológico Autónomo de Mexico (ITAM)

Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM)
Universidad Autonoma de Guadalajara
Universidad de Las Americas-Puebla
Universidad de Guadalajara

Netherlands
Hanzehogeschool Groningen

Norway
Norwegian School of Management

Thailand
Thammasat University

Turkey
Koc University

United States
San Diego State University
University of Colorado at Denver
University of Maine
University of Miami
University of North Carolina at Charlotte

For more information, contact the above listed individuals. Also, see International & Exchange Student Services in the Academic and Campus Services section.

Field Schools

For the field school entitled Doing Business in Mexico, participants spend nine weeks studying intensive Spanish, NAFTA and other issues related to the theory and practice of doing business in Mexico. The field school will be based primarily at Universidad de las Americas in Puebla, with some time spent on field trips and Mexico City. No Spanish fluency is required. Application forms are available from the office of the undergraduate business program or from the Centre for International & Exchange Student Services.

Co-operative Education Program

2310 Lohn Building, (604) 291-3619 Tel,
(604) 291-5922 Fax, http://www.sfu.ca/coop

The Faculty of Business Administration offers co-operative education to qualified students.

Co-operative education formally integrates a student’s academic studies on campus with relevant work experience. Employers from business, industry and government support and participate in the program. This ‘hands-on’ approach to education extends the learning process beyond the limits of the classroom and into the working world by alternating full time study semesters with full time paid work semesters of career-related practical experience.

For those seeking a professional accounting designation (CA, CGA, CMA) arrangements have been made with respective accounting organizations so that work experience obtained during the program may be recognized toward the required practical experience.

Admission

Admission to the Faculty of Business Administration is generally required before application to the co-operative education program is considered.

To enter the business co-op program a student must have a CGPA of at least 2.67. This CGPA must be maintained in order to continue in the program.

Admission to the program will normally be based on a student’s academic record and a personal interview with one of the business co-op program’s co-ordinators.

Withdrawal

Admitted students who fail to secure a placement through job competition in two consecutive
semesters may be required to withdraw from co-operative education. This withdrawal does not necessarily effect continuance in the Faculty of Business Administration. Normally, withdrawal from a work semester constitutes withdrawal from co-operative education.

Practicum Course Requirements

To qualify for the bachelor of business administration with a major in business administration and a co-operative education designation, students must meet University and Faculty of Business Administration graduation requirements.

In addition, students who choose the chartered accountancy option must complete five work semesters. All other options require four.

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.

Council for North American Business Studies

2307 Harbour Centre, (604) 291-5106 Tel, (604) 291-5098 Fax

This centre provides a focal point for the study and analysis of commercial issues of importance to business and government in Canada, the US and Mexico. The general economic integration of North America presents new opportunities and challenges. By establishing an on-going forum for business, government and academic leaders, by providing expert analysis and by disseminating information and research findings, the centre will provide a service contributing to the success of North American business in meeting the competitive challenges of this decade and the 21st century.

Scotiabank Resource Centre for Women Entrepreneurs

2400 Harbour Centre, (604) 291-5214 Tel, (604) 291-5122 Fax

Director
C.F. Smart BCom, MBA, PhD (Br Col)

This centre assists women entrepreneurs in established businesses and women starting new businesses. Initiatives launched by the centre include business education programs, advising and mentoring activities, and networking opportunities. By supporting entrepreneurship, the centre will provide women business owners with the expertise to meet and respond to industry changes, and to improve business opportunities. It is the intention of the centre to be a continuing resource and a contributing factor in the success of businesses started and run by women.
Faculty of Education


Dean
R. Barrow BA (Oxt), CertEd, PhD (Lond)

Professors Emeriti
J.F. Ellis BA, MA (Br Col), EdD (Calif)
M. Gibbons BA (Br Col), MA (Wash), EdD (Harv)
A.C. Kazepides BA (Athens), MEd, EdD (Temple)
G. Kirchner BPE (Br Col), MS, EdD (Oregon)
J.V. Trivett BSc (Lond), DipEd, MA (Brist)
S. Wassermann BS, MS (CCNY), EdD (NY)

Professors
S. Bailin BA, BEd, MEd, PhD (Tor)
R. Barrow BA (Oxt), CertEd, PhD (Lond)
P.E.F. Coleman BA, MA, EdD (Br Col)
A.J. Dawson BSoc (Alta), MA (Missouri), PhD (Alta)
S.G. deCastella BA (Sir G Wms), MA, PhD (Lond)
K. Egan BA, Cert Teaching (Lond), PhD (C’nell)
P.P. Grimmett BA (Newcastle, UK), BEd (Keele), MA, MEd (Alta), EdD (Br Col)
C.M. Mamchur BA, BEd, MEd (Sask), EdD (Flor)
M. Manley-Casimir BA (Exe), MEd (Br Col), PhD (Chic)
J. Martin BA, MEd, PhD (Alta)
A.A. Obadia BA (Montr), MA (McM), PhD (Ott)
S. Richmond CertEd (Alsager), BEd, DipEd (Calg), MEd (Nott), PhD (Calg)
M.F. Widenen BEd, BA, MEd, MEd (Sask), PhD (Colorado)
P.H. Winne BEd, BSEd (Bucknell), PhD (Stan)
B.Y.L. Wong BA (Keele), MA (Vic, BC), EdD (Br Col)

Associate Professors
J.D. Beynon BA (Brooklyn), MA (Brown), PhD (Union Grad Sch)
J. Blaney BEd, MEd (Br Col), EdD (Calif), President of Simon Fraser University
R. Case Dip Ed (Vic, BC), MA, MEd (Br Col), PhD (Fielding)
R.D. Gehlbach BA, MS (Ill), PhD (Tor)
A.O. Horvath BA (Sir G Wms), MSW (McG), EdD (Br Col)
L. Kanevsky BA (S Fraser), MASPEd (San Diego), MPhil (Col), PhD (Col)
C. Kenny BA, LA (Loyola), MA (Br Col), PhD (Fielding)
L. LaRocque BEd (McG), MA (Vic, BC), PhD (S Fraser)
A.M. Mackinnon BSc, BEd, MSc (Calg), EdD (Br Col)
M. McClaren BEd, BSc (Br Col)
T.J. O’Shea BEng (McG), BEd (Sask), MA (Manit), EdD (Br Col)
G.P. Sampson AB (Chic), MA, PhD (Mich)
J.A. Scott BA, MA (Calif), PhD (Ill)
S.J. Smith DipT, BEd (Kelvin Grove CAE), BHMS, MEd (New), PhD (Alta)
K. Tootey BA, MEd (Alta), PhD (Hor)
R. Zazkis BA, MA, DSc (Haifa Technion)
M. Zola BA (Brist), MEd (Leeds)

Assistant Professors
H. Bai BA (Calif), PhD (Br Col)
D.H. Dagenais BEd, MA (McG), PhD (Montr)
J. Dawson BA, BEd, MA, PhD (Alta)
L.J. LeMare BA (Sir G Wms), MA, PhD (Wat)
S. Senyshyn BEd, MusM (Tor), EdD (Tor)
J. Thompson BA (Vic), PhD (Ott)

Laboratory Instructors
D.A. Bell BA (S Fraser)
L.G. Wiebe BSc (Br Col)

Instructor
W. Cassidy BA, MEd (S Fraser)

Undergraduate Degrees Offered
Bachelor of Education (Honors)
Bachelor of Education

Diplomas and Certificates Offered
Certificate in Literacy Instruction
Post Baccalaureate Diploma

Undergraduate Programs
8628 Multi Purpose Complex, (604) 291-3614 Tel, (604) 291-3829 Fax, http://www.educ.sfu.ca/ugradprog

Director
J. Thompson BA (Vic), PhD (Ott)

Advisor
Ms. J. Bicknell BA (Carl), 8625 Multi Purpose Complex, (604) 291-3488 Tel, (604) 291-5323 Fax

Honors Program

Requirements
Students must complete a minimum of 162 hours which include
• a major or two minors, completed 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 45 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
• EDU 401, 402 and 405
• a minimum of 24 credit hours of upper division education (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
• For students enrolled at the University before fall 1991, the minimum graduation requirement in a general degree program is a graduation GPA of 2.0. The minimum graduation requirements will change for students enrolling at Simon Fraser University beginning in fall 1991 or thereafter. These 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 Simon Fraser University.

Certificate Program

Requirements

Students must complete a minimum of 162 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 45 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
• EDU 401, 402 and 405
• a minimum of 24 credit hours of upper division education (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
• For students enrolled at Simon Fraser University before fall 1991, the minimum graduation requirement for an honors program is a graduation GPA of 3.0. For those enrolled at the University beginning fall 1991, a minimum CGPA of 3.0 and a minimum GPA of 3.0 calculated on all upper division Simon Fraser University courses is required.

The BEd degree must be approved by the Faculty of Education. Major or minor requirements for this degree 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.

Professional Development Program

The professional development program (one year teacher training program) is an integral component of the BEd degree requirements. Admission is by application. Declaration of BEd as a degree goal does not guarantee acceptance into PDP. See Professional Development Program for information.

Mathematical Sciences Specialization

For a bachelor of education degree with a mathematical sciences specialization, students must complete 150 hours which include the following requirements, as well as all the requirements for the bachelor of education.

Lower Division Requirements

Students must complete at least 20 credit hours from the following:
CMPT 101-4 Introduction to Computer Programming
CMPT 201-4 Data and Program Abstraction
M ACM 101-3 Discrete Mathematics I
MACM 201-3 Discrete Mathematics II
MATH 113-3 Geometry
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 154-3 Calculus I for the Biological Sciences
MATH 155-3 Calculus II for the Biological Sciences
MATH 171-1 Computer Explorations in Calculus I
MATH 172-1 Computer Explorations in Calculus II
MATH 190-4 Principles of Mathematics for Teachers*
MATH 232-3 Elementary Linear Algebra
MATH 243-3 Introduction to Analysis
STAT 270-3 Introduction to Probability and Statistics

*Students who have taken, or are currently taking, any calculus course may not take MATH 190 for further credit.

Upper Division Requirements
Students must also complete at least 30 credit hours from the following.
CMPT 320-3 Social Implications of a Computerized Society
CNS 491-3 Technology and Canadian Society
HIST 360-4 History of Science: 1100-1725
MACM 316-3 Numerical Analysis I
MATH 308-3 Linear Programming
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 332-3 Introduction to Applied Algebraic Systems
MATH 339-3 Groups and Symmetry
MATH 342-3 Elementary Number Theory
MATH 343-3 Applied Discrete Mathematics
MATH 380-3 History of Mathematics
MATH 439-3 Algebraic Systems
MATH 447-4 Coding Theory
STAT 330-3 Linear Models in Applied Statistics I

Minors in the Faculty of Education
General Minor
Students should ensure that prerequisites to upper division courses for minors are included in their lower division course work.

• nine credit hours of lower division courses may be required to meet prerequisites. Students should ensure that prerequisites to the upper division courses for the minor are included in the lower division course work.

• a minimum 14 upper division hours (numbered 300 and above) is required.

• At least eight of the required 14 upper division credit hours are from courses offered by the Faculty of Education.

• education minors are approved in advance by the Undergraduate Advising Office.

Minor in Curriculum and Instruction
This minor will provide a general, flexible course of studies for students who desire a theoretical and practical expertise in contemporary approaches to curriculum development and instructional design.

Lower Division Requirements
Students must complete two of
EDUC 220-3 Introduction to Educational Psychology
EDUC 230-3 Introduction to Philosophy of Education
EDUC 240-3 Social Issues in Education
EDUC 250-3 Studies in the History of Education in the Western World

Upper Division Requirements
Students must complete
EDUC 471-4 Curriculum Development: Theory and Practice

plus 11 credit hours of upper division education and/or education professional courses for a total of 15 credit hours.

Minor in Educational Psychology
Educational psychology has two main items on its agenda: (1) theoretical and experimental inquiries into how students learn from instruction, how they acquire and express motivation in educational settings, and how they develop skills in school subjects and for learning and (2) studies of how this first line of inquiry contributes to designs for instructional experiences that promote a full spectrum of students’ achievements. The minor in educational psychology consists of required courses that develop a broad background in educational psychology supplemented by electives that deepen fundamentals. For students planning a teaching career, it provides a research based foundation in the psychology of teaching and learning underlying a program of professional studies. For others, the minor articulates a study of applied psychology serving one of our society’s most important aims, education of people of all ages.

Lower Division Requirements
EDUC 220-3 Introduction to Educational Psychology
EDUC 422-4 Educational Psychology Laboratory

Upper Division Requirements
Students must complete a minimum of 17 hours as specified below.
EDUC 320-3 Instructional Psychology
EDUC 325-3 Assessment for Classroom Teaching
EDUC 326-3 Classroom Management

plus two of
EDUC 420-4 Cognitive Strategies in Learning
EDUC 422-4 Learning Disabilities
EDUC 425-4 School Counselling for the Classroom Teacher
EDUC 426-4 Teaching Children and Youth with Special Needs
EDUC 428-4 Nature and Nurture of Gifted Students
EDUC 464-4 Early Childhood Education

Minor in Elementary School 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
EDUC 250-3 Introduction to Contemporary Dance
KIN 105-3 Fundamentals of Human Structure and Function
KIN 110-3 Current Topics in Human Nutrition
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 220-3 Human Foods and Nutrition
KIN 241-3 Sports Injuries — Prevention and Rehabilitation
PSYC 180-3 Brain and Behavior

This minor is normally available to fall semester entry students who have completed at least a year of secondary school physical education and wish to teach physical education in elementary schools.

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 programs, wilderness outdoor recreation programs, and other interdisciplinary environmental school programs.

Prerequisite Courses
Students must complete a minimum of nine hours selected from below.
BISC 003-3 Ecology and the Population Explosion
BISC 102-4 Introduction to 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 Facts and Values
PSYC 106-3 Social Issues
SA 150-4 Introduction to Sociology
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 a total of 29 credit hours, of which 23 hours are earned by completing the following seven required courses.

EDUC 240-3 Social Issues in Education
EDUC 341-3 Literacy, Education and Culture
EDUC 342-3 Contemporary Approaches to Literacy Instruction
EDUC 343-5 Literacy Practicum
ENGL 210-3 Advanced University Writing
EDUC 424-6 Learning Disabilities: Laboratory
EDUC 428-4 Nature and Nurture of Gifted Students

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 420-4 Cognitive Strategies in Learning
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 304-3 Motivation
PSYC 306-3 Psychological Assessment Procedures
SA 304-4 Social Control
SA 333-4 Schooling and Society

Notes
• Credits applied toward this certificate may not be applied toward any other Simon Fraser University certificate or diploma, but they may be applied toward major or minor program requirements or toward a bachelor’s degree under the normal 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 grade point average of 2.0, 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
Contact the Undergraduate Advising Office, 8625 Multi Purpose Complex, (604) 291-3488.

This program is for students who have completed a bachelor’s degree and wish to raise their teacher qualifications. Students should speak directly with the Teacher Qualification Service or their school district regarding courses that are acceptable for this change.

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. A minimum of 15 of the 30 credits must be earned in education and/or educational professional courses and a maximum of 12 may be transfer credits. Students must maintain a grade point average of 2.5 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 English As a Second Language
Refer to the Department of Linguistics section.

Professional Development Program (PDP)
Director
Dr. S. Smith, 8531 Multi Purpose Complex, (604) 291-4326
Admissions Advisor
Ms. D. Kelso, 8624 Multi Purpose Complex, (604) 291-3820/3149
External Programs
Ms. J. Bicknell, 8625 Multi Purpose Complex, (604) 291-3798/3488

Admission
Applicants to this program must be attending Simon Fraser University or be admissible to the University (see Admission and Readmission).
• All candidates are required to submit the Professional Development Program application form to the PDP office in the Faculty of Education.
• Candidates who have not attended Simon Fraser University previously, or who have not attended in any of the three semesters prior to intended registration, must submit to the PDP office an application for university admission (see Admission and Readmission).
• 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 must pay the PDP application fee directly to the PDP admissions office, Faculty of Education.

Elementary Applicants
Elementary applicants must, by the date of application, have completed a minimum of 76 credit hours of courses acceptable for credit at Simon Fraser University including the following prerequisite courses.
• six credit hours in English,
• one course (three credit hours) in each of Canadian history, Canadian geography, mathematics (MATH 190 is recommended), and laboratory science.

Elementary applicants must have completed a minimum of 76 credit hours of post-secondary credit (this should include 16 hours of upper division course work), including prerequisite courses, prior to application to the program.

Secondary Applicants
Applicants who plan to teach at the secondary level must fulfill the requirements of a teachable major subject or two teachable minor subjects. These requirements must be completed prior to commencing PDP.

Teachable Majors or Minors
biology
Canadian studies
chemistry
Computing science (minor only)
dance (FPA) (minor only)

English
English and French literatures (joint major)  
First Nations (minor only)  
French  
French, history and politics (joint major)  
geography  
history  
humanities (minor only)  
kinesiology (contact PDP)  
mathematics  
music (FPA)  
physics  
théâtre (FPA) (minor only)  
visual art (FPA)  

All students who plan to teach at the secondary level are required to have completed their degree requirements prior to commencing PDP. The exception to this is the BEd candidates who cannot complete their degree until they have successfully completed PDP. These BEd candidates must have completed the academic requirements of one teachable major or two teachable minors prior to commencing PDP. Students from other institutions may apply prior to the completion of their degree, but such students are required to have completed the degree one full semester prior to commencing PDP.

Secondary applicants must complete six credit hours of English one full semester prior to commencing PDP.

All Applicants

• A minimum of two reference letters, and no more than four (one should describe the candidate’s experience in teaching/instructional related functions, and the other in work-related settings) must be submitted before the application is considered.
• A cover letter and resume must also be submitted by all applicants (refer to PDP application package for additional information).
• Before admission to the program, applicants are required to demonstrate competence in written and oral English (and written and oral French in the case of French immersion and French as a second language programs).
• Students may be asked to submit evidence of good health before being considered for admission to the program.
• Students may be required to have an interview before being considered for admission to the program.
• If the number of applicants to the professional development program exceeds facilities and staffing capabilities, the admissions committee will select those candidates considered to be best qualified.
• Preference in selection of candidates for admission is generally given to students whose applications show experience with and commitment to some community service that may include teaching or other helping roles.
• Given the number of well-qualified applicants who present their credentials for admission to the professional development program each year, it is most improbable that candidates who have been unsuccessful in four previous competitions will be considered favourably in any subsequent competition. Therefore, candidates who have been unsuccessful in gaining entry to the program on at least four occasions are discouraged from making further application.

Program Description

The professional development program is three semesters in duration. Professional studies and activities are arranged in the following sequence.

First Semester of Professional Development Program
EDUC 401-8 Introduction to Classroom Teaching  
EDUC 402-7 Studies of Educational Theory and Practice  

(These courses are 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 the 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. Applicants are advised that entry to these programs may be competitive.

Physical Education
The elementary school physical education minor is available in the fall semester only. Secondary physical education is available in the fall and spring semesters, subject to the admission requirements of secondary applicants.

Special Focus Modules
Special focus modules are offered during fall and spring semesters. Entry to these programs may be competitive.

EDUC 405-15 Teaching Semester
(Not offered in summer semester)  
Prerequisites:  
EDUC 401 and 402.

A semester of classroom experience supervised by University appointed faculty associates. The school placement is appropriate to the educational level and subject specialties in which the student expects to obtain certification. Students assume a large measure of responsibility and participate in a wide range of teaching and supervisory activities. School placements in EDUC 405-15 are made in school districts throughout the Lower Mainland. Grading in EDUC 401, 402 and 405 is on a pass/withdrawal basis.

EDUC 404-0 Semester on Campus
(Normally taken in the summer semester)  
Prerequisites:  
EDUC 401 and 402.

Course programming in this semester is in consultation with undergraduate programs, faculty members, and the student’s faculty associate to ensure that professional, academic and certification requirements are satisfied or to satisfy the educational requirements of designated PDP modules. Students undertake 14 credit hours of studies in education.

Note: Students completing degrees from the Faculties of Applied Sciences, Arts, Business Administration or Science may apply credit for EDUC 404 towards that degree.

To be recommended for certification, the student must achieve in EDUC 404 a GPA at least equivalent to that required for a degree in the University.

General Regulations
EDUC 401, 402, 405 are to be regarded as full-time professional studies and may not be taken in conjunction with other academic or professional courses.

Students must complete normal Simon Fraser University registration procedures before commencing studies in any semester of the professional development program.

Students will be required to meet the following program goals, as outlined in the Professional Development Handbook.

• This program is normally completed in three consecutive semesters. However, those with valid reasons may be given permission by the director of professional programs to interrupt their participation in the program. A formal request from the student must be submitted in writing to the director.
• An interruption from the program requested by a student may normally last no longer than a maximum of four semesters.
• Students who have indicated 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.

Reading
Students who withdraw from EDUC 401/402 must re-apply to the admissions committee.

A student may apply for re-entry into EDUC 405 by completing a re-entry application and submitting it to the director of professional programs. Deadlines for re-application are as follows: April 15 for the fall semester; September 15 for the spring semester.

Permission to re-enter the program will be granted if:
• the student has satisfactorily met the conditions for re-entry established when he/she interrupted or withdrew from the program
• space is available in the semester for which the student applies

Students who re-enter PDP should apply for re-entry within four semesters of withdrawal. Students who do not re-enter within the specified time may be required to complete additional course work before re-admission.

Students who wish to re-enter EDUC 404 must apply to re-enter the program not later than six weeks prior to the beginning of the semester. An application for re-entry to PDP must be completed.

Recommendation for Certification
The academic and professional records of all students who have completed the three semesters of the professional development program will be subject to review by the faculty before a recommendation for certification is forwarded to the College of Teachers.

Special Professional Program Opportunities
EDUC 405-15 Course Challenge
Students with a minimum of one year of full-time teaching experience in Canada or in a school setting where English or French was the normal language of instruction, and where the curriculum was reasonably similar to a Canadian public school curriculum, may challenge EDUC 405 subject to the following.

• Course challenge applicants will be considered according to generally established requirements and procedures. See Registration section.
• 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 18 for the fall semester; September 15 for the spring semester.

External Professional Development Programs
There are three external professional development programs that operate under the auspices of a
consortia of local community colleges, northern school districts and Simon Fraser University. The consortia invite applications from students with strong local northern connections. (Deadlines and admission procedures are different from the Lower Mainland application.)

AHCOTE – Alaska Highway Consortium on Teacher Education (Fort St. John, Dawson Creek). Telephone 1-604-785-6981 local 51 for information.

NEW CALTEC – New Caledonia Teacher Education Consortium (Prince George, Quesnel, Nechako Lakes). Telephone 291-3488 for information.


HEART (Helping Expand Access for Returning Teachers)

EDUC 406-12 (HEART) Supervised Observation and Teaching

This EDUC 406 option within professional programs is a supervised orientation/observation and teaching sequence of about 12 weeks in a BC public school. This practicum offers educators, who do not meet BC certification requirements, an opportunity to familiarize themselves with the British Columbia school system and to update teaching skills to acquire certification.

EDUC 406 is normally offered in the fall and spring semesters only and space is limited. Grading is on a pass/withdraw basis.

Applicants to HEART must be attending Simon Fraser University or be admissible to the University (see Admission and Readmission). Candidates who have not attended Simon Fraser previously, or who have not attended in any of three semesters prior to intended registration in EDUC 406, must submit the application for undergraduate admission form to the Office of the Registrar. Students intending to complete Simon Fraser courses in preparation for application to EDUC 406 should contact the Faculty of Education (MPX 8624, telephone (604) 291-3798 or (604) 291-3488).

Application forms for the HEART program should be received by: April 15 for the fall semester; September 15 for the spring semester. An interview is normally required.

Certification

Simon Fraser University does not confer teaching certificates. The College of Teachers is the only body in British Columbia authorized to grant such certificates. Under July 1, 1974 regulations, qualified students from provincial universities, upon making application and submitting birth or baptismal certificate as proof of name and age, will receive a non-expiring teaching credential.

Note: Persons convicted of a criminal offence and considering a teaching career should write to the College of Teachers for clarification of their status before undertaking a teacher education program.

Types of Certificates

There are two types of teaching certificates. The standard certificate 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 so obtained (a minimum of 120 credit hours of academic and professional credit) will normally qualify for Teacher Qualification Service category four.

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 so obtained (a minimum of 120 credit hours of academic and professional credit) will normally qualify for Teacher Qualification Service category four.

Notes Regarding Requirements for Teaching Certificates

The following are required for teacher certification:

• a minimum of six credit hours in the Department of English

• effective September 1, 2000, students must meet the BC College of Teachers acceptable degree policy restricting the academic preparation acceptable for qualifying teachers. Contact the Faculty of Education for further information.

Applying for a Certificate

The Faculty of Education sends the College of Teachers a list of students who have completed teacher certification requirements. Each student is given or mailed an application for teacher’s certificate of qualification form. Students must forward the completed form to the College of Teachers for formal evaluation for certification. Applications for upgrading of certificate (e.g., when a teacher wishes to convert a standard certificate to a professional certificate) must also be made to the College of Teachers.

Note: There is a delay between the completion of the professional development program and the forwarding to the College of Teachers of documented recommendation for a teaching certificate. Applicants for certification on completion of a degree should note the University regulations in this Calendar relating to final deadlines for submission of applications for graduation. Exceptions cannot be made.

Teacher Qualification Service

This service is sponsored jointly by the BC Teachers' Federation and the BC School Trustees Association and is an advisory service to teachers and school boards in evaluating the academic and professional preparation of teachers.

At present, the service assists teachers who are newly certified, new to a school district, or who are upgrading their certificates. Request for evaluation forms are available from the Teacher Qualification Service, 106-1525 West 8th Avenue, Vancouver, BC, V6T 1T5, or from the PDp admissions office, Faculty of Education, Simon Fraser University.
Faculty of Science

Dean
C.H.W. Jones BSc, PhD (Manc)
See Graduate Studies for research interests of faculty members.

Undergraduate Degrees Offered
Bachelor of Science (Honors)
Bachelor of Science

Diplomas and Certificates Offered
Certificate in Actuarial Mathematics
Post Baccalaureate Diploma in Biological Sciences
Post Baccalaureate Diploma in Environmental Toxicology

Major Program
A major program provides a broad general education in several fields and some specialization in one field known as the major. Optional programs, which include double majors or majors and minors, are possible. General regulations are in Faculty of Science requirements for the BSc (major). For specific requirements, refer to the academic department concerned. Students not pursuing any specialization may undertake a bachelor of general studies (BGS) degree. Information may be found in the Faculty of Arts requirements.

Requirements for Major
Students must complete 120 credit hours including the following.

- a minimum of 28 credit hours of upper division credit courses numbered 300 and 400 as specified by the major program
- additional credit hours of upper division credit bringing the total to a minimum of 44 credit hours of upper division credit
- a minimum of 12 credit hours in subjects taken outside the Faculty of Science (excluding EDUC 401 to 407) including a minimum of 6 credit hours taken in the Faculty of Arts
- a grade point average of 2.0 in the upper division courses required in the program

Additional requirements, as specified by the major program and in the General Information section, 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

or

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 GPA of 2.00 in the upper division courses required in the program

Honors Program
An honors program provides a broad general education with in-depth study in a single field and requires the student to concentrate his/her studies in the fifth to eighth levels in the chosen field. This program is recommended for students who intend to proceed to advanced degrees, provided that they meet the entrance requirements and maintain the required standing.

Students applying for admission to an honors program will normally have a cumulative grade point average of 3.00 (B standing). A student is expected to maintain this standard to continue in the honors program.

Requirements for Honors and Honors First Class
Students must complete 132 credit hours of credit as prescribed by the honors program which include the following.

- a minimum of 48 hours of upper division credit in one subject area
- additional credit hours of upper division credit bringing the total to a minimum of 60 credit hours of upper division credit
- a minimum of 12 credit hours in subjects taken outside the Faculty of Science (excluding EDUC 401 to 407) including a minimum of six credit hours taken in the Faculty of Arts

Students must also complete additional requirements as specified by the honors program and in the General Information section of this Calendar.

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 or 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 subjects to fulfill overall credit for the two programs involved.
- Programs totaling more than 18 hours of credit per semester require the approval of the dean.

Minor Program
Consult advisors in appropriate departments when deciding on course selection. Suggested programs and prerequisites are given in each department's Calendar entry. An average grade of at least 2.00 is required in those upper division courses used to satisfy the requirements for a minor.

General Science Program
This program, consisting of 120 credit hours, provides a broad general education in several fields with some specialization in at least two fields. It requires two minors, one of which must be chosen from within the Faculty of Science. The groupings of courses from which the two minors can be chosen are given under the General Science Program section in the Calendar, along with the general course requirements for this degree. It should be noted that all lower division requirements for the two chosen minors must also be completed.

Co-operative Education Programs
Co-operative education programs are available in biological sciences, chemistry, earth sciences, environmental science, geography, mathematics, and physics. Details are given in the departmental sections and in the Co-operative Education section.

Associate in Science Diploma
Students who have completed the associate in science diploma from the University College of the Fraser Valley, Douglas College, or Kwantlen College are guaranteed admission to the Faculty of Science provided that they meet the requirements for University admission.

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, or veterinary medicine are eligible for a bachelor of science degree from Simon Fraser University after successful completion of the first year of professional study. To be acceptable, courses taken in the professional program must not duplicate courses already taken at Simon Fraser University and must be acceptable for transfer credit in a major or honors degree program. Candidates must apply for transfer credit and a bachelor’s degree through the Office of the Registrar, Simon Fraser University. Since official transcripts of the work completed in the first year of the professional program are required for transfer credit purposes, application for graduation should be delayed until the summer semester following the completion of requirements.

Requirements for Students Wishing to Transfer into Professional Schools
To transfer into professional schools, contact the professional school admissions office to confirm the course requirements.

Engineering Transfer Program
Advisors
Undergraduate curriculum chair, School of
Transfer to the University of British Columbia's Engineering Program

Students who have taken two semesters of science at Simon Fraser University may be considered for admission to first year engineering at the University of British Columbia if they have an overall GPA of at least 2.5, including all attempted courses. A GPA of at least 2.7 must also be achieved in mathematics, Physics and chemistry with a grade of no less than a C in these subjects.

Students who complete the following courses and who meet the University of British Columbia Faculty of Applied Science admission standards will be eligible to be considered for admission to second year engineering, provided they have an overall GPA of 2.5, including all attempted courses. For such students, the University of British Columbia course ASPC 151, Computer Added Engineering Graphics, must be taken along with the normal second year program at the University of British Columbia.

CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CMPT 101-4 Introduction to Computer Programming
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 222-3 Elementary Linear Algebra
MATH 262-3 Applied Mathematics – Statics
PHYS 120-3 Physics I
PHYS 121-3 Physics II
PHYS 131-2 General Physics Laboratory B
ENG 101-3 Introduction to Fiction
ENG 102-3 Introduction to Poetry
ENG 103-3 Introduction to Drama
ENG 104-3 Introduction to the Essay as Literature

It is the student’s responsibility to ensure that prerequisites are taken in the proper order and that application for admission deadlines at the University of British Columbia are observed.

Students who lack credit for some of these courses may still be accepted for admission to the second year of the University of British Columbia Engineering program, contingent upon subsequently making up the course credit short fall.

In appropriate circumstances and with careful planning, up to three courses (or course and associated laboratory combinations) may be taken at Simon Fraser University during the summer semester immediately prior to becoming a student at the University of British Columbia. The associate dean of the engineering program at the University of British Columbia must be consulted if this option is to be pursued.

Additional Transfer Credit

Additional courses, which will reduce the number of courses that must be taken subsequently at the University of British Columbia, may also be transferable; in particular, the following Simon Fraser University courses.

MATH 251-3 Calculus III
MATH 252-3 Vector Calculus
MATH 263-3 Applied Mathematics – Rigid Body Dynamics

MATH 310-3 Introduction to Ordinary Differential Equations
MATH 314-3 Boundary Value Problems

These courses have a University of British Columbia counterpart, respectively: MATH 253, 254, PHYS 270, MATH 255, 257. Each is required by several of the second (or subsequent) year University of British Columbia engineering programs. The associate dean of the engineering program at the University of British Columbia must be consulted if these courses are included in the transfer credit request to UBC.

Transfer to Simon Fraser University’s Engineering Science Program

This is a restricted program with a fixed enrolment limit. Students planning entry through the engineering transfer program should discuss their plans with the engineering science advisor.

Faculty of Dentistry at the University of British Columbia requires the following courses which are prerequisites for applying to enter the first year dentistry (DMD).

ENG 101 and one of 102 or 103 or 104
ENGL 222 and 321
BISC 101 and 102
CHEM 121, 122, 126, 281
MATH 151 and 152
PHYS 101, 102, 130 (or 120, 121, 131)

Additional courses are required to complete six semesters (90 credit hours) of study. These should be chosen in accordance with a specific degree program at Simon Fraser University but students are advised to select some courses from disciplines in the humanities and social sciences.

Contact address for student admissions to: Faculty of Dentistry – Admissions, University of British Columbia, 350 – 2194 Health Sciences Mall, Vancouver, BC, V6T 123, Telephone (604) 822-3416,
Fax (604) 822-4532, E-mail foddadms@unixg.ubc.ca

Faculty of Forestry at the University of British Columbia

The Faculty of Forestry offers four year degree programs in forest resources management, forest operations, forest science, natural resources conservation, and wood products processing. The curricula in forestry allows two admission pathways.

If first year science is taken at Simon Fraser University, the student's responsibility to ensure that prerequisites are taken in the proper order and that application for admission deadlines at the University of British Columbia are observed.

Students who lack credit for some of these courses may still be accepted for admission to the second year of the Faculty of Forestry at the University of British Columbia (or its equivalent at another post-secondary institution).

Chemistry: all of CHEM 121, 122, 126, 250, 255, 270, MATH 255, 257. Each is required by several of the second (or subsequent) year Faculty of Forestry at the University of British Columbia courses.

Statistics: 10527 Shrum Science Centre, Dr. G.A.C. Graham, Department of Mathematics and Statistics, 160 Science Building, (604) 291-4371

Additional courses are required to complete six semesters (90 credit hours) of study. These should be chosen in accordance with a specific degree program at Simon Fraser University but students are advised to select some courses from disciplines in the humanities and social sciences.

Contact address for student admissions to: Faculty of Forestry – Admissions, University of British Columbia, 350 – 2194 Health Sciences Mall, Vancouver, BC, V6T 123, Telephone (604) 822-3416,
Fax (604) 822-4532, E-mail foddadms@unixg.ubc.ca

Faculty of Pharmaceutical Sciences at the University of British Columbia requires the following courses which are prerequisites for applying to enter the first year of pharmacy.

ENGL any two of 101, 102, 103, 104
CHEM 121 / 122 / 126
MATH 151 / 152 (or 157 / 158 – not for credit in biology or forestry)
BISC 101 / 102 and
PHYS 101 / 102 / 130 (or 120 / 121 / 131)

Students should refer to a current Calendar of the University of British Columbia for specific information. Also, students should consult the Faculty of Pharmaceutical Sciences at the University of British Columbia.

Contact address for admissions: Admissions, Registrar’s Office, University of British Columbia, 2016 – 1874 East Mall, Vancouver, BC, V6T 1Z1. Telephone (604) 822-3014.

The School of Rehabilitation Sciences at the University of British Columbia offers programs in occupational therapy and physical therapy. The following courses are prerequisites.

Occupational Therapy (30 credit minimum)

BISC 101 and 102
ENGL (3 credits), ENGL 199 recommended
PSYC 100 and/or 102
SA (3-6 credits at the 100 or 200 level)

STAT 270 or 101 or 203 or 301

SA (3-6 credits at the 100 or 200 level)

Physical Therapy (30 credit minimum)

BISC 101 and 102
CHEM 121, 122, 126
ENGL (3-6 credits), ENGL 199 recommended
PSYC 100 and/or 102

STAT 270 or 101 or 203 or 301

SA (3-6 credits at the 100 or 200 level)

Electives (9-12 credits), ENGL any

Chemistry: all of CHEM 121, 122, 126, 281, 250, 255

Additional courses are required to complete six semesters (90 credit hours) of study. These should be chosen in accordance with a specific degree program at Simon Fraser University but students are advised to select some courses from disciplines in the humanities and social sciences.

Contact address for student admissions to: Faculty of Pharmaceutical Sciences – Admissions, University of British Columbia, 2016 – 1874 East Mall, Vancouver, BC, V6T 1Z1. Telephone (604) 822-3014.

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ENGL (3-6 credits), ENGL 199 recommended
PSYC 100 and/or 102

STAT 270 or 101 or 203 or 301

SA (3-6 credits at the 100 or 200 level)

Electives (9-12 credits), ENGL any

Chemistry: all of CHEM 121, 122, 126, 281, 250, 255
**General Note**
All course requirements should be completed by the end of the spring semester preceding the proposed date of entry to a professional school.

**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. (See also the Faculty of Education section.)

**Languages other than English**
Most graduate schools require proficiency in one or two languages other than English. Students who intend to pursue studies at another university are advised to include in their programs at least six hours of course work in languages other than English. In general, the most useful languages for reading research papers are German, French and Russian.

**General Education Courses**
Several courses have been designed with no prerequisite structure and are meant to convey a broad perspective of scientific outlook to students who are non-specialists in science. These courses are as follows.

- **Biological Sciences**
  - BISC 004-3 Apiculture: An Introduction to Bees and Beekeeping

- **Chemistry**
  - CHEM 002-3 Chemistry, Technology and Society

- **General Science**
  - SCI 300-3 Science and its Impact on Society

- **Science**
  - SCI 010-1, 2, or 3 Contemporary Topics in the Natural Sciences

This course may be offered for one, two or three units of credit and a student may acquire a maximum of three credit hours for the course. This course may be offered by any of the Faculty of Science departments or may be taught by faculty members from across the faculty.

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### Applied Mathematics Program


**Professors Emeriti**
- G.N. Bojadziev PhD (Sofia Mech Eng Inst)
- R.W. Lardner BA, PhD, ScD (Camb)
- E.M. Shoemaker BS, MS, PhD (Carnegie Tech)
- M. Singh AB, MA (Punj), MSc, PhD (Brown)

**Associated Faculty with Department of Mathematics and Statistics**
- J.M. Borwein
- R. Choksi
- A. Das
- G.A.C. Graham
- M.C.A. Kropinski
- E. Peichlaner
- K. Promislow
- R.D. Russell
- C.Y. Shen
- T. Tang
- M.R. Trummer

**Advisors**
- Mrs. M. Fankboner BA (Occidental), MSc (S Fraser), TLX10511 Shrum Science Centre, (604) 291-4849
- Dr. G.A.C. Graham BA (Dublin), MS (Brown), PhD (Glas), TLX10527 Shrum Science Centre, (604) 291-3337

Applied mathematics consists of areas of mathematics which are closely related to such traditional fields as the physical sciences and engineering, but nowadays sophisticated mathematical tools are used over a wide spectrum of disciplines. With the rapid development of computers in recent years, applied mathematics is becoming increasingly computationally oriented. Applied mathematicians are in demand and the good student in the field is virtually sure of an interesting career whether she/he chooses industrial research, government laboratory or university.

The Department of Mathematics and Statistics offers sufficient courses at the undergraduate level for a student to specialize in applied mathematics. Details of a program for students interested in the applied mathematics of physics and engineering are given below. In addition, there are joint honors degree programs in mathematics and computer science and in mathematical physics, both of which can include a substantial number of applied mathematics courses. A concentration in applied mathematics can also provide an excellent basis for a career in engineering, and the programs in engineering science at Simon Fraser University make considerable use of courses in this area.

Required courses for the BSc in applied mathematics are as follows.

#### Major Program

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<td>MATH 262-3 Applied Mathematics — Statics*</td>
<td>3</td>
</tr>
</tbody>
</table>

**Honors Program**

**Lower Division Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPT 101-4 Modula 2</td>
<td>4</td>
</tr>
<tr>
<td>CMPT 102-3 Introduction to Scientific Computer Programming</td>
<td>3</td>
</tr>
<tr>
<td>CMPT 103-3 Introduction to Pascal Programming</td>
<td>3</td>
</tr>
</tbody>
</table>

**Upper Division Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 151-3 Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 152-3 Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 232-3 Elementary Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 242-3 Introduction to Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MATH 251-3 Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>MATH 252-3 Vector Calculus</td>
<td>3</td>
</tr>
<tr>
<td>MATH 262-3 Applied Mathematics — Statics*</td>
<td>3</td>
</tr>
</tbody>
</table>
MATH 361-3 Mechanics of Deformable Media
MACM 316-3 Numerical Analysis I
at least one of
MATH 308-3 Linear Programming
MATH 416-3 Numerical Analysis II
STAT 380-3 Introduction to Stochastic Processes
at least four of
MATH 309-3 Continuous Optimization
MATH 408-3 Discrete Optimization
MATH 415-3 Ordinary Differential Equations
MATH 418-3 Partial Differential Equations
MATH 419-3 Linear Analysis
MATH 424-3 Applications of Complex Analysis
MATH 438-3 Linear Algebra
STAT 330-3 Linear Models in Applied Statistics
at least four of
MATH 462-3 Fluid Dynamics
MATH 466-3 Tensor Analysis
MATH 467-3 Vibrations
MATH 470-3 Variational Calculus
MATH 471-3 Special Relativity
PHYS 413-3 Advanced Mechanics
 Choices from the above must include at least five courses at the 400 level and the credit hours must total at least 132, of which at least 66 hours must be in the Faculty of Arts. At least six further hours must be in a faculty other than science, and at least 60 hours must be at the upper division.

Biochemistry Program

Director
A.T. Beckenbach BSc (Florida Presbyterian), MSc (Flor), PhD (Calif)*

Professors
D.L. Baillie BSc, MSc (Br Col), PhD (Conn)*
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R.J. Cushey BSc, MSc, PhD (Alta)**
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Associated Faculty
A.R. Kermode, Biological Sciences
M.M. Moore, Biological Sciences
M.J. Smith, Biological Sciences
G.F. Tibbits, Kinesiology
Lab Instructor
A. Yim BSc (Oregon), MSc (S Fraser)

*Joint appointment with Biological Sciences
**Joint appointment with Chemistry
***Joint appointment with Physics

Advisor
Dr. W.R. Richards AB, PhD (Calif), 6144 South Science Building, (604) 291-4355

Major, minor and honors programs in biochemistry are offered by the Faculty of Science. Entry into these programs require the permission of the program advisor of the biochemistry curriculum committee.

Students who entered the second or third year of biochemistry in fall 1994 or later should follow the program as set out below. Students farther along should refer to the 1992/93 Calendar for information on requirements.

Major Program
(120 credit hours)

Core Program
(86-88 credit hours)
Students must complete all of
BICH 221-3 Cell Biology and Biochemistry
BICH 222-3 Molecular Biology and Biochemistry
BICH 311-2 Analytical Biochemistry Laboratory
BICH 312-2 Metabolism Laboratory
BICH 321-3 Intermediary Metabolism
BICH 322-3 Molecular Physiology
BICH 403-3 Physical Biochemistry
BICH 412-4 Enzymology
BICH 413-2 Physical Biochemistry Laboratory
BISC 101-4 Introduction to Biology
BISC 102-4 Introduction to Biology
BISC 202-3 Genetics
BISC 331-3 Molecular Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
CHEM 286-2 Organic Chemistry Laboratory II
CHEM 333-3 Inorganic Chemistry of Biological Processes
CHEM 360-3 Chemical Kinetics and Thermodynamics
and one of
BISC 431-4 Molecular Biotechnology
BISC 457-3 Plant Molecular Biology and Biotechnology

and one of
CMPT 110-3 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
MATH 310-3 Introduction to Ordinary Differential Equations
STAT 302-3 Analysis of Experimental and Observational Data
and one of
PHYS 120-3 Modern Physics and Mechanics
PHYS 101-3 General Physics I
and one of
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 102-3 General Physics II

Recommended Courses
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III

*Note: Course alternatives marked with an asterisk are possible only for students who have transferred to biochemistry from another program. Students who have declared (or intend to declare) a biochemistry major or honors program should not register for these alternative courses.

In addition to the core program, students majoring in biochemistry must complete 32-34 credit hours of electives, at least 9-10 of which must be upper division credits to bring the total of the latter to 44 credit hours. Students must have at least 12 credit hours taken in subjects outside the Faculty of Science (excluding EDUC 401-406), including a minimum of six hours from the Faculty of Arts. Further BSc general degree regulations are given in the Faculty of Science section.

Although many variations are possible, a student entering with BC high school chemistry 12, algebra 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
BICH 221-3 and 222-3
BISC 202-3
CHEM 126-2, 282-2, 286-2 and 215-4
CMPT 101-4, 102-3 or 110-3
6 hours of electives
Total 28-29 credit hours

Levels 5 and 6
BICH 311-2, 312-2, 321-3 and 322-3
BISC 331-3 and 431-4 or 457-3
CHEM 360-3
MATH 310-3 or STAT 302-3
9 hours of electives
Total 31-32 credit hours

Levels 7 and 8
BICH 403-3, 412-4 and 413-2
CHEM 333-3
17-19 hours of electives
Total 29-31 credit hours

Honors Program
(132 credit hours)
In addition to the core courses shown above for the major program, students taking honors in biochemistry must complete a further 44-46 credit hours, to include the following.

one of
BICH 491-5 Undergraduate Research
BICH 493-15 Individual Study Semester (Option B)

plus at least 12 credit hours chosen from the following, including the other of BISC 431-4 or 457-3 that was not taken in the core

BICH 420-3 Selected Topics in Contemporary Biochemistry
BICH 421-3 Nucleic Acids
BICH 422-3 Biomembranes
BICH 423-3 Protein Structure and Function
BISC 402-3 Molecular Genetics
BISC 453-3 Advanced Developmental Biology
CHEM 357-4 Chemical and Instrumental Methods of Identification of Organic Compounds
CHEM 411-3 Crystal Structure Analysis
CHEM 450-3 Mechanistic Organic Chemistry
or with permission of the undergraduate advisor
BICH 490-3 Directed Study in Advanced Topics of Biochemistry
BISC 471-3 Special Topics in Biology
BISC 472-3 Special Topics in Biology
BISC 473-3 Special Topics in Biology

Students must have a total of 12 credit hours taken in subjects outside the Faculty of Science (including six hours in the Faculty of Arts, but excluding EDUC 401 to 406); and sufficient upper division courses to bring the total number of upper division credit to at least 60 credit hours. Further BSc honors requirements are given in the Faculty of Science section.
Minor Program  
(61-63 credit hours minimum)

Lower Division Requirements  
(46 credit hours minimum)

all of
BICH 221-3 Cell Biology and Biochemistry  
BICH 222-3 Molecular Biology and Biochemistry  
BISC 101-4 Introduction to Biology  
BISC 102-4 Introduction to Biology  
CHEM 121-4 General Chemistry and Laboratory I  
CHEM 122-2 General Chemistry II  
CHEM 215-4 Introduction to Analytical Chemistry  
CHEM 281-4 Organic Chemistry I  
CHEM 282-2 Organic Chemistry II  
CHEM 286-2 Organic Chemistry Laboratory II  
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

Kinesiology Electives

Note the following biochemistry related courses offered by the School of Kinesiology in the Faculty of Applied Sciences. Any of these may be included in the 30 hours (or 42 for honors) of electives.  
KIN 105-3 Fundamentals of Human Structure and Function  
KIN 110-3 Human Nutrition: Current Issues  
KIN 305-3 Human Physiology I  
KIN 306-3 Human Physiology II (Principles of Physiological Regulation)  
KIN 326-3 Functional Anatomy  
KIN 336-3 Microscopic Anatomy (Histology)  
KIN 402-4 Mechanical Properties of Tissues  
KIN 407-3 Human Physiology Laboratory  
KIN 430-3 Human Energy Metabolism

Co-operative Education Program

Biochemistry majors and honors may apply for admission to the science co-op education program which includes four work semesters during the normal academic program. Refer to the Co-op Education section.

Department of Biological Sciences

B8255 Shrum Science Centre, (604) 291-4475 Tel,  
(604) 291-3496 Fax, http://bio.sfu.ca

Chair  
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Professors Emeriti  
T. Finlayson BA (Tor)  
F.J.F. Fisher BSc, MSc (Cant), Ph.D (NZ)  
J.P.M. Mackauer DrPhilNat (Fran), FESC  
L.M. Srivastava BSc, MSc (Alid), PhD (Calif)  
A.L. Tumbull BSF, MF (Br Col), DPhil (Oxf)  
W.E. Widaver AB (San Francisco), PhD (Stan)

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J.H. Borden BSc (Wash State), MSc, PhD (Calif), RPF, REP, FESC  
P.R. Branchor AB (Harv), PhD (Calif)**  
F. Cooke BA, MA, PhD (Camb)  
L.M. Dill BSc, MSc, PhD (Br Col)  
L.D. Druehl BSc (Wash State), MSc (Wash), PhD (Br Col)  
A.P. Farrell BSc (Bath), PhD (Br Col)  
F.C.P. Law BSc, MSc (Alta), PhD (Mich)  
R.W. Mathewes BSc (F Fraser), PhD (Br Col)  
B.A. McKeowen BSc (Br Col), PhD (Calif)  
Z.K. Punja BSc (Br Col), MS, PhD (Calif)  
J.E. Rehe BSA, PhD (Purdue)  
B.D. Rottberg BSc (F Fraser), MSc (Br Col), PhD (Mass)  
M.J. Smith BSc (St Mary’s, Calif), PhD (Br Col)  
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M.L. Winston BA, MA (Boston), PhD (Kansas)  
R.C. Ydenberg BSc (S Fraser), DPhil (Oxf)

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A.H. Burr AB (Hamilton), PhD (Rockefeller)  
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K.R. Delaney BSc (Br Col), MA, PhD (Prin)  
P.V. Fankboner BS (Calif), MSc (Pacific), PhD (Vic, BC)  
G.J. Gries PhD (Gott)  
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E.B. Hartwick BSc, MSc (Tor), PhD (Br Col)  
N.H. Haunerland MSc, PhD (Mun)**  
B.M. Honda BSc (McM), PhD (Br Col)**  
L.F.W. Lesack BSc (Man), PhD (Calif)*  
G.R. Lister BSc (Louv), PhD (S Fraser)  
M.M. Moore BSc, PhD (Br Col)  
R.A. Nicholson BSc, PhD (S’ton)  
T.D. Williams BSc (Eve), PhD (Brist)

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C.J. Kennedy BSc, PhD (S Fraser)  
A.R. Kernode BSc, PhD (Calif)  
S.P. Lee BSc (Alta), PhD (Oregon)**  
A.L. Plant BSc, PhD (Not)**  
J.V. Price BA (San Diego), PhD (Col)**  
J.K. Scott AB (Occidental), PhD (Missouri), MD (St Louis)**  
E. Verheugen, BA (C’nell), MPhil, PhD (Yale)

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N.P.D. Angerilli BSc, PhD (S Fraser)  
P. Belton BSc (Lond), PhD (Glas), ARCS  
R.W. Butler BSc, MSc (S Fraser), PhD (Br Col)  
H.L. Ching BA, MSc (Oregon State), PhD (Neb)  
W.G. Friend BSc (McG), PhD (C’nell)  
M. Goettel BSc (Concordia), MSc (Qt), PhD (Alta)  
G.J.R. Jud BSc, MPM, PhD (S Fraser)  
E. Kafer Dip, DPhil (Zur)  
K.K. Klein DipAg, BSA, MSc (Sask), PhD (Purdue)  
R.G. Lalonde BSc (Lakehead), MSc (Laurentian), PhD (S Fraser)  
H.R. MacCarthy BA (Br Col), PhD (Calif)  
K. Martin BSc (PEI), MSc (Alta), PhD (Qu)  
C. Stephen DVM, PhD (Sask)  
R.S. Utkhede BSc, MSc (Nag), PhD (IARI)  
R.S. Vernon BSc, MPM, PhD (S Fraser)  
T.C. Vrain DUES, MSc (Univ de Caen), PhD (N Carolina State)  
L.R. Walker BSc (Mt Alison), MSc (Wat), PhD (S Fraser)

Associated Faculty

R.M. Peterman, Resource and Environmental Management  
G. Tibbits, Kinesiology  
Laboratory Instructors  
M. Fernando BSc (Sri Lanka), MSc, PhD (Br Col)  
N. McGregor BSc (Q), MSc (Calif)  
T. McMillan BSc, MPM (S Fraser)  
J. Sharp BA, BSc (McG), MSc (Br Col)  
C. Thong BSc (Singapore), PhD (S Fraser)

Advisors  
Dr. R.C. Brooke, Dr. G.R. Lister, B8270 Shrum Science Centre, (604) 291-3551

Undergraduate Program Co-ordinator  
B. Medford MSc (Alta)

joint appointment with Geography

joint appointment with Biochemistry

Programs are offered by the Department of Biological Sciences include the following: major, honors, minor; environmental toxicology, minor, post baccalaureate diploma. Co-operative education is available to students in major and honors programs.

Academic Advising

Biological sciences majors should contact an advisor before registration. Those in a pre-profession program (e.g. pre-medicine, pre-veterinary medicine, pre-dentistry, etc.) should advise the department and an advisor familiar with the professional program requirements will be assigned.

Major Program

Basic credit hour requirements underlying all areas of emphasis follow.

BISC/BICH (lower division) 20 credit hours  
non BISC/BICH (lower division) 27 credit hours  
BISC/BICH (upper division) 37 credit hours  
etlectives 36 credit hours  
total (minimum) 120 credit hours

*Electives must include a minimum of 12 hours in subjects taken outside the Faculty of Science (excluding EDUC 401, 402, 405, and 406). A minimum of six of these credit hours must be from the Faculty of Arts. Additional upper division credit must be included in the program to complete the BSc requirement of a minimum of 44 credit hours of upper division credit.

Six credit hours of English should be completed by all major/honor students in biological sciences.

Lower Division Core

Normally all biological sciences majors must complete the following, or equivalents, within the first 60 hours (four semesters) of their programs.

Courses in the Faculty of Science  
all of  
BICH 221-3 Cell Biology and Biochemistry  
BICH 222-3 Molecular Biology and Biochemistry  
BISC 101-4 Introduction to Biology
lower Division Total

Students are encouraged to take a full year of organic chemistry. Those intending to apply for medical, dental or veterinary school should include all of the chemistry courses above. See Requirements for Students Wishing to Transfer into Professional Schools in the Faculty of Science section.

Upper Division Requirements and Electives

All biological sciences majors will complete a minimum of 12 upper division BISC/BICH courses. The following three courses form an upper division core required of all BISC major/honors students.

BISC 329-4 Introduction to Experimental Techniques
BISC 333-3 Developmental Biology
BISC 400-3 Evolution

Students are encouraged to choose their remaining curriculum requirements in an area of specialization. Currently, six different streams of biology are offered which include cell and molecular biology, animal physiology, plant biology, ecology, marine biology and general biology. Courses in the general stream may be chosen to gain broad training in the biological sciences, or used to specialize in an area not offered in the other five streams. The course requirements for each stream are as follows.

Cell and Molecular Biology

Students must complete one physiology course from
BISC 305-3 Animal Physiology
BISC 366-3 Plant Physiology

and one organism lab course from
BISC 303-3 Microbiology
BISC 331-3 Molecular Biology
BISC 316-3 Vertebrate Biology
BISC 326-3 Biology of Non-vascular Plants
BISC 337-3 Comparative Morphology, Distribution and Evolution of Vascular Plants

or appropriate special topics lab courses

plus two additional courses from
BICH 412-4 Enzymology
BICH 421-3 Nucleic Acids
BICH 422-3 Biomembranes
BICH 423-3 Protein Structure and Function
BISC 402-3 Molecular Genetics
BISC 453-3 Advanced Developmental Biology
BISC 498-3 Undergraduate Research

or special topics courses appropriate for the selected stream or alternative courses as approved by the program advisor.

Animal Physiology

Students must complete the following physiology course
BISC 305-3 Animal Physiology

plus one organism lab course from
BISC 306-3 Invertebrate Biology
BISC 316-3 Vertebrate Biology

plus the following lab course
BISC 307-3 Animal Physiology Lab

plus the following two mandatory courses
BICH 321-3 Intermediary Metabolism
BICH 322-3 Molecular Physiology

plus two additional lab courses from
BISC 405-3 Cell Physiology
BISC 429-3 Experimental Techniques I: Separation Methods
BISC 449-3 Experimental Techniques III: Histochemistry
BISC 416-3 Fish Biology

or appropriate special topics lab courses

plus two additional courses from
BISC 313-3 Environmental Toxicology II
BISC 445-3 Environmental Physiology of Animals
BISC 453-3 Endocrinology
BISC 498-3 Undergraduate Research

or special topics courses appropriate for the selected stream or alternative courses as approved by the program advisor.

Plant Physiology

Students must complete the following physiology course
BISC 366-3 Plant Physiology

plus the following organism lab course
BISC 357-3 Comparative Morphology, Distribution and Evolution of Vascular Plants

plus the following lab course
BISC 367-3 Plant Physiology Laboratory

plus the following two mandatory courses
BISC 356-3 Hormonal Regulation of Plant Growth
BISC 404-3 Plant Ecology

plus two additional lab courses from
BISC 429-3 Experimental Techniques I: Separation Methods
BISC 430-3 Plant Pathology
BISC 449-3 Experimental Techniques III: Histochemistry
BISC 457-3 Plant Molecular Biology and Biotechnology

or appropriate special topics lab courses

plus two additional courses from
BISC 310-3 The Plants and Animals of British Columbia
BISC 326-3 Biology of Non-Vascular Plants
BISC 434-3 Paleozoology and Palynology
BISC 498-3 Undergraduate Research

or special topics courses appropriate for the selected stream or alternative courses as approved by the program advisor.

Ecology

Students must complete one physiology course from
BISC 305-3 Animal Physiology
BISC 366-3 Plant Physiology

plus one organism lab course from
BISC 303-3 Microbiology
BISC 366-3 Plant Physiology
BISC 455-3 Endocrinology
BISC 445-3 Introduction to Pest Management

plus one of
BISC 306-3 Invertebrate Biology
BISC 316-3 Vertebrate Biology
BISC 367-3 Plant Physiology Laboratory
BISC 498-3 Undergraduate Research

plus two additional lab courses from
BISC 317-3 Insect Biology
BISC 404-3 Plant Ecology
BISC 414-3 Limnology
BISC 415-3 Ornithology
BISC 416-3 Fish Biology
BISC 417-3 Entomology
BISC 419-3 Wildlife Biology
BISC 430-3 Plant Pathology
BISC 483-3 Chemical Pesticides and the Environment
BISC 434-3 Paleozoology and Palynology
BISC 435-3 Introduction to Pest Management
BISC 498-3 Undergraduate Research

or special topics courses appropriate for the selected stream or alternative courses as approved by the program advisor.

Marine Biology

Students must complete one physiology course from
BISC 305-3 Animal Physiology
BISC 366-3 Plant Physiology

plus one organism lab course from
BISC 306-3 Invertebrate Biology
BISC 316-3 Vertebrate Biology

plus two additional lab courses from
BISC 404-3 Plant Ecology
BISC 415-3 Ornithology
BISC 416-3 Fish Biology
BISC 430-3 Plant Pathology
BISC 432-3 Chemical Pesticides and the Environment
BISC 434-3 Paleozoology and Palynology
BISC 435-3 Introduction to Pest Management
BISC 498-3 Undergraduate Research

plus two additional courses from
BISC 306-3 Invertebrate Biology
BISC 316-3 Vertebrate Biology
BISC 367-3 Plant Physiology Laboratory
BISC 498-3 Undergraduate Research

plus one of
BISC 404-3 Plant Ecology
BISC 415-3 Ornithology
BISC 416-3 Fish Biology
BISC 417-3 Entomology
BISC 430-3 Plant Pathology
BISC 432-3 Chemical Pesticides and the Environment
BISC 434-3 Paleozoology and Palynology
BISC 435-3 Introduction to Pest Management
BISC 498-3 Undergraduate Research

or appropriate special topics lab courses

plus two additional courses from
BISC 404-3 Plant Ecology
BISC 415-3 Ornithology
BISC 416-3 Fish Biology
BISC 417-3 Entomology
BISC 430-3 Plant Pathology
BISC 431-3 Limnology
BISC 436-3 Marine Biology and Oceanography
BISC 432-3 Biology of Non-Vascular Plants
BISC 433-3 Marine Biology and Oceanography
BISC 434-3 Paleozoology and Palynology
BISC 435-3 Introduction to Pest Management
BISC 436-3 Marine Biology and Oceanography
BISC 437-3 Plant Physiology Laboratory

plus one of
BISC 404-3 Plant Ecology
BISC 415-3 Ornithology
BISC 416-3 Fish Biology
BISC 417-3 Entomology
BISC 430-3 Plant Pathology
BISC 432-3 Chemical Pesticides and the Environment
BISC 434-3 Paleozoology and Palynology
BISC 435-3 Introduction to Pest Management
BISC 498-3 Undergraduate Research

or special topics courses appropriate for the selected stream or alternative courses as approved by the program advisor.
General Biology
Students must complete one physiology course from:
BISC 305-3 Animal Physiology
BISC 366-6 Plant Physiology
plus one organism lab from:
BISC 303-3 Microbiology
BISC 306-3 Vertebrate Biology
BISC 316-3 Vertebrate Biology
BISC 326-3 Biology of Non-Vascular Plants
BISC 337-3 Comparative Morphology, Distribution
and Evolution of Vascular Plants
plus one lab course from:
BISC 302-3 Genetic Analysis
BISC 307-3 Animal Physiology Laboratory
BISC 367-3 Plant Physiology Laboratory
MASC 445-3 Biology of Marine Mammals
plus two additional lab courses from any upper division BISC or MASC lab course or appropriate special topics lab courses
plus four additional courses from any upper division BISC or MASC course or special topics courses appropriate for the selected stream or alternative courses as approved by the program advisor.

Typical Lower Division Core Program
Although there are many variations, the following is a typical program for the first four semesters.

Semester 1
BISC 102-4 Introduction to Biology
CHEM 121-4 General Chemistry and Laboratory I
MATH 154-3 Calculus I for the Biological Sciences
PHYS 101-3 General Physics I

Semester 2
BISC 101-4 Introduction to Biology
CHEM 122-2 General Chemistry II
CHEM 281-4 Organic Chemistry I
MATH 155-3 Calculus II for the Biological Sciences

Semester 3
BICH 221-3 Cell Biology and Biochemistry
CHEM 282-2 Organic Chemistry II
PHYS 102-3 General Physics II
Elective
and one of:
BISC 202-3 Genetics
BISC 204-3 Introduction to Ecology

Semester 4
BICH 222-3 Molecular Biology and Biochemistry
STAT 301-3 Statistics for the Life Sciences (or 102)
Electives
and one of:
BISC 202-3 Genetics
BISC 204-3 Introduction to Ecology

Note: Biological sciences majors normally complete the chemistry, mathematics and physics requirements as well as the lower division biological sciences courses within the first 60 hours (four semesters).

Honors Program
This program is for biology students who wish to pursue an advanced degree. It requires a minimum of 60 credit hours of upper division biological sciences courses, or related subjects, which is selected for each student in consultation with appropriate advisors, in relation to career goals.
Departamental approval is required for entry into the honors program. Students must have completed 30 credit hours at Simon Fraser University in a major program in biological sciences. Applications received after more than 90 credit hours have been completed will not normally be considered.
The BSc honors degree in biological sciences requires the following.
• maintenance of a minimum of 3.00 CGPA
• completion of 60 hours of upper division biological sciences or related subjects, which will include the core courses required for the major plus BISC 490, 491 and 492, these latter to constitute the honors thesis, and
• completion of appropriate electives to achieve a final total of at least 132 credit hours, including at least 12 credit hours from courses outside the Faculty of Science (including a minimum of six credit hours from the Faculty of Arts and excluding EDUC 401, 402, 405, 406).

Minor Program
Students taking a minor must obtain the following credits or standing in the subjects shown to fulfill the requirements for the BSc degree.
BISC 101-4 Introduction to Biology
BISC 102-4 Introduction to Biology
at least two of:
BISC 204-3 Introduction to Ecology
BICH 221-3 Cell Biology and Biochemistry
BICH 222-3 Molecular Biology and Biochemistry
plus any 15 upper division biological sciences credit hours, or closely related subject areas (including marine sciences courses), as approved by the department.

Co-operative Education Program
Majors and honors students in biological sciences may apply for admission into the co-operative education program. The program includes four work semesters during the normal academic program.
Interested students should check http://www.sfu.ca/coopscience or contact the science co-op coordinators in room 1100 Maggie Benston Student Services Centre, telephone (604) 291-4716, for further information.

Environmental Toxicology Minor Program
This program gives undergraduates working towards a sciences degree a thorough overview of environmental toxicology. Consequently, students will be better qualified and eligible for employment with various industrial and governmental agencies engaged in environmental monitoring and research.

Lower Division Requirements
The following lower division courses are required. Most students pursuing science degree programs will already have credit for most of these courses.

Upper Division Requirements
BISC 392-3 Environmental Toxicology (prerequisite CHEM 281 or 360)
BISC 393-3 Environmental Toxicology II
BISC 394-3 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 360 or 261)
GEOG 419-4 Mass Transfer in the Biosphere
KIN 431-3 Environmental Carcinogenesis
and their prerequisites as noted in the Undergraduate Courses.

Post Baccalaureate Diploma Programs
Biological Sciences
post baccalaureate diploma programs are available in various areas of biological sciences for students who have already completed a degree (usually) in science and who wish to upgrade their academic credentials.
Note: course descriptions for the 600 and 800 level courses are given in the Biological Sciences section of Graduate Studies in this Calendar.
For information about post baccalaureate diploma programs in biology, contact the Department of Biological Sciences.

Environmental Toxicology
This program specifically meet the needs of students with science degrees who are presently engaged in environmental work and seek to upgrade their training. Practical experience in recent laboratory assay techniques will enable students to critically evaluate the data generated by these techniques.
For information about the post baccalaureate diploma program general regulations, refer to Continuing Studies.

Program Requirements
all of:
BISC 392-3 Environmental Toxicology
BISC 393-3 Environmental Toxicology II
BISC 394-3 Chemical Pesticides and the Environment

Plus two of:
BISC 445-3 Environmental Physiology of Animals
CHEM 371-3 Chemistry of the Aqueous Environment
GEOG 419-4 Mass Transfer in the Biosphere
KIN 431-3 Environmental Carcinogenesis
Chemical Physics Program

P8429 Shrum Science Centre, (604) 291-4465 Tel, (604) 291-3922 Fax
Advisors
Dr. E.D. Crozier, P9418 Shrum Science Centre, (604) 291-4827
Dr. B. Fristen, P8456 Shrum Science Centre, (604) 291-5767

An honors program and a major program in chemical physics are offered jointly by the Departments of Chemistry and Physics. Entry requires the permission of both departments. Computing skills such as those in CMPT 102 are expected of students entering second year physics courses. Graduates from the honors program may do graduate work in either chemistry or physics.

Major Program

Lower Division Requirements (56 credit hours)

Students must complete all of
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 230-3 Inorganic Chemistry
CHEM 236-2 Inorganic Chemistry Laboratory
CHEM 281-4 Organic Chemistry I
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III
MATH 252-3 Vector Calculus
PHYS 120-3 Modern Physics and Mechanics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 132-1 General Physics Laboratory B
PHYS 211-3 Intermediate Mechanics
PHYS 221-3 Intermediate Electricity and Magnetism
PHYS 234-2 Introductory Physics Laboratory B(1)
and one of
CHEM 360-3 Kinetics and Thermodynamics
PHYS 244-3 Thermal Physics

Students are strongly encouraged to take at least three credit hours of lower division computing science.

Upper Division Requirements (38-40 credit hours)

all of
CHEM 316-4 Introductory Instrumental Analysis
CHEM 331-4 Practical Aspects of Inorganic Chemistry
CHEM 367-2 Physical Chemistry Laboratory II
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 385-3 Quantum Physics
PHYS 415-3 Quantum Mechanics
PHYS 465-3 Solid State Physics

plus one of
CHEM 362-3 Physical Chemistry III
PHYS 345-3 Statistical Physics

plus both of
PHYS 355-3 Optics
PHYS 332-3 Intermediate Laboratory

or one of
CHEM 481-5 Undergraduate Research
PHYS 431-4 Advanced Physics Laboratory
PHYS 432-5 Undergraduate Honors Thesis

plus five credit hours from upper division chemistry or nuclear science

plus three credit hours of upper division physics or nuclear science electives.

Additional courses must be taken for a total of at least 60 credit hours at the upper division and at least 132 hours of credit overall. Of these, 12 credit hours must be taken outside the Faculty of Science, excluding EDUC 401 to 406) including six hours from the Faculty of Arts. (See Faculty of Science requirements).

Note for Major and Honors Programs

(1) The requirement that PHYS 233 is a prerequisite for PHYS 234 is waived for students in this 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 study related jobs.

Students interested in this program, should refer to the Department of Chemistry or Department of Physics sections.
Department of Chemistry


Chair
R.G. Korteling AB (Hope), PhD (Calif)

Professors Emeriti
S. Aronoff AB, PhD (Calif)
T.N. Bell BSc, PhD (Durham)
Y.L. Chow BSc (Natrl Taiwan), PhD (Duquesne), FCIC
L. Funt BSc, MSc (Dal), PhD (McG), FCIC
E.M. Voigt BSc, MSc (McM), PhD (Br Col)
J. Walkley BSc, PhD (Liv), FCIC

University Professor
S. Wolfe BA, MA (Tor), PhD (Ott)

Professors
R.J. Cushey BSc, MSc, PhD (Alta)*
J.M. D’Auria BSc (Rensselaer), MSc, PhD (Yale)
F.W.B. Einstein BSc (New Zealand), MSc, PhD (Cant)
I.D. Gay BSc, MSc (Dal), PhD (Lond)
C.H.W. Jones BSc, PhD (Manc), Dean of Science
R.G. Korteling AB (Hope), PhD (Calif)
G.L. Maitl BSc (Delhi), MSc (McM), MS, PhD (Chic)
A.C. Oehschildager BSc, PhD (Okahoma)
P.W. Percival BA, MA, DPhil (Oxf)
B.M. Pinto BSc, PhD (Qu), FCIC
R.K. Pomeroy BSc (Lond), PhD (Alta)
W.R. Richards AB, PhD (Calif)*
K.N. Slessor BSc, PhD (Br Col)
D. Sutton BSc, PhD (Nott)

Associate Professors
A.J. Bennet BSc, PhD (Bristol)
T. Borgford BSc, PhD (Manit)*
R.B. Cornell BS (Houghton), PhD (Pen)*
R.H. Hill BSc, PhD (Wont)
S. Holdcroft BSc (Salf), PhD (S Fraser)
E. Kehlmann Vordiplom (Tübingen), PhD (Maryland)
S.K. Lower BA (Calif), MSc (Oregon), PhD (Br Col)
L.K. Peterson BSc, PhD (Aberd)
D. Sen BA (Camb), MPhil, PhD (Yale)*
E.J. Wells BSc, MSc (Syd), DPhil (Oxf), FRSA, FCIC

Assistant Professors
G. Agnes BSc (Wat), PhD (Alta)
G.W. Leach BSc, MSc, PhD (Tor)
Z.G. Ye BSc (Hefei), MSc (Xi’an), PhD (Bordeaux)

Associate Member
D.H. Boal, Physics

Adjunct Professors
J.M. Berry BSc, PhD (Br Col)
M.J. Gresser BA, PhD (Brandais)
K. Prater BA, PhD (Texas)
T.J. Ruth BSc, PhD (Clark)
A.S. Tracey BSc, PhD (S Fraser)
N.N. Weinberg MSc, PhD (Moscow)

Laboratory Instructors
S.A. Black BSc, MSc (Br Col)
J.C. Brodovitch BSc (Stras), PhD (McG)
A.J.L. Hanlan BSc, PhD (Tor)
E. Palmer BA (Calif), MSc (Educ) (S Fraser)

*Joint appointment with Biochemistry

Advisor
K.S. MacFarlane BSc, MSc, PhD (Br Col), C8049

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 knowledge of the subject. CHEM 110 and 111 are not required courses for the BSc degree. They are available as electives to those with no knowledge of chemistry or who are starting from BC high school chemistry 11. Students who have taken BC high school chemistry 12 (or equivalent) normally start with CHEM 121. Chemistry major and honors must fulfill program requirements below. Whether majoring in chemistry or not, students may not enrol in any chemistry course for which a grade of D was obtained in any prerequisite.

Major Program

Lower Division Requirements

(52-53 credit hours)

CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 230-3 Inorganic Chemistry
CHEM 236-2 Inorganic Chemistry Laboratory
CHEM 260-4 Atoms, Molecules, Spectroscopy
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
CHEM 286-2 Organic Chemistry Laboratory I
Math 151-3 Calculus I
Math 152-3 Calculus II
Math 232-3 Elementary Linear Algebra
Phys 120-3 Modern Physics and Mechanics
Phys 121-3 Optics, Electricity and Magnetism

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

Typical Course Sequence

Upper Division Requirements

(28 credit hours)

CHEM 316-4 Introductory Instrumental Analysis
CHEM 331-4 Practical Aspects of Inorganic Chemistry
CHEM 332-3 The Chemistry of Transition Metals
CHEM 357-4 Chemical and Instrumental Methods of Identification of Organic Compounds
CHEM 360-3 Kinetics and Thermodynamics
CHEM 366-2 Physical Chemistry Laboratory and an additional eight hours of upper division credit in CHEM, BICH or NUSC courses.

Electives

(39-40 credit hours)

In addition to the above required courses students must complete

• nine hours of electives 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 the minimum 120 credit hours required for the degree.

The mathematics and physics courses should be taken as early as possible so that they will be beneficial in the study of chemistry. Students intending to specialize in physical or theoretical chemistry are advised to take more mathematics and physics courses than specified above.

Honors Program

Lower Division Requirements

(57-58 credit hours)

CHEM 121-4 General Chemistry I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry II Laboratory
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 230-3 Inorganic Chemistry
CHEM 236-2 Inorganic Chemistry Laboratory
CHEM 260-4 Atoms, Molecules, Spectroscopy
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
CHEM 286-2 Organic Chemistry Laboratory I
Math 151-3 Calculus I
Math 152-3 Calculus II
Math 232-3 Elementary Linear Algebra
Math 251-3 Calculus III
Phys 120-3 Modern Physics and Mechanics
Phys 121-3 Optics, Electricity and Magnetism
Phys 131-2 General Physics Laboratory B

Typical Course Sequence

Upper Division Requirements

(48 credit hours)

CHEM 316-4 Introductory Instrumental Analysis
CHEM 331-4 Practical Aspects of Inorganic Chemistry
CHEM 332-3 The Chemistry of Transition Metals
CHEM 357-4 Chemical and Instrumental Methods of Identification of Organic Compounds
CHEM 360-3 Kinetics and Thermodynamics
CHEM 366-2 Physical Chemistry Laboratory and an additional 17 hours of upper division credit in CHEM, BICH or NUSC courses.

Electives

(26-27 credit hours)

• nine hours of electives at any level in subjects outside the Faculty of Science (excluding EDUC 401-407), including six hours from the Faculty of Arts
• upper division courses chosen from any faculty (but excluding EDUC 401-407), including six hours from the Faculty of Arts

Typical Course Sequence

Upper Division Requirements

CMPT 102-3 Introduction to Scientific Computer Programming electve

Semester 2

CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
Math 152-3 Calculus I
Phys 121-3 Optics, Electricity and Magnetism
Phys 131-2 General Physics Laboratory B

Semester 3

CHEM 230-3 The Chemistry of Nontransition Elements
CHEM 236-2 Inorganic Chemistry Laboratory
CMPT 281-4 Organic Chemistry I
Math 232-3 Elementary Linear Algebra

Semester 4

CHEM 215-4 Introduction to Analytical Chemistry
CHEM 260-4 Atoms, Molecules, Spectroscopy
CHEM 282-2 Organic Chemistry II Laboratory
CHEM 286-2 Organic Chemistry Laboratory II
Math 251-3 Calculus III

Science – Chemistry 167
excluding EDUC 401-407) to bring the total to a minimum of 60 hours of upper division credit.

- free electives at any level from any faculty to provide the minimum 132 credit hours required for the degree.

**Minor Program**

For details of major-minor regulations, see General Information. For a chemistry minor, students must complete a minimum of 14 upper division credit hours in chemistry, biochemistry or nuclear science (including a minimum of eight hours in chemistry, and excluding undergraduate research courses), together with all the prerequisites.

**Environmental Chemistry Minor Program**

Students must complete all of

CHM 121-4 General Chemistry I
CHM 122-2 General Chemistry II
CHM 128-2 General Chemistry II Laboratory
CHM 281-4 Organic Chemistry I
CHM 215-4 Introduction to Analytical Chemistry
CHM 230-3 Inorganic Chemistry
CHM 238-2 Inorganic Chemistry Laboratory
CHM 261-3 Physical Chemistry I
CHM 316-4 Introductory Instrumental Analysis
CHM 317-2 Analytical Environmental Chemistry
CHM 360-3 Kinetics and Thermodynamics
CHM 371-3 Chemistry of the Aqueous Environment
CHM 372-3 Chemistry of the Atmospheric Environment

and at least one of

CHM 357-4 Chemical and Instrumental Methods of Identification of Organic Compounds
CHM 415-3 Selected Topics in Analytical Chemistry
NUSC 341-3 Introduction to Radiochemistry

**Nuclear Science Minor Program**

A minor program in nuclear science is offered jointly with the Department of Physics. To qualify for this minor, students must complete a minimum of 14 hours of upper division credit selected from the following courses.

CHM 482-3 Directed Study in Advanced Topics of Chemistry
NUSC 341-3 Introduction to Radiochemistry
NUSC 342-3 Introduction to Nuclear Science
NUSC 344-3 Nucleosynthesis and Distribution of the Elements
NUSC 346-2 Radiochemistry Laboratory
NUSC 444-3 Special Topics in Nuclear Science
NUSC 485-3 Particle Physics
PHYS 385-3 Quantum Physics

**Advice to Students from Other Faculties**

The prerequisites and corequisites cited in the Undergraduate Courses are for students intending to specialize in science. Some of these may be waived for students pursuing degree programs in the Faculties of Applied Sciences, Arts, Business Administration and Education.

Note that CHM 003 and 004 are courses of wide appeal to non-science students. Science students may take these courses as free electives. CHEM 110 and 111 are two additional courses suitable for students with no previous training in chemistry.

**Other Programs**

Interdisciplinary programs in biochemistry and chemical physics are also available. See Biochemistry Program and Chemical Physics Program.

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**Co-operative Education Program**

Ms. C. Horvath, co-op co-ordinator, Faculty of Science, (604) 291-3270

Co-operative education is a system which 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 to qualified students in chemistry and related areas. The work practicum requirements are CHEM 306, 307, 406 and 407.

To enrol in the co-operative education program, students must apply at least three months prior to the start of the semester in which they wish to enrol in CHEM 306. Students should seek advice from the department as early as possible in their university careers. They must obtain a minimum cumulative GPA of 2.67 to enrol and continue in the major in co-operative education. Higher averages normally required for entry to and continuance in an honors program apply to those taking an honors program in co-operative education.

For further details, refer to the Co-operative Education section.

**Earth Sciences Program**

P9304 Shrum Science Centre, (604) 291-5387 Tel, (604) 291-4198 Fax.
http://www.sfu.ca/earth-sciences

**Director**

M.C. Roberts, BSc (Lond), MA (Tor), PhD (Iowa), PGeo

**Professors**

E.J. Hickin BA, PhD (Syd), PGeo
M.C. Roberts BSc (Lond), MA (Tor), PhD (Iowa), PGeo

**Assistant Professors**

D.M. Allen BSc, MSc, PhD (Car)
A. Calvert BA (Oxford), PhD (Camb)
J.A. MacEachern BSc, MSc (Regina), PhD (Alta)
P.S. Mustang BSc (Calg), MSc, PhD (Car), PGeo
D.J. Thorkelson BSc, MSc (Br Col), PhD (Car)
B.G. Ward BSc, PhD (Alta)

**Adjunct Professors**

J.C. Clague BA (Occidental), MSc (Calif), PhD (Br Col)
J.W. Monger BSc, MSc (Kansas), PhD (Br Col)
J. Moore BSc, PhD (MIT)

**Laboratory Instructor**

R. Dunlop BSc (Alta), MSc (Br Col)

**Advisor**

Ms. C. Alexander BBA (S Fraser), P9305 Shrum Science Centre, (604) 291-5387

**Major Program**

**Lower Division Requirements**

(55 credit hours)

BISC 100-4 Introduction to Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
EASC 101-3 Physical Geology
EASC 102-3 Historical Geology
EASC 201-3 Stratigraphy and Sedimentation
EASC 202-3 Introduction to Mineralogy
EASC 203-3 Paleontology
EASC 204-3 Structural Geology
EASC 205-3 Introduction to Petrology
EASC 206-1 Field Geology I
EASC 207-3 Introduction to Geophysics
GEOG 213-3 Geomorphology
MATH 151-3 Calculus I
MATH 152-3 Calculus II
PHYS 120-3 General Physics I
PHYS 121-3 General Physics II
PHYS 131-2 General Physics Laboratory
STAT 101-3 Introduction to Statistics

**Upper Division Requirements**

Students must complete the following 32 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 307-3 Applied Geophysics
EASC 309-3 Global Tectonics
GEOG 311-4 Hydrology
GEOG 313-4 Geomorphology
GEOG 317-4 Soil Science I

In addition, students must complete both

EASC 406-3 Field Geology III
EASC 490-0 Undergraduate Seminar

and 18 credit hours chosen from the following.

EASC 401-3 Mineral Deposits
EASC 402-3 Sedimentology
EASC 403-3 Quaternary Geology
EASC 404-3 Subsurface Methods for Environmental Geoscience
EASC 405-3 Basin Analysis
EASC 408-3 Regional Geology of Western Canada
EASC 409-3 Rivers: Environments & Engineering
EASC 410-3 Groundwater Geochemistry and Contaminant Transport
EASC 491-1 Directed Reading
EASC 492-2 Directed Reading
EASC 493-3 Directed Reading

**Honor's Program**

This program is the same as the major program except that it must include a minimum of 60 credit hours of 300 and 400 level courses in the earth sciences program and related programs. A student must complete a total of 132 credit hours of credit.

The completion of an honors thesis is an option. Entry requires a cumulative grade point average of 3.00 or higher, and permission of the earth sciences program.

**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

plus 15 credit hours in any 300 and 400 level earth sciences courses excluding EASC 490, 491, 492 and 493.
Co-operative Education Program
Co-operative education is a program which combines relevant work experience with academic studies. Participating students alternate semesters on campus and in study-related employment. The program includes pre-employment orientation and four full-time paid work semesters. A major and honors program leading to a BSc degree in earth sciences and co-operative education are available to qualified students.

To enrol in the co-operative education program, students should attend the co-op information meetings held in the first two weeks of the semester prior to the semester in which they wish to work. Students should seek advice from the geography and earth sciences co-operative education office as early as possible in their university careers to facilitate optimal scheduling.

For further information, contact the Co-operative Education Office, 1100 Maggie Benston Student Services Centre. Telephone (604) 291-3255.

Professional Registration as a BC Geoscientist
The right to practice in, and to accept professional responsibility for geoscience in BC is limited to those who are registered members of the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC). Requirements for registration can be met through the earth sciences program and selected courses in other university departments. Students interested in professional registration should consult the program director for further details.

Environmental Science Program
Advisors
Dr. D. Allen, Earth Sciences Program, P9313 Shrum Science Centre, (604) 291-3967 Tel, (604) 291-4198 Fax
Dr. L. Bendell-Young, Department of Biological Sciences, 8109 South Science Centre, (604) 291-5921 Tel, (604) 291-3496 Fax
Dr. S. Holdcroft, Department of Chemistry, 8102 South Science Building, (604) 291-4221 Tel, (604) 291-3765 Fax
Dr. R.D. Routledge, Department of Mathematics and Statistics, TLX10537, (604) 291-4478 Tel, (604) 291-4947 Fax
Dr. J. Thewalt, Department of Physics, 8103 South Science Centre, (604) 291-3151 Tel, (604) 291-3592 Fax

The environmental science program provides a broad education with specialization in one of six areas of emphasis: biology, chemistry, environmetrics, physical geography, pollutant transport, and quantitative techniques for resource management.

Extensive lower division requirements necessitate that students carefully plan the sequencing of their course load to ensure timely completion of the program. Advice can be sought from the advisors listed above.

Major Program
This program requires 120 credit hours containing a minimum of 44 in courses numbered 300 and above, and a minimum of 12 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 are organized by year to suggest a sequence for timely completion of the program.

Biology
Lower Division Requirements
Year One
BISC 101-4 General Biology
BISC 102-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
REM 100-3 Global Change

and one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences
MATH 157-3 Calculus for the Social Sciences I

and one of
MATH 152-3 Calculus II
MATH 155-3 Calculus II for the Biological Sciences

STAT 270-3 Analysis of Experimental and Observational Data

PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics

Year Two
BICH 221-3 Cellular Biology and Biochemistry
BISC 204-3 Introduction to Ecology
CHEM 281-4 Organic Chemistry I
CHEM 215-4 Introduction to Analytical Chemistry
EVSC 200-3 Introduction to Environmental Science
GEOG 111-3 Physical Geography

and one of
PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics

Year Three
BISH 221-3 Cellular Biology and Biochemistry
BISC 304-3 Animal Ecology

PHYS 346-3 Energy and the Environment
STAT 302-3 Analysis of Experimental and Observational Data

GEOG 317-4 Soil Science I

Year Four
BISC 302-3 Genetics
BISC 404-3 Plant Ecology
BISC 414-3 Limnology
EVSC 401-1 Current Topics in Environmental Science
GEOG 316-4 Ecosystem Biogeochmistry
STAT 403-3 Intermediate Sampling and Experimental Design

and any three of the following may be completed in years three or four

Plant Biology
BISC 310-3 The Plants and Animals of British Columbia
BISC 326-3 Biology of Non-Vascular Plants
BISC 337-3 Comparative Morphology, Distribution and Evolution of Vascular Plants
BISC 366-3 Plant Ecophysiology

Invertebrate Biology
BISC 306-3 Invertebrate Biology
BISC 406-3 Marine Invertebrate Biology

Vertebrate Biology
BISC 315-3 Vertebrate Biology
BISC 407-3 Population Dynamics
BISC 415-3 Ornithology

BISC 416-3 Fish Biology
BISC 419-3 Wildlife Ecology

Resource and Environmental Management
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Management Institutions
REM 412-4 Environmental Modelling
REM 445-4 Environmental Risk Assessment
REM 471-4 Forest Ecosystem Management

Note: BICH 221 and 222 are complementary courses and together cover all aspects of cellular structure and function. We, therefore, strongly recommend that students take BICH 222 as an elective.

Electives
Additional electives are required to meet the total graduation requirement of 120 credit hours, including at least 44 at the upper division level.

Chemistry
Lower Division Requirements
These requirements are the same as for the biology area of emphasis except that students must take STAT 270, and not the alternative course, STAT 301. Please refer to that section for a complete listing of the other requirements.

Upper Division Requirements
Year Three
CHEM 230-3 Inorganic Chemistry
CHEM 238-2 Inorganic Chemistry Laboratory
CHEM 282-2 Organic Chemistry II
CHEM 286-2 Organic Chemistry Laboratory II
CHEM 360-3 Chemical Kinetics and Thermodynamics
CHEM 316-4 Introductory Instrumental Analysis
CHEM 317-2 Analytical Environmental Chemistry
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
STAT 302-3 Analysis of Experimental and Observational Data

Year Four
BISC 312-3 Environmental Toxicology I
BISC 313-4 Principles of Microbes
BISC 319-3 Limnology
BISC 361-4 Environmental Modelling
BISC 365-3 Environmental Science

and at least 17 credit hours from the following courses may be completed in years three or four.

BISC 305-3 Animal Physiology
BISC 314-3 Limnology
CHEM 371-3 Chemistry of the Aqueous Environment
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 Intermediate Sampling and Experimental Design

and no less than 44 at the upper division level.
Environmetrics
Lower Division Requirements
These requirements are the same as for the biology area of emphasis. Please refer to that section above.

Upper Division Requirements
Year Three
CHEM 360-3 Chemical Kinetics and Thermodynamics
CHEM 316-4 Introductory Instrumental Analysis
CHEM 371-3 Chemistry of the Aqueous Environment
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus I
STAT 330-3 Linear Models in Applied Statistics I
STAT 350-3 Linear Models in Applied Statistics II

Year Four
CHEM 317-2 Analytical Environmental Chemistry
EVSC 401-1 Current Topics in Environmental Science
PHYS 346-3 Energy and the Environment
STAT 402-3 Generalized Linear and Nonlinear Modeling
STAT 410-3 Statistical Analysis of Sample Surveys
STAT 430-3 Statistical Design and Analysis of Experiments

and at least three courses from the following may be completed in years three or four.

BISC 304-3 Animal Ecology
BISC 312-3 Environmental Toxicology I
BISC 414-3 Limnology
CHEM 372-3 Chemistry of the Atmospheric Environment
GEOG 215-3 Biogeography (3 credit hours)
GEOG 216-4 Ecosystem Biogeochemistry
GEOG 316-4 Ecosystem Biogeochemistry
BISC 414-3 Limnology

Physical Geography
Lower Division Requirements
Years One and Two
BISC 102-4 General Biology
BISC 102-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
REM 100-3 Global Change
GEOG 111-3 Physical Geography
GEOG 213-3 Geomorphology I
GEOG 214-3 Climatology I
EVSC 200-3 Environmental Dynamics (31 credit hours)

and one of

MATH 151-3 Calculus I
MATH 154-3 Calculus I for Biological Sciences
MATH 157-3 Calculus I for Social Sciences (3 credit hours)

and one of

MATH 152-3 Calculus II
MATH 155-3 Calculus II for Biological Sciences
MATH 158-3 Calculus II for Social Sciences (3 credit hours)

and one of

PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics (3 credit hours)

and one of

PHYS 102-3 General Physics II
PHYS 121-3 Optics, Electricity and Magnetism (3 credit hours)

and one of

GEOG 204-3 Introduction to Ecology
GEOG 215-3 Biogeography (3 credit hours)

and one of

STAT 270-3 Introduction to Probability and Statistics
STAT 301-3 Statistics for the Life Sciences (3 credit hours)

and one of

GEOG 250-3 Cartography I
GEOG 253-3 Aerial Photographic Interpretation (3 credit hours)

Electives
Additional electives are required to meet the total graduation requirement of 120 credit hours, including at least 44 at the upper division level.

Suggested Groupings of Courses
The following groupings of courses for different focuses are suggested.

**Biological 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
REM 412-4 Environmental Modelling
REM 445-4 Environmental Risk Assessment and Management of Hazardous Substances

**Aquatic Chemistry Focus**
BISC 414-3 Limnology
GEOG 311-4 Hydrology I
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 419-4 Mass Transfer in the Biosphere
REM 311-3 Applied Ecology and Sustainable Environments
REM 412-4 Environmental Modelling
REM 445-4 Environmental Risk Assessment

**Atmospheric Focus**
CHEM 372-3 Chemistry of the Atmospheric Environment
GEOG 214-3 Climatology I
GEOG 419-4 Mass Transfer in the Biosphere
REM 311-3 Applied Ecology and Sustainable Environments
REM 412-4 Environmental Modelling

**Toxic Materials Focus**
BISC 312-3 Environmental Toxicology I
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Management Institutions
REM 412-4 Environmental Modelling
REM 445-4 Environmental Risk Assessment and Management of Hazardous Substances

**Physical Geography**
Lower Division Requirements
Years One and Two
BISC 101-3 General Biology
BISC 102-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
REM 100-3 Global Change
GEOG 111-3 Physical Geography
GEOG 213-3 Geomorphology I
GEOG 214-3 Climatology I
EVSC 200-3 Environmental Dynamics (31 credit hours)

and one of

MATH 151-3 Calculus I
MATH 154-3 Calculus I for Biological Sciences
MATH 157-3 Calculus I for Social Sciences (3 credit hours)

and one of

MATH 152-3 Calculus II
MATH 155-3 Calculus II for Biological Sciences
MATH 158-3 Calculus II for Social Sciences (3 credit hours)

and one of

PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics (3 credit hours)

and one of

PHYS 102-3 General Physics II
PHYS 121-3 Optics, Electricity and Magnetism (3 credit hours)

and one of

GEOG 204-3 Introduction to Ecology
GEOG 215-3 Biogeography (3 credit hours)

and one of

STAT 270-3 Introduction to Probability and Statistics
STAT 301-3 Statistics for the Life Sciences (3 credit hours)

and one of

GEOG 250-3 Cartography I
GEOG 253-3 Aerial Photographic Interpretation (3 credit hours)

Electives
Total 60 credit hours

**Upper Division Requirements**

**Years Three and Four**
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
PHYS 346-3 Energy and the Environment
STAT 302-3 Analysis of Experimental and Observational Data
EVSC 401-1 Environmental Science Seminar
GEOG 311-4 Hydrology I
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 317-4 Soil Science I (25 credit hours)

and one of

GEOG 403-2 Advanced Biogeography
GEOG 415-4 Advanced Hydrogeology (9-12 credit hours)

**Environmetrics**

**Year Three**
CHEM 360-3 Chemical Kinetics and Thermodynamics
CHEM 316-4 Introductory Instrumental Analysis
CHEM 371-3 Chemistry of the Aqueous Environment
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus I
STAT 330-3 Linear Models in Applied Statistics I
STAT 350-3 Linear Models in Applied Statistics II

Year Four
CHEM 317-2 Analytical Environmental Chemistry
EVSC 401-1 Current Topics in Environmental Science
PHYS 346-3 Energy and the Environment
STAT 402-3 Generalized Linear and Nonlinear Modeling
STAT 410-3 Statistical Analysis of Sample Surveys
STAT 430-3 Statistical Design and Analysis of Experiments

and at least three courses from the following may be completed in years three or four.

BISC 304-3 Animal Ecology
BISC 312-3 Environmental Toxicology I
BISC 414-3 Limnology
CHEM 372-3 Chemistry of the Atmospheric Environment
GEOG 411-4 Hydrology II
GEOG 413-4 Geomorphology III
GEOG 414-4 Climatology III
GEOG 415-4 Advanced Biogeography
GEOG 417-4 Soil Science II (8 credit hours)

and three of

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 414-3 Limnology
BISC 416-3 Fish Biology
BISC 434-3 Paleoenvironment and Palynology
CHEM 371-3 Chemistry of the Aquatic Environment
CHEM 372-3 Chemistry of the Atmospheric Environment
EASC 303-3 Environmental Geoscience
EASC 304-3 Hydrogeology
EASC 403-3 Quaternary Geology
EASC 404-3 Subsurface Methods for Environmental Geoscience
EASC 409-3 Rivers: Environments and Engineering
EASC 410-3 Groundwater Geochemistry and Contaminant Transport
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Management Institutions
REM 412-4 Environmental Modelling
REM 445-4 Environmental Risk Assessment
REM 471-4 Forest Ecosystem Management

**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
GEOG 411-4 Hydrogeology
GEOG 413-4 Geomorphology III
EASC 409-3 Rivers: Environments and Engineering

**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 Paleoenvironment 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

**Biotecture**
BISC 414-3 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**
Lower Division Requirements
Year One
BISC 101-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
Electives
Additional electives are required to meet the total graduation requirement of 120 credit hours, including at least 44 at the upper division level.

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
GEOG 311-4 Hydrology
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 419-4 Mass Transfer in the Biosphere
REM 311-3 Applied Ecology and Sustainable Environments
REM 412-4 Environmental Modeling

Aqueous Chemistry Focus
BISC 414-3 Limnology
CHEM 316-4 Introductory Instrumental Analysis
CHEM 317-2 Soil Geography
GEOG 316-4 Ecosystem Biogeochemistry
NUSC 341-3 Introduction to Radiochemistry
REM 412-4 Environmental Modeling

Atmospheric Focus
BISC 312-3 Environmental Toxicology I
GEOG 214-3 Climatology I
GEOG 314-4 Climatology II
GEOG 414-4 Climatology III
GEOG 419-4 Mass Transfer in the Biosphere
REM 311-3 Applied Ecology and Sustainable Environments
REM 412-4 Environmental Modelling

Model Building Focus
BISC 414-3 Limnology
GEOG 214-3 Climatology I
GEOG 311-4 Hydrology
GEOG 354-4 Introduction to Geographic Information Systems
GEOG 419-4 Mass Transfer in the Biosphere
MATH 314-3 Boundary Value Problems
MATH 462-3 Fluid Dynamics
REM 412-4 Environmental Modelling
REM 445-4 Environmental Risk Assessment

Quantitative Techniques for Resource Management

Lower Division Requirements
Year One
BISC 101-4 General Biology
BISC 102-4 General Biology
CHEM 102-3 Organic Chemistry I
EVSC 200-3 Introduction to Environmental Science
GEOG 111-3 Physical Geography
MATH 232-3 Elementary Linear Algebra
PHYS 121-3 Optics, Electricity and Magnetism
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 120-3 Modern Physics and Mechanics

**At least 44 credit hours of upper division courses are required.**

Upper Division Requirements
Year Three
BISC 305-3 Animal Physiology
BISC 400-3 Evolution
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 412-4 Environmental Modeling
REM 445-4 Environmental Risk Assessment and Management of Hazardous Substances
REM 471-4 Forest Ecosystem Management

Electives
Additional electives are required to meet the total graduation requirement of 120 credit hours, including at least 44 at the upper division level.

Suggested Groupings of Courses
The following groupings of courses for different focuses are suggested.

Fisheries Focus
BISC 305-3 Animal Physiology
BISC 400-3 Evolution
GEOG 354-4 Introduction to Geographic Information Systems
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Management Institutions
REM 412-4 Environmental Modeling
REM 445-4 Environmental Risk Assessment and Management of Hazardous Substances
REM 471-4 Forest Ecosystem Management

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 412-4 Environmental Modeling
REM 445-4 Environmental Risk Assessment and Management of Hazardous Substances
REM 471-4 Forest Ecosystem Management
Honors Program

This program requires a minimum of 132 credit hours. At least 60 must be upper division and 12 must be outside the Faculty of Science. Of these 60 hours, at least 48 must be in one subject area and are normally from the 300-400 level required or optional courses in an area of emphasis. Exceptions must be approved by a faculty advisor. Further requirements are listed in each area of emphasis. Minimum CGPA for continuation and graduation is 3.00. General University and Faculty of Science regulations also apply.

Biology

Students must complete all requirements in the major program for this area of emphasis, plus all requirements for the honors program. The required 48 upper division credit hours in a specific subject area 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 In order to fulfill the required 48 upper division credit hours in a specific subject area, students normally choose further courses listed in the major program as options in years three and four. Other courses may be substituted subject to the approval of a faculty advisor.

Environmental Studies

Students must complete all requirements for this area of emphasis in the major program, plus all requirements for the honors program, and also STAT 450-3 Statistical Theory To fulfill the required 48 upper division hours in a specific subject area, students normally choose further courses listed in the major program as options in years three and four. Other courses may be substituted subject to the approval of a faculty advisor.

Quantitative Techniques for Resource Management

Students must complete all requirements for this area of emphasis in the major program plus all requirements for the honors program. To fulfill the required 48 upper division credit hours in a specific subject area, students normally choose further courses listed in the major program as options in years three and four. Other courses may be substituted subject to the approval of a faculty advisor.

Pollutant Transport

Students must complete all requirements for this area of emphasis in the major program, plus all requirements for the honors program, and complete MATH 314-3 Boundary Value Problems MATH 462-3 Fluid Dynamics To fulfill the required 48 upper division credit hours in a specific subject area, the student normally will choose further courses listed in the major program as options in years three and four. Other courses may be substituted with approval of a faculty advisor.

Co-operative Education Program

Co-operative education is a program which combines relevant work experience with academic studies. Participating students alternate semesters on campus and in study related employment. The program includes pre-employment orientation and four full-time paid work semesters. A major and honors program leading to a BSc degree in environmental science and co-operative education are available to qualified students.

To enrol in the co-operative education program, 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 Faculty of Science Co-op Education Office as early as possible in their university careers to facilitate optimal scheduling.

For more information, contact the co-op co-ordinator, Faculty of Science, 1100 Maggie Benston Student Services Centre, tel (604) 291-3754.

Qualifications for Registered Professional Biologist of BC

Registered professional biologist (RPBio) status is an important and common qualification for biologists practising in BC. Environmental science students can meet the academic qualifications by taking three more biology courses at the 200 level or higher, beyond the requirements for the biology stream. RPBio status is then possible after three years of appropriate work experience and completion of an acceptable professional report. Students and graduates may join the Association of Professional Biologists of BC (APB) as student biologists and biologists in training respectively, before they meet all of the qualifications. For more information, contact the biology stream advisor or the Association of Professional Biologists of BC at apbbc@tnet.net.

General Science Program

P9447 Shrum Science Centre, (604) 291-4222 Tel, (604) 291-3424 Fax Advisor P. Gregory, BSc, MSc (Wont), P9447 Shrum Science Centre, (604) 291-4222 This degree program, consisting of 120 credit hours, provides a broad education in several fields with some specialization in at least two fields. The program requires two minors. One of these minors must be in a Faculty of Science minor program. The combination of minors is subject to the following restrictions. Only one minor may be selected from each of the following six groups of subject areas:

- biological sciences, environmental toxicology, kinesiology
- biochemistry, chemistry, environmental chemistry
- mathematics, statistics, computer science
- physics, nuclear science
- earth science, physical geography, quaternary studies
- archaeology, psychology

In addition, because of proximity of subject matter, the following combinations of minors are not acceptable:

- biological sciences, biochemistry
- biochemistry, environmental toxicology
- chemistry, nuclear science
- biochemistry, kinesiology
- environmental chemistry, environmental toxicology

Lower Division Requirements

BISC 101-4 Introduction to Biology BISC 102-4 Introduction to Biology (8 credit hours)

and CHEM 121-4 General Chemistry and Laboratory I CHEM 122-4 General Chemistry II CHEM 126-2 General Chemistry Laboratory II or CHEM 121-4 General Chemistry and Laboratory I CHEM 281-4 Organic Chemistry I (8 credit hours)

and PHYS 101-3 General Physics I PHYS 102-3 General Physics II PHYS 130-2 General Physics Laboratory A or PHYS 120-3 Modern Physics and Mechanics PHYS 121-3 Optics, Electricity and Magnetism PHYS 151-2 General Physics Laboratory B (8 credit hours)

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.

Geography Program


The Department of Geography offers a program within the Faculty of Science leading to a bachelor of science degree with a major or honors in geography. Students interested in a bachelor of arts degree in geography should refer to the Faculty of Arts. Requirements for the bachelor of science in geography are set out below. Students should contact a member of the advising committee to plan the course work for one of the recommended options: biogeography, climatology, geomorphology or terrain evaluation.

Major Program

Lower Division Requirements

(totally required hours 52)

Required Geography Courses GEOG 100-3 Human Geography GEOG 111-3 Physical Geography
Co-operative Education Program

Co-operative education augments academic studies with relevant work experience. The program includes four full-time paid work semesters which alternate with academic semesters. Arrangements for the work semesters are made through the co-operative education program.

Major and honors students in the geography BSc program may apply for admission into the co-operative education program through the co-operative education office for geography and earth sciences. Students should seek advice from a co-operative education co-ordinator as early as possible in their university careers.

Students wishing to enrol in co-operative education must apply by the end of the third week of the preceding semester. Science students should obtain a minimum cumulative GPA of 2.5 to enrol and continue in the program. Honors students are required to achieve higher averages.

For further information, contact the Co-operative Education Office for geography and earth sciences. Telephone (604) 291-5854.

Students in the geography major, BA program, should refer to the Department of Geography in the Faculty of Arts section of this calendar.

Professional Registration as a BC Geoscientist

The right to practise in, and to accept professional responsibility for geoscience in BC is limited to those who are registered members of the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC). Requirements for registration can be met through the geography BSc major program and selected courses in other university departments. Students interested in professional registration should consult the undergraduate advisor in the Department of Geography for further details.

Management and Systems Science Program


Co-ordinator
Dr. B.R. Alspach, TLX10556 Shrum Science Centre, (604) 291-4815

Associated Faculty
B. Alspach, Mathematics and Statistics
F. Popowich, Computing Science
T. Heaps, Economics
E. Love, Business Administration
D. Parker, Business Administration
L. Weldon, Mathematics and Statistics

Advisor
Mrs. M. Fankboner BA (Occidental), MSc (S Fraser), TLX10511 Shrum Science Centre, (604) 291-4849/3332

The Department of Mathematics and Statistics, in conjunction with the Faculty of Business Administration, the School of Computing Science and Department of Economics, offers a major and honors program in management and systems science (MSSC) leading to a BSc degree. These are highly structured programs providing a multi-disciplinary approach to the application of quantitative methods to business and industry in an environment of expanding computerization. A seminar in which problems requiring a broad perspective are
presented and discussed has been designed for upper division students. The co-ordinator of the management and systems science program is selected from the associated faculty.

The Management and Systems Science Program cooperates with the School of Computing Science regarding admission to the program. Students must formally apply in order to be admitted into the program. Acceptance will be based on overall academic performance as measured by the cumulative grade point average (CGPA). The CGPA is calculated based on all work completed at Simon Fraser University as described in the General Regulations section.

A student may apply for acceptance into the management and systems science program during the semester in which she/he is completing all lower division requirements. Transfer and second degree students who have credit for all the 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 CGPA of 2.50. Students are strongly recommended to contact the program advisor or co-ordinator as soon as possible regarding admission and scheduling.

**Major Program**

- Under 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 and Mathematics and Statistics.
- Completion of all lower and upper division courses shown below is required. However, students should be aware of the requirements for entrance into business administration, computing science and economics courses. Contact those departments for further information.

**Lower Division Requirements**

**Business Administration**
- 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 hours such that at least nine hours are taken from each of the groups under business administration (excluding ECON 301), computer science, and mathematics, and statistics. Those hours taken beyond 34 can be applied to other major or minor programs.

**Business Administration**
- BUS 343-3 Introduction to Marketing
- BUS 364-3 Information Systems in Organization and Society
- BUS 473-4 Operations Management

**Computing Science**
- CMPT 305-3 Computer Simulation and Modelling
- CMPT 307-3 Data Structures and Algorithms
- CMPT 354-3 File and Database Structures
- CMPT 370-3 Information System Design

**Economics**
- 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.

**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 152 credit hours. Honors students require a graduation grade point average of not less than 3.00.
- Students must complete all of the requirements as specified above for the degree with the major program. In addition, the student must complete the following upper division courses, bringing the total to 61 credit hours.
  - both of CMPT 405-3 Design and Analysis of Computing Algorithms
  - STAT 350-3 Linear Models in Applied Statistics

**Mathematical Physics Program**

Department of Physics, P8429 Shrum Science Centre, (604) 291-4465 Tel, (604) 291-3592 Fax
Department of Mathematics and Statistics, 10512 Shrum Science Centre, (604) 291-3331 Tel, (604) 291-4947 Fax

**Associated Faculty**

- Dr. B. Frisken, Physics Program
- Dr. B. Frisken, P8456 Shrum Science Centre, (604) 291-5767
- Prof. M. Fankboner BA (Occidental), MSc (S Fraser), TLX10511 Shrum Science Centre, (604) 291-4849

This honors program is offered jointly by the Departments of Mathematics and statistics and physics. Graduates may do graduate work in mathematics or physics depending on the student's interest. Some additional work in either mathematics or physics may be required. Students must contact Dr. Frisken as soon as possible to schedule their programs.

**Honors Program**

**Lower Division Requirements**

(total 43 credit hours)
- CMPT 102-3 Introduction to Scientific Computer Programming
- 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 General Physics Laboratory B
- PHYS 211-3 Intermediate Mechanics
- PHYS 221-3 Intermediate Electricity and Magnetism
- PHYS 233-2 Introductory Physics Laboratory A
- PHYS 234-3 Introductory Physics Laboratory B
- PHYS 244-3 Thermal Physics
Upper Division Requirements

(total 63-65 credit hours)

all of
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 313-3 Differential Geometry
MATH 320-3 Advanced Calculus of One Variable
MATH 322-3 Complex Variables
MATH 361-3 Mechanics of Deformable Media
MATH 418-3 Partial Differential Equations
five of
MACM 316-3 Numerical Analysis I
MATH 415-3 Ordinary Differential Equations
MATH 416-3 Numerical Analysis II
MATH 419-3 Linear Analysis
MATH 424-3 Applications of Complex Analysis
MATH 425-3 Introduction to Metric Spaces
MATH 426-3 Introduction to Lebesgue Theory
MATH 438-3 Linear Algebra
MATH 439-3 Introduction to Algebraic Systems
MATH 444-3 Topology
MATH 462-3 Fluid Mechanics
MATH 466-4 Tensor Analysis
MATH 470-3 Vibrations
MATH 470-3 Variational Calculus
MATH 471-3 Special Relativity
STAT 380-3 Introduction to Stochastic Processes
with at least three courses from the 400 level.
all of
PHYS 325-3 Relativity and Electromagnetism
PHYS 345-3 Statistical Physics
PHYS 356-3 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
one of
PHYS 331-3 Electronics Laboratory
PHYS 332-3 Intermediate Laboratory
one of
PHYS 465-3 Solid State Physics
PHYS 484-3 Nonlinear Physics
NUSC 485-3 Particle Physics
(a) The requirement that PHYS 326 must precede or
be taken concurrently with PHYS 331 may be waived
with permission of the Department of Physics.

Other Requirements

Nine hours of electives outside the Faculty of
Science (excluding EDUC 401 to 407) including six
hours from the Faculty of Arts are required. Further
elective credit in any division is required to total 132
credit hours. It is recommended that CHEM 102 and
103 be taken in the electives.
Further requirements for the BSc (honors) degree are in Faculty of Science.

Mathematics and Computing Science Program

Advisors
Dr. P. Hell, 10837 Applied Sciences Building,
(604) 291-3391
Mrs. M. Frankboner BA (Occidental), MSc (S Fraser),
TLX10511 Shrum Science Centre, (604) 291-4849
Mrs. E. Krabarac, 9985 Applied Sciences Building,
(604) 291-4675
This honors program is offered jointly by the
Department of Mathematics and Statistics and the
School of Computing Science. Entry requires
permission of both. Graduates may proceed to
graduate work in either mathematics or computing
science. (Depending on the particular area of interest
of the student, a small amount of additional
undergraduate work in either mathematics or
computing science may be required.)

Joint Honors Program

A minimum of 132 credit hours, as specified below, is
required.

Lower Division Requirements

CMPT 101-4 Introduction to Computer Programming
CMPT 150-3 Introduction to Computer Design
CMPT 201-4 Data and Program Abstraction
CMPT 275-4 Software Engineering
CMPT 250-3 Introduction to Computer Architecture
MACM 101-3 Discrete Mathematics I
MACM 201-3 Discrete Mathematics II
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 242-3 Introduction to Analysis
MATH 251-3 Calculus III
PHIL 214-3 Axiomatic Logic
STAT 270-3 Introduction to Probability and Statistics
and either a 100 division English course or PHIL
001.

Note 1: A student who, in satisfaction of upper
division requirements (see below), wishes to use
one group d) as one of the two upper division required
groups taken from the list a), b), c), d), must also
obtain credit for the lower division course MATH 252.

Note 2: A student wishing to use courses from group
a) to satisfy requirements is advised that STAT 280 is
a prerequisite for STAT 380.

Upper Division Requirements

MACM 316-3 Numerical Analysis I
CMPT 307-3 Data Structures and Algorithms
CMPT 320-3 Social Implementation of a
Computerized Society
CMPT 354-3 Database Systems I
CMPT 405-3 Design and Analysis of Computing Algorithms

• The required courses in each of two of the groups
a), b), c), d) below and in at least two of the groups
e), f), g), h), i) below.
• Additional courses as required taken from any of the
lists a) - i) below to bring the total upper
division credits in MATH or STAT to at least 25 and
the credits in upper division CMPT to at least
25 where, for this purpose, credit obtained in
MACM courses is divided evenly between MATH
and CMPT.
• additional courses as required to bring the total
number of upper division credits to at least 60.

a) Statistics

Required courses

STAT 330-3 Introduction to Statistical Inference
STAT 350-3 Linear Models in Applied Statistics
STAT 380-3 Introduction to Stochastic Processes
Other courses

STAT 402-3 Generalized Linear and Nonlinear Modelling
STAT 420-3 Non-Parametric Statistics
STAT 450-3 Statistical Theory

b) Discrete Mathematics

Required courses

MATH 308-3 Linear Programming
MATH 343-3 Combinatorial Aspects of Computing
MATH 408-3 Discrete Optimization
MATH 443-3 Combinatorial Theory
MATH 445-3 Graph Theory

Science – Mathematics and Computing Science 175
Department of Mathematics and Statistics


Chair
J.L. Berggren BSc, MSc, PhD (Wash)

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R. Harrop BA, MA, PhD (Camb)
R.W. Lardner BA, PhD, ScD (Camb)
E.M. Shoemaker BS, MS, PhD (Carnegie Tech.)
M. Singh AB, MA (Punj), MSc, PhD (Brown)
M.A. Stephens BSc (Bristol), AM (Harv), PhD (Tor)
C. Villegas Ing Ind (Uruguay)

Professors
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J.L. Berggren BS, MS, PhD (Wash)
J.M. Borwein BSc (WOn), MSc, PhD (Oxf), FRSC
P.B. Borwein BSc (WOn), MSc, PhD (Br Col)
T.C. Brown BA (Reed), AM, PhD (Wash)
A. Das BSc, MSc (Calc), PhD (NUl), DSc (Calc)
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K. Heinrich BMath, PhD (Newcastle, NSW)
P. Hell BSc (Prague), MSc (MCM), PhD (Montr)¹
A.H. Lachlan BA, MA, PhD (Camb), FRScCan
R.A. Lockhart BSc (Br Col), MA, PhD (Calif)
N.R. Reilly BSc, PhD (Glas)
R.D. Roulledge BSc (Qu), MSc (Alta), PhD (Dal)
R.D. Russell BS, BA, MA, PhD (New Mexico)
C.Y. Shen BS, MS, PhD (Oregon State)
S.K. Thomason BS (Oregon), PhD (C'nel)
B.S. Thomson BSc (Tor), MA, PhD (Wt)

Associate Professors
C.B. Dean BSc (Sask), MMath, PhD (Wt)
D.M. Eaves BS (MIT), MS, PhD (Wash)
H. Gerber BS (COW), PhD (Penn State)
L. Goddyn BSc (S Fraser), MMath, PhD (Wt)
G. Parker BSc, MSc (Laval), PhD (HW)
E. Pechlaner PhD (Vienna)
C. Schwarz BSc, MSc (Manit), MMath (Wt), PhD (Manit)
R.R. Sitter BSc, MSc (Br Col), PhD (Wt)
T.B. Swartz BMath (Wt), MSc, PhD (Tor)
T. Tang MSc (Beijing), PhD (Leeds)
M.R. Trummer Matura (Austria), Dipl Math, DrScMath (ETH Zürich)
K.L. Weldon BSc, MSc (Tor), PhD (Stan)

Assistant Professors
R. Choksi BSc (C'ler), MS, PhD (Brown)
M.C.A. Kropinski BSc (Qu), MMath (Wt), PhD (Wt)
M. Monagan, BSc (Massey), MMath, PhD (Wt)
K. Promislow, BSc (N Carolina), PhD (Indiana)

Adjunct Professors
R. Brewster BSc, MSc (Vic, BC), PhD (S Fraser)
D. Hare BSc (Vic, BC) MSc (Alta), PhD (S Fraser)
G. Reid BSc (Otago), PhD (Waik)
M. Rosenfeld MSc, PhD (Hebrew University)
J. Vanderwerff MSc, PhD (Alta)
(Georgia Institute of Technology)
M.L. Yu BSc (Fundan, Shanghai), MSc, PhD (S Fraser)
Q. Yu BSc, MSc (Shandong), PhD (S Fraser)

Associated Faculty
A.J. Dawson, Education
T.J. O'Shea, Education
R. Zakis, Education

Laboratory Instructors
J.C. Arya BSc (Agra), MA (Punjab), MSc, PhD (S Fraser)
T. Berggren BA (Wash), MSc (S Fraser)
X.G. Chen BMath (Sichuan), MSc (S Fraser)
M.M. Dubiel MA, PhD (Warsaw)
J.S. Hebron BSc (Calg), MSc (Br Col), PhD (Alta)

Advisor
Mrs. M. Fankboner BA (Occidental), MSc (S Fraser), K10511 Shrum Science Centre, (604) 291-4849

*joint appointment with Computing Science

The department offers a program of study within the Faculty of Science leading to a bachelor of science with a major or honors in mathematics and statistics. Students interested in a bachelor of arts degree in mathematics and statistics should refer to the Faculty of Arts. A number of mathematics courses are considered desirable for students wishing to major or take honors in other disciplines. This applies particularly, though by no means exclusively, to courses in the 100 and 200 series.

Requirements for the BSc in mathematics and statistics.

Programs of Study

Courses fall into four broad areas — pure, applied, statistics and computational. Students can select varying degrees of emphasis in these areas, but some combinations are more cohesive than others. The department's Student Guide contains valuable information in this regard.

Pure mathematics courses deal with mathematics for its own sake and includes algebra, analysis and topology. These courses have application both inside and outside mathematics; branches of mathematics which are very beautiful turn out to have unexpected uses, too.

Applied mathematics courses include those with various useful mathematical techniques as well as those more oriented toward specific areas such as calculus. Some courses deal with mathematics for its own sake and includes algebra, analysis and topology. These courses have application both inside and outside mathematics; branches of mathematics which are very beautiful turn out to have unexpected uses, too.

Computational mathematics include computational techniques which are used to help solve interesting mathematical problems (such as the courses in numerical analysis) as well as those where mathematical theory is used to help understand the nature of computing (the automata and switching theory courses and some of the discrete mathematics courses, for example). Some courses are taken by students in Computing Science and by mathematics majors and honors. Some are designated MACM and others MATH.

A mathematics major or honors student may take enough upper division courses in another subject to allow a strong minor in that subject, or even (with careful planning) a major. In addition to such combinations there are several joint programs described in the following sections.

Co-operative Education

Students in the mathematics or statistics programs are invited to apply to enter co-operative education, a program which integrates work experience with academic study. For further details on the co-op system, students should refer to the Co-operative Education section in this Calendar.

Mathematical sciences co-op students work in a variety of environments with both private and public sector employers. Past work term duties include statistical analysis, end-user support, survey design, application programming, mathematical modeling, and actuarial analysis.

Contact the mathematical sciences co-op coordinator (TLX 10507) at (604) 291-4123, for admission requirements and information.

Prerequisite Grade Requirement

Students must obtain a grade of C- or higher in mathematics and statistics courses. They normally will not be permitted to enrol in any mathematics and statistics course for which a D grade or lower was obtained in any prerequisite.

Mathematics Major and Honors Program

Students majoring or taking honors in mathematics for a BA degree are subject to the general regulations of the Faculty of Arts. Students majoring or taking honors in mathematics for a BSc degree are subject to the general regulations of the Faculty of Science. In either case, students majoring or taking honors in mathematics will be required by the Department of Mathematics and Statistics.

To obtain credit for

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

and any one of CMPT 101 or 102, and any course labelled STAT and three additional hours in lower division mathematics or statistics or MACM (MATH 100, 110, and 190 may not be included). This requirement would normally be met by the end of the fourth level.

Note: Students who have been or who have intended to be major or honors students in biological sciences programs and who have satisfactorily completed MATH 154 or 155 will not take MATH 151 or 152 respectively.

Students who have been or who have intended to be major or honors students in the social sciences and who have satisfactorily completed MATH 157 or 158 will not take MATH 151 or 152 respectively.

To obtain at least six credit hours in courses other than mathematics or statistics offered by the Faculty of Science. (Physics courses which are recommended for the applied mathematics option, as described in the Student Guide issued by the Department of Mathematics and Statistics, may be used for the satisfaction of this requirement.)

A minimum of 12 credit hours of electives 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.
iv) Major students must obtain a total of at least 44 (BSc) or 45 (BA) credit hours in upper division courses of which at least 50 hours must be in upper division mathematics (MATH), statistics (STAT), actuarial mathematics (ACMA), or mathematics/computing science (MCM) courses; mathematics majors will be required to take at least three 400 division mathematics or statistics or mathematics/computing science (MAMC) courses, none of which may be a directed study, job practicum or honors essay course. Neither STAT 301 nor 302 nor 403 may be counted as part of the 50 hours. A GPA of 2.00 in the required upper division courses in mathematics and statistics is required.

v) Honors students must obtain a total of at least 60 credit hours in upper division courses, of which at least 50 hours must be in upper division mathematics (MATH, statistics (STAT), actuarial mathematics (ACMA), or mathematics/computing science (MCM) courses; mathematics honors students will be required to take at least five 400 division mathematics or statistics or mathematics/computing science (MCM) courses, none of which may be a directed studies, job practicum or honors essay course. Neither STAT 301 nor 302 nor 403 may be counted as part of the 50 hours.

To satisfy conditions iv) and v) above, PHYS 413 may be counted as a mathematics course.

The Department of Mathematics and Statistics also offers a further option for a BSc honors degree in mathematics which if exercised supersedes requirements i), ii), v) above. The required courses are as follows.

i) all of MATH 151, 152, 232, 242, 251, 252, 310, 313, 314, 320, 322, 361 (note MATH 225 prerequisite), 418. STAT 270, MAMC 316. PHYS 120, 121, 211 (or MATH 263), 221, 244, 345, 385, and CMPT 101 or 102 or 103.

ii) at least two of MATH 415*, 416*, 419*, 424*, 425, 426, 438*, 439, STAT 380 (indicates courses which are particularly recommended)

iii) at least five of the following courses with at least two courses taken from each of groups a) and b).

a) MATH 462, 466, 467, 468, 470, 471
b) PHYS 325, 355, 384, 413, 415, 425, 484

The student’s choices from the above courses must include at least five courses at the 400 level. In addition, the number of credit hours must total at least 132, of which at least 12 hours must be taken outside the Faculty of Science, including a minimum of six hours taken in the Faculty of Arts and at least 60 hours must be at the upper division.

The package MATH 262, 263 is well suited for students interested in engineering-type problems.

Mathematics Minor Program

Students completing a minor in mathematics are subject to the general regulations of the faculty in which they are registered. Students normally are required by the Department of Mathematics and Statistics to

i) obtain at least 11 mathematics or statistics credit hours (MATH 100, 110, 190 may not be included) or mathematics/computing science (MCM) courses numbered 101-299 inclusive. These courses normally will include MATH 151 (or 154 or 157), 152 (or 155 or 158), and 232.

ii) obtain credit in at least 15 credit hours of upper division mathematics (MATH) or statistics (STAT) or mathematics/computing science (MCM) or actuarial mathematics (ACMA) courses. These courses may not include PHYS 413 or STAT 301 or STAT 403.

The Department of Mathematics and Statistics also offers a further option for a BSc honors degree in mathematics which if exercised supersedes requirements i), ii), v) above.

Certificate in Actuarial Mathematics

This certificate program prepares the student for most of the Society of Actuaries actuarial exams (SOA courses 100 through 165) or the Casualty Actuarial Society associate exams (part 1 through 4). Students enrolling in this program must already have completed MATH 151, 152 or their equivalents and have knowledge of one programming language. To obtain the certificate, 12 of the following courses must be completed.

- ACMA 310-3 Mathematics of Compound Interest
- ACMA 320-3 Actuarial Mathematics I
- ACMA 322-3 Elementary Linear Algebra
- ACMA 350-3 Actuarial Mathematics II
- ACMA 445-3 Survival Models
- ACMA 455-3 Graduation of Life Tables
- ACMA 465-3 Mathematics of Demography
- ACMA 316-3 Numerical Analysis I
- MATH 308-3 Linear Programming
- STAT 330-3 Linear Models in Applied Statistics I
- STAT 350-3 Linear Models in Applied Statistics II
- STAT 450-3 Statistical Theory

Note: students in a mathematics honors, major or minor program may count these MATH, MACM, or STAT courses toward both the certificate in actuarial mathematics and for mathematics program. ACMA courses satisfy upper division requirements for a mathematics minor, or for the honors, major or minor mathematics programs with the statistics option. Students with a degree may receive waivers and/or transfer credits. In all cases, students must take a minimum of nine courses while in the certificate program. At least six courses must be taken at SFU, of which a minimum of four must be ACMA courses.

Other Programs

Engineering Transfer Program

The Department of Mathematics and Statistics participates in the engineering transfer program. For details, consult the Student Guide issued by the Department of Mathematics and Statistics and the Faculty of Science section.

Management and Systems Science Program

The Department of Mathematics and Statistics contributes to the BSc degree program in management and systems science. For details, see the Faculty of Science section.

Mathematical Physics Honors Program

This honors program is offered jointly with the Department of Physics. It consists of theoretical and laboratory courses in physics together with applied and pure courses in mathematics. Entry requires the permission of both departments. For details, see the Mathematical Physics Honors program.

Joint Honors in Mathematics and Computing Science

This is offered jointly with the School of Computing Science. Entry requires permission of both departments. See Mathematics and Computing Science Program.

Advisory Service

Mathematics major and honors students should consult a departmental advisor for further information before planning detailed programs. Although no upper division courses are specified to satisfy upper division requirements, certain course combinations will form more cohesive programs than others. It is highly recommended that students read the Student Guide issued by the Department of Mathematics and Statistics and discuss these topics with an advisor.

Department of Physics


Chair

M. Pischke BSc (Montr), MPhil (Yale), PhD (Yeshiva)

Professors Emeriti

A.S. Arrott BS (Carnegie Tech), MS (Penn), PhD (Carnegie Tech)
J.F. Cochran BSc, MSc (Br Col), PhD (Ill)
S. Gygax Dipl Phys, PhD (Zür)
S.R. Morrison BA, MA (Br Col), PhD (Penn)
K.E. Rieckhoff BSc, MSc, PhD (Br Col)

Professors

E.L. Ballentine BSc, MSc (Ala), PhD (Camb)
D.H. Boal BSc, MSc, PhD (Tor)
B.P. Clayman BS (Rensselaer), PhD (C'Nell), Vice-President Research, Dean of Graduate Studies
K. Coblow BSc, MSc (McM), PhD (Br Col)
E.D. Crozier BSc (Tor), PhD (Qu)
A.E. Curzon BSc (Lond), MSc (Leeds), PhD (Lond), ARCS, DIC
R.H. Enns BSc, PhD (Alta)
R.F. Fritd BSc (Alta), PhD (Camb), PEng
B. Heinrich MSc, PhD (Czech Acad Sc)
D.J. Huntley BSc, MSc (Br Col), DPhil (Oxf)
J.C. Irwin BASc, PhD (Br Col)
G. Kinzecz BSc (WAust), DPhil (Oxf)
M. Pischke BSc (Montr), MPhil (Yale), PhD (Yeshiva)
M.L.W. Thewalt BSc (McM), MSc, PhD (Br Col)
K.S. Viswanathan BSc (Madr), MA, PhD (Calif)
M. Wortis AB, AM, PhD (Harv)

Associate Professors

J.L. Bechhoefer AB (Harv), PhD (Chic)
L.H. Palmer AA (Sacramento), AB, PhD (Calif)
S. Watkins BSc (Qu), MSc, PhD (S Fraser)

Assistant Professors

C. Bolognesi BEng (McG), MEng (Carl), PhD (Calif)**
B. Friken BSc (Qu), MSc (Northwestern), PhD (Br Col)
J.L. Thewalt BS, PhD (S Fraser)*
H.D. Trottier BSc, PhD (McG)

Adjunct Professors

B.K. Jennings BSc (Mt Allison), MSc, PhD (McM)
M. Vetterli BSc (McG), PhD (McM)
J. Vrba MSc (Charles-Prague), PhD (Alta)
R.M. Woloshyn BSc (Man), PhD (SUNY)

Associate Members

J.M. D’Auria, Chemistry
D. Erle Nelson, Archaeology
E.M. Voigt, Chemistry***
E.J. Wells, Chemistry

Laboratory Instructors

M. Alberding BSc (WOn), MSc (Calif), MEng (S Fraser)
J.F. Cochran BSc (Montr), MPhil (Yale), PhD (Yeshiva)

*joint appointment with Biochemistry
**joint appointment with Engineering Science
***professor emeritus
Computer Skills

Computing skills such as those obtained in the required lower division courses CMPT 101 or 102 will be expected of students entering the second year Physics courses. The department recognizes that some students become proficient in a high-level programming language such as those taught in CMPT 101 and 102 through self-study. Such individuals should consult Course Challenge in the Registration section of this Calendar.

Physics Major Program

This program offers a solid physics background with the opportunity to branch out into other disciplines. Because of maximum flexibility in upper division physics requirements, students can plan their own upper division major programs to fit individual objectives and interests. Students must consult a physics advisor when planning their programs.

Lower Division Requirements

CHEM 121-4 General Chemistry 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 121-3 Optics, Electricity and Magnetism
PHYS 131-2 General Physics Laboratory B
PHYS 211-3 Intermediate Mechanics
PHYS 221-3 Intermediate Electricity and Magnetism
PHYS 233-2 Introductory Physics Laboratory A
PHYS 234-3 Introductory Physics Laboratory B
PHYS 244-3 Thermal Physics

plus one of
CMPT 101-4 Introduction to Computing Programming
CMPT 102-3 Introduction to Scientific Computer Programming

Upper Division Requirements

Core
MATH 310-3 Introduction to Ordinary Differential Equations
MACM 316-3 Numerical Analysis I
PHYS 324-3 Electromagnetics
PHYS 326-3 Electronics and Instrumentation
PHYS 331-3 Electronics Laboratory
PHYS 332-3 Intermediate Laboratory
PHYS 355-3 Optics
PHYS 385-3 Quantum Physics
PHYS 430-5 Digital Electronics and Interfacing
PHYS 431-4 Advanced Physics Laboratory I
PHYS 455-3 Applied Optics
PHYS 485-3 Solid State Physics (37-39 credit hours)

Non-Science Electives
Students must complete a minimum of six credit hours of electives from the Faculty of Arts.

In addition to the above, students must take at least 44 credit hours of upper division credit in the program of study. Students must take sufficient unspecified courses in any division to complete a minimum of 120 credit hours total credit.

Applied Physics Honors Program

Approval of this program by the degree program review committee is pending.

This program offers a solid background in physics 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 enroll in the co-operative education program to acquire valuable industrial experience. An average grade of B or higher 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.

Lower Division Requirements

Students are required to complete the same requirements (55 credit hours) as for the applied physics major program.

Upper Division Requirements

Core Courses
MATH 310-3 Introduction to Ordinary Differential Equations
MACM 316-3 Numerical Analysis I
PHYS 395-3 Computational Physics
PHYS 324-3 Electromagnetics
PHYS 326-3 Electronics and Instrumentation
PHYS 331-3 Electronics Laboratory
PHYS 332-3 Intermediate Laboratory
PHYS 355-3 Optics
PHYS 365-3 Semiconductor Device Physics
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

(42 credit hours)

Upper Division Stream I: Semiconductors/Optics/Communications
Students must complete both of
PHYS 455-3 Applied Optics
PHYS 465-3 Solid State Physics

and one of
PHYS 432-3 Electromagnetics
ENSC 453-4 Semiconductor Device Engineering
ENSC 495-4 Introduction to Microelectronic Fabrication

(10 credit hours)

Upper Division Stream II: Materials
Students must complete both of
ENSC 330-4 Engineering Materials
PHYS 465-3 Solid State Physics

and one of
CHEM 411-3 Crystal Structure Analysis
CHEM 465-3 Electrochemistry
ENSC 495-4 Introduction to Microelectronic Fabrication

(10-11 credit hours)

Upper Division Stream III
For this customized stream, students must consult the faculty advisor.

Non Science Electives
Students must complete a minimum of nine credit hours outside the Faculty of Science (excluding ENSC 401-406), including six hours from the Faculty of Arts.

In addition to the above specified courses, the student must select sufficient unspecified courses in any division to complete a minimum 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 for this program.

Physics Honors Program

The physics honors program is intended to guide the student into an in-depth understanding of basic physics. Such students will be well prepared to significantly contribute to high technology industries, where well developed experimental skills, contemporary computing skills and experience with state-of-the-art instrumentation is required. An honors physics degree is generally required to pursue postgraduate studies in physics and closely related disciplines. An average grade of B or higher is required to graduate in the honors program.

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 325-3 Relativity and Electromagnetism
PHYS 326-3 Electronics and Instrumentation
PHYS 331-3 Electronics Laboratory
PHYS 332-3 Intermediate Laboratory
PHYS 346-3 Statistical 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
four of
PHYS 395-3 Computational Physics
PHYS 430-5 Digital Electronics and Interfacing
PHYS 432-5 Physics Research Thesis
PHYS 455-3 Applied Optics
PHYS 465-3 Solid State Physics
PHYS 484-3 Nonlinear Physics
NUSC 485-3 Particle Physics

Non-science Electives
A minimum of nine hours of electives is required from outside the Faculty of Science (excluding EDUC 401 to 407) including six from the Faculty of Arts.

In addition to the courses listed above, the student must elect sufficient unspecified courses* in any division to complete a minimum of 132 credit hours total credit. (See Faculty of Science, requirements.)

*excluding EDUC 401, 402, 405, 406.

Recommended Program for First Four Semesters

**Semester I**
PHYS 120-3 Modern Physics and Mechanics
MATH 151-3 Calculus I
CHEM 121-4 General Chemistry and Laboratory I
elective I (CMPT 102 suggested)
elective II *(16 or 17 credit hours)*

**Semester II**
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 131-2 General Physics Laboratory B
CHEM 122-2 General Chemistry II
MATH 152-3 Calculus II
elective III (CHEM 128-2 suggested)
elective IV *(15 credit hours)*

**Semester III**
PHYS 211-3 Intermediate Mechanics
PHYS 232-2 Introductory Physics Laboratory A
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III
elective V
elective VI *(17 credit hours)*

**Semester IV**
PHYS 221-3 Intermediate Electricity and Magnetism
PHYS 234-3 Introductory Physics Laboratory B
PHYS 244-3 Thermal Physics
MATH 252-3 Vector Calculus
MATH 310-3 Introduction to Ordinary Differential Equations
elective VII *(17 credit hours)*

Physics and Physiology Honors Program
This challenging honors program is designed for the student who enjoys physics, but intends to pursue a career in the life sciences. It is offered jointly by the Department of Physics and the School of Kinesiology. The program is designed to provide a strong background in physics with enough emphasis in physiology and biomechanics for a graduate to work in the biotechnology industry, to pursue graduate studies in physiology, kinesiology, or biophysics, or to attend a professional program such as medicine. Students who decide to pursue graduate work in physics must take fourth year physics courses beyond those specified in the program. Students interested in applying to medical school should check the entrance requirements for the school to which they wish to 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
BICH 221-3 Cellular Biology and Biochemistry
BISC 101-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
KIN 203-3 Introduction to Human Physiology
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus II
MATH 252-3 Vector Calculus
PHYS 211-3 Intermediate Mechanics
PHYS 221-3 Intermediate Electricity and Magnetism
PHYS 234-3 Introductory Physics Laboratory B(a)
and one of
CMPT 101-4 Introduction to Programming
CMPT 102-3 Introduction to Scientific Computer Programming
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 121-3 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

Upper Division Requirements
(total 56-61 credit hours)
Core
CHEM 360-3 Chemical Kinetics and Thermodynamics
KIN 301-3 Biomechanics Laboratory(b)
KIN 305-3 Human Physiology (c)
KIN 306-3 Human Physiology (d)
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 385-3 Quantum Physics
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 Intermediate Laboratory
PHYS 345-3 Statistical Physics
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 455-3 Applied Optics
PHYS 484-3 Nonlinear Physics

Additional courses must be taken for a total of at least 132 hours of credit overall. 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 155 may be waived by the School of Kinesiology.

Minor Program
To qualify for a minor in physics, a student must complete a minimum of 14 credit hours from among the upper division physics courses numbered 300 and above (excluding special topics courses in physics), together with all the prerequisites for those courses.

Nuclear Science Courses
NUSC 442 and 485 may be counted as upper division physics courses in physics major, honors and minor programs.

Engineering Transfer Program
The Department of Physics participates in an engineering transfer program. The satisfactory completion of this program will gain students standing in the Faculty of Applied Science (Engineering) at the University of British Columbia.

Other Programs and General Notes

Chemical Physics Programs
An honors and a major program in chemical physics are offered jointly with the Department of Chemistry.

Mathematical Physics Program
An honors program in mathematical physics is offered jointly with the Department of Mathematics. Entry requires permission of both departments.

Nuclear Science Minor Program
This minor program is offered jointly with the Department of Chemistry.

Co-operative Education Program
Dr. A.E. Curzon, physics co-op co-ordinator, (604) 291-3270
Ms. C. Horvath, Faculty of Science co-op co-ordinator, (604) 291-3270
Co-operative education combines academic studies and work experience related to those studies. The student spends a total of four semesters off campus in study-related jobs. Arrangements for the work experiences are made through the co-op co-ordinators and the University’s Office of Co-op Education.
Statistics Program

Professors Emeni
M.A. Stephens BSc (Brist), AM (Harv), PhD (Tor)
C. Villagés Ing Ind (Uruguay)

Associated Faculty within Department of Mathematics and Statistics
C.B. Dean
D.M. Eaves
R.A. Lockhart
G. Parker
R.D. Routledge
C. Schwartz
R.R. Sitter
T.B. Swartz
K.L. Weldon

Laboratory Instruction
X.Q. Chen BMth (Sichuan), MS (S Fraser)

Advisor
Mrs. M. Fankboner BA (Occidental), MS (S Fraser), K10511 Shrum Science Centre, (604) 291-4849

The Department of Mathematics and Statistics offers a program of study within the Faculty of Science leading to the degree of bachelor of science with a major or honors in statistics. Students interested in a bachelor of arts degree in statistics should refer to the Faculty of Arts section in this Calendar. The department also offers a minor in statistics.

The following programs in statistics 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, it is important that students also gain advanced training in an area of potential application. To this end, students pursuing a major or honors in statistics are required to 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
Students must have obtained a grade of C- or better in prerequisites for courses offered by the Department of Mathematics and Statistics.

Faculty of Science Requirements
Students planning to complete a bachelor of science with a major or honors in statistics must satisfy the Faculty of Science upper division credit, breadth and grade point average requirements.

Major Program
Students will also be required by the Department of Mathematics and Statistics to obtain credit for the following courses.

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

Upper Division Requirements
Mathematics and Computing Science
Students must complete
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III

Statistics
Students must complete both of
STAT 270-3 Introduction to Probability and Statistics
STAT 280-3 Applied Probability Models

Computing Science
Students must complete one of
CMPT 100-3 Software Packages and Programming
CMPT 101-4 Introduction to Computer Programming

Upper Division Requirements
Mathematics and Computing Science
Students must complete
MATH 316-3 Numerical Analysis I

Statistics
Students must complete all of
STAT 330-3 Introduction to Statistical Inference
STAT 350-3 Linear Models in Applied Statistics

Honors Program
A bachelor of science with honors in statistics requires 132 credit hours. See general regulations in the Faculty of Science section for further breadth, upper division credit, and other requirements. Further, in addition to the above requirements for a major, candidates for an honors degree in statistics will be required to obtain credit for the following.

Additional Mathematics Requirements
Students must complete all of
MATH 242-3 Introduction to Analysis
MATH 320-3 Advanced Calculus of One Variable
MATH 322-3 Complex Variables

plus one of
MATH 332-3 Introduction to Applied Algebraic Systems
MATH 339-3 Groups and Symmetry

plus both of
MATH 426-3 Introduction to Lebesgue Theory
MATH 438-3 Linear Algebra

Additional Statistics Requirements
Students must complete both of
CMPT 420-3 Non-Parametric Statistics
STAT 460-3 Decision Analysis and Bayesian Inference

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 by the Department of Mathematics and Statistics to obtain credit for the following courses.

Quaternary Studies Program
7226 Classroom Complex, (604) 291-3321/3232 Tel, (604) 291-5841 Fax

Associated Faculty
T.A. Brennand, Geography
D.V. Burley, Archaeology
J.M. D’Auria, Chemistry
J. C. Day, Resource and Environmental Management
J.C. Driver, Archaeology
K.R. Fladmark, Archaeology
B.D. Hayden, Archaeology
E.J. Hickin, Geography
D.J. Huntley, Physics
I. Hutchinson, Geography
R.G. Korteling, Chemistry
R.W. Mathewes, Biological Sciences
J.D. Nance, Archaeology
D.E. Nelson, Archaeology
A.C.B. Roberts, Geography
M.C. Roberts, Geography
R. Shuter, Jr., Archaeology
M.F. Skinner, Archaeology

Adjunct Professors
P.T. Bobrowsky, BC Ministry of Energy, Mines and Petroleum Resources
J.C. Clague, Geological Survey of Canada
L.E. Jackson, Geological Survey of Canada
J. Luternauer, Geological Survey of Canada

Advisor
Dr. I. Hutchinson, 7226 Classroom Complex, (604) 291-3232

The study of the quaternary (the last two million years of the earth’s history) involves a broad group of disciplines including biology, climatology, archaeology and surficial geology.

This minor program provides a background in quaternary studies through course work in various disciplines offered through regular departments in the Faculties of Arts and Science. Students considering entry should obtain standing in the prerequisites for the courses required in this minor.

Upper Division Requirements
(14-16 credit hours)
All students must take the following,
one of
ARCH 311-5 Archaeological Dating
ARCH 410-5 Advanced Archaeometry
one of
ARCH 340-5 Zoarchaeology
ARCH 365-3 Ecological Archaeology
BISC 434-3 Paleoeology and Palynology
one of
ARCH 438-5 Geoaarchaeology
EASC 403-3 Quaternary Geology
GEOG 412-4 Glacial Processes and Environments
GEOG 416-4 Pleistocene Geography
both of
QUAT 400-1 Seminar in Quaternary Studies
QUAT 401-1 Field School

The field school (QUAT 401) will normally be held in the week following the final examination period in the spring semester.

Students who wish to count one of the upper division requirements for credit towards their majors may substitute QUAT 403 as one of the requirements for the minor.
Mathematics Requirements
Students must complete one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences
MATH 157-3 Calculus for the Social Sciences I
plus one of
MATH 152-3 Calculus II
MATH 155-3 Calculus II for the Biological Sciences
MATH 158-3 Calculus for the Social Sciences II
plus both of
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III

Statistics 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

*these core courses are recommended
Continuing Studies

Extension Credit Program
Students seeking degree credit on a part time basis by either day or evening study are governed by the same regulations, have the same privileges, and follow the same admission and registration procedures as full time students. Relevant sections of this Calendar should be consulted concerning policies and procedures for admission, registration, academic programs available, program requirements, and current fees. Specific details regarding individual credit programs are available from faculties and departments.

Students pursuing certificates, diplomas, or minors who wish to study in the evenings or at Harbour Centre should consult with academic advisors at the Academic Resource Office (Burnaby campus) or Information and Registration Services (Harbour Centre campus), or with the certificate or diploma program advisor regarding the availability of courses in upcoming semesters. Proposed course scheduling is available for many programs on request.

Certificate Programs

Program Admission Requirements
• Prospective students must apply to Simon Fraser University for admission and meet the normal admission requirements prior to undertaking a certificate program.

Program Requirements
• Students must maintain a minimum grade point average of 2.0 calculated on all courses applied to the certificate that are taken at Simon Fraser University. Duplicate courses are counted only once.

Note
• Credits applied to one certificate may be applied also to major or minor programs of a bachelor’s degree under the normal regulations governing those programs but may not be applied to another Simon Fraser University certificate or diploma.
• Some of the courses have prerequisites not included in the certificate requirements. Students are responsible for satisfying the prerequisites of all courses in their programs. Prerequisite information can be found in the University calendar in the course descriptions section.
• There are program advisors in each department or faculty for the certificate programs. Students intending to pursue a certificate should consult with the program advisor.

Certificates Available
Faculty of Applied Sciences
Applied Human Nutrition (School of Kinesiology)
Computing Studies (School of Computing Science)
Health and Fitness Studies (School of Kinesiology)

Faculty of Arts
Chinese Studies (Certificate in Chinese Studies)
Criminology, General and Advanced (School of Criminology)

Family Studies (Certificate in Family Studies)
First Nations Language Proficiency (Department of Linguistics)

French Canadian Studies (Centre for Canadian Studies)
First Nations Language Proficiency (Department of Linguistics)

French Language Proficiency (Department of French)

Liberal Arts (Faculty of Arts)

Native Studies Research (First Nations Study Program)

Public History (Department of History)

Senior Citizens (Certificate for Senior Citizens)
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)

Post Baccalaureate Diploma Programs

Program Admission Requirements
• Completion of a recognized bachelor’s degree (in any field of study) with a minimum graduation grade point average of 2.0 from a university in British Columbia or with a minimum graduation grade point average of 2.4 from a university outside of British Columbia, or equivalent.
• Students applying to the University for admission are required to meet undergraduate admission deadlines. Application forms should be accompanied by official documents and a statement of objectives in undertaking a diploma program.

Program Requirements
• Successful completion of an approved program comprised of 30 credit hours of third and fourth year courses, and some graduate courses if appropriate.
• At least 15 credit hours must be in a discipline or subject area which most closely fits the learning goals of the student.
• Minimum grade point average of 2.5 on courses applied toward the diploma.
• Completion of lower division prerequisites, if required.
• Completion of the diploma within five years of admission to the program.

Notes
• Students may complete more than one post baccalaureate diploma program.
• Students should consult with academic advisors at the Academic Resource Office (Burnaby campus) or Information and Registration Services (Harbour Centre) or with the diploma program advisor regarding availability of courses at the Burnaby campus, Harbour Centre campus, or by distance education.
• Some of the program courses have prerequisites not included in the certificate requirements. Students are responsible for satisfying the prerequisites of all courses in their programs.
• Program applicants will need to refer to the current university calendar for detailed information concerning application and registration procedures, fees, program requirements, and course descriptions.
• There are program advisors in each department for that departments’ diploma programs.

Transfer Credit
• Transfer credit for work done at other institutions, before or after admission to the program, may be approved toward fulfillment of the program provided that at least 18 of the 30 required upper division credit hours, including at least nine credit hours in the student’s area of concentration, be taken at Simon Fraser University.
• Transfer credit is normally only valid for approved courses taken within ten years of the student’s completion semester.
• Transfer credit for use toward the diploma is granted only on approval of the registrar, the appropriate faculty post baccalaureate diploma committee, and the dean of the appropriate faculty.
• Credit for work done at Simon Fraser University or
transfer credit for work done elsewhere prior to admission to the program may be approved provided that at least 15 of the 30 required upper division credit hours, including at least eight credit hours in the student’s area of concentration, normally be taken after admission to the program.

- Credits applied to one diploma may not be applied to another Simon Fraser University certificate or diploma or degree, and vice versa.

Faculty of Applied Sciences
Communication (School of Communication)
Computing Science (School of Computing Science)
Kinesiology (School of Kinesiology)

Faculty of Arts
Community Economic Development (Community Economic Development Program)
Criminology (Department of Criminology)
Ethnic and Intercultural Relations (Department of Sociology and Anthropology)
Gerontology (Gerontology Program)
Humanities (Humanities Program)
Public History (Department of History)
Social Policy Issues (Department of Sociology and Anthropology)
Teaching English as a Second Language (Department of Linguistics)
Urban Studies (Department of Geography)

Faculty of Science
Environmental Toxicology (Department of Biological Sciences)

Special Audit Student
The category of special audit student enables members of the community to access University credit courses as auditors. People interested in taking regular courses but who do not meet the general admission requirements or do not desire admission to the University may apply as special audit students. Such students attend courses but do not write final examinations or receive degree credit, record of attendance, or statement of standing.

Continuing Studies distributes a form which must be signed by the course instructor. Special audit fees (payable at the Cashier’s Office) are calculated at one half the normal course fee. Special audit students may not change registration status after the semester has commenced.

Distance Education
Distance education courses in archaeology, biological sciences, business administration, Canadian studies, communication, community economic development, computing science, criminology, English, education, French, Geography, gerontology, history, Japanese, kinesiology, linguistics, mathematics, philosophy, political Science, psychology, sociology/anthropology, statistics and women’s studies are currently available, and additional courses are being developed. The general and advanced certificate programs in criminology are designed specifically for distance education students. The health and fitness studies certificate program, the liberal arts certificate program, a bachelor of general studies degree, and a bachelor of arts (criminology major or criminology and psychology joint major) degree are available by distance education. A booklet of programs and courses is published each year. In addition to distance education credit courses, some programs in the areas described above are available for general interest or professional development on a non-credit basis. For more information, contact the Centre for Distance Education, telephone (604) 291-3524; 1-800-663-1411 (toll free within BC).

Knowledge Network Programs
The University telecasts a variety of educational programs on the public television channel of the Knowledge Network. Each semester programming is offered in support of on campus and distance education courses, in-service for teachers throughout the province, professional and personal development as well as for general viewing. Detailed information on individual programs produced and telecast by the University are available from the Centre for Distance Education, Continuing Studies, telephone (604) 291-4566.

Off-Campus Programs
University credit courses in education applicable to the bachelor of education degree and to the post baccalaureate diploma program are available at various Interior centres. The Faculty of Education also offers the professional development program (teacher training) throughout the province. Interested students should contact the director of undergraduate programs, Faculty of Education, Simon Fraser University.

Professional Programs for Teachers
Credit courses in education are offered during the late afternoon and evening during fall, spring and summer semesters and in the evening from May to June (intersession) and during the day and evening from July to August (summer session). More information about this program is available from the education advisor, telephone (604) 291-3488.

Graduate Degree Programs
The University offers graduate degree programs through evening study in arts (graduate liberal studies program), business administration, economics, education, English, and resource and environmental management. For program information consult appropriate sections.

Continuing Professional and Liberal Studies
Applied Sciences programs (by the Faculty of Applied Sciences)
Business and professional programs
Business writing programs (including technical writing, and corporate strategic communications)
Conference Services
Executive and management development programs
Fellows’ and professional certification programs and courses (Association of Administrative Assistants, Canadian Direct Marketing Association, Credit Union Institute of Canada, Institute of Canadian Bankers, Insurance Institute of Canada, Canadian Institute of Travel Counsellors, Canadian Institute of Management, Trust Institute, International Foundation of Employee Benefit Plans, Purchasing Management Association of Canada, Project Management Institute, Institute of Risk Management, Credit Institute of Canada, CPSA Sales Institute, Canadian Payroll Association)
Labour programs
Liberal arts programs
Non-profit sector management programs
The Northern Justice Society programs
Professional (creative) writing programs
Public policy programs
Publishing programs
Urban studies programs
Co-operative Education

Director

Arts Program
1100 Maggie Benston Student Services Centre, (604) 291-5875 Fax
Ms. D. Chocheinov, (604)291-3041
Ms. D. Heisler, (604) 291-5751

Business Administration Program
2310 Lohn Building, (604) 291-5922 Fax, Ms. J. Martin, (604) 291-4075
Ms. M. Klemetski, (604) 291-4993
Ms. J. Andersen, (604) 291-5540

Co-operative Education
2310 Lohn Building, (604) 291-5922 Fax, Mr. J. Hsieh, (604) 291-3308

Communication Program
6139 Classroom Complex, (604) 291-4024 Fax, Ms. D. Sedo, (604) 291-3882
Ms. M. Shimizu, (604)291-3862

Computing and Mathematical Sciences Program
(604) 291-5829 Fax, Ms. M. Morgenstern, 9923 Applied Sciences Building, (604) 291-3217
Mr. E. Simons, 10507 Teaching and Learning Complex, (604) 291-4123
Ms. C. Vetterli, 9917 Applied Sciences Building, (604) 291-3239

Geography and Earth Sciences Program
1100 Maggie Benston Student Services Centre, (604) 291-5875
Mr. M. Ferguson, (604) 291-5954

Engineering Science Program
9827 Applied Sciences Building, (604) 291-4951 Fax, Ms. H. Matsui, (604) 291-4247
Ms. T. Behrisch, (604) 291-5806

Kinesiology Program
K9620 Shrum Science Centre, (604) 291-3040 Fax, Ms. N. Johnston, (604) 291-4541
Ms. D. Carswell, (604) 291-4541

Resource and Environmental Management Program
9675 Shrum Classroom Building, (604) 291-4968 Fax, Dr. C. Day, (604) 291-3067

Science Program
1100 Maggie Benston Student Services Centre, (604) 291-3031 Fax, Ms. C. Horvath, (604) 291-3270
Dr. A. Toby, (604) 291-5934
Ms. A. Rahme, (604) 291-3754

Co-operative education is a process through which students integrate work experience with academic studies. The name reflects the co-operative relationship between the University, the employer, and the student. Practical experience from work terms is related to students' major interests within their fields of study. A work term is typically paid, full time work of four months (one term). The salary earned helps students finance their education and the experience helps validate career choices. The program tests students' skills and knowledge learned in the classroom, and provides adjustment and experience in the work world.

Admission to the Program
Co-operative Education is mandatory for engineering science and optional for all other co-op programs. For information on the engineering co-op program, see the School of Engineering Science section.

Traditionally, only Canadian citizens and permanent residents are eligible to enter optional co-op programs. However, the co-op program seeks to build international involvement, and we encourage visa students to contact the co-op office to discuss participation opportunities. Mandatory programs are open to Canadian citizens, permanent residents, and visa students. Visa students in co-op programs are eligible for work permits which are only valid for jobs arranged through the co-op department.

Expression of Interest
Students may indicate on their admission application that they are considering applying to co-op. Students who indicate this interest will be tracked by the co-op office and may be invited to participate in a pre-co-op curriculum. This optional fee-for-service program, planned for a first offering in semester 1999-1, will prepare students as learners and facilitate their successful integration into the world of work. Entry into the co-op program will not be dependent upon the pre-co-op curriculum. However, the curriculum and recommended associated workshops will help students to both enhance and more evenly distribute the activities associated with a successful application to co-op and participation in the employment process for their first work term.

In-Course Application
Interested students should visit the co-op education website at www.sfu.ca/co-op. They should also attend information meetings held the first and/or second week of classes, and should contact appropriate co-ordinators as early in their university career as possible, but no later than one semester prior to the first work term. Transfer students should make contact with the co-op office as soon as possible and must complete at least one study semester before engaging in a work term. Students transferring from an approved co-op program elsewhere, and who have successfully completed work terms, can receive transfer credit for those work terms up to the point that they still must complete 50% of their degree program, including work terms, here at Simon Fraser University.

Students are urged to apply to co-op as early as possible. Students have the opportunity to participate in a number of recommended learning-based and employability skills workshops that will improve their chances of successful employment.

Acceptance into the Co-operative Education Program
Acceptance into the employment process is based on academic performance and entry interviews where motivation, interpersonal, and communication skills are evaluated. Students must normally have 45-60 credit hours and a CGPA of at least 2.5 before participating in the co-op employment process. Some departments have additional requirements.

Participation in the Co-op Program
The Employment Process
Once a student is accepted into the employment process portion of the program, the student can actively engage in the employment competition. Job opportunities are identified and posted through co-op, and students may select opportunities for which they wish to compete. Students can choose which positions to apply to, may be selected for interview, and may or may not receive an offer. They have the option to accept or decline an offer, based on the contractual obligations and ethics associated with their progression in the employment process. These obligations are made clear to all participants at each point in the employment process. Once a student has accepted a position, they are obligated to that work term. A decision to renege on an employment agreement can have academic and possibly legal ramifications. Students are required to have a practicum registered with academic records (Office of the Registrar) once they have accepted employment. Application form submission and/or participation in the job competition indicates a commitment to the program and acceptance of the following:

- permission for release 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 Simon Fraser University of the acceptance of any co-operative education employment position obtained outside of the match
- agreement to complete four (five for chartered accountant/co-op education work terms

Operation of the Program
The co-op co-ordinators negotiate work terms, meet employers to establish employer needs, and also meet with students to identify objectives. They oversee job competition and visit students on the job, counsel and advise students, and deal with special problems that may arise.

Specialty Options
Students may also opt to find/create their own opportunities, locally or abroad. Simon Fraser co-op is unique amongst institutions in that it offers four formalized specialty options as part of its regular co-op program. They include:

- Entrepreneurship
This program helps students bring their ideas of a self-operated business to the marketplace. Students build a business plan with the help of co-op staff, business experts, and the business community. They then proceed to implement that plan as one of their work terms.

- Self-Directed Work Search (SDWS)
This formalized program helps students find their own work, locally or abroad. Co-op staff guides students through the work search process and provides the support systems necessary to make a successful entry into the work world. This program is highly recommended for students seeking work abroad, and/or trying to work in niche markets not targeted through co-op's normal employment process.
Mentorship
This program pairs a senior co-op student with a senior high school student. The university student gains experience in work delegation, supervision and mentoring. This award-winning program is popular with business, government, and students alike.

Co-op Japan
The Co-op Japan program is a national, multi-university program established in May 1991 under the auspices of the federal government’s Pacific 2000 Japan Science and Technology Fund. The program provides senior science and engineering students from across Canada with the opportunity to gain work experience in Japan. The goal of the program is to develop a pool of young Canadian engineers and scientists with hands-on experience in Japanese industrial engineering and research practices.

Program Prerequisites
• third or fourth year student currently enrolled full time in the in the schools of Engineering Science or Computing Science and/or the Faculty of Science
• CGPA of 3.33 (B+)
• minimum of one Japanese language credit course or two non-credit courses, or equivalent experience, and completion of a four week immersion Japanese language and culture program sponsored by the co-op Japan program
• time commitment is 8-12 months
• minimum eligible age 19 years
• Canadian citizen or permanent resident of Canada
• English language fluency

Application Submission Deadlines

<table>
<thead>
<tr>
<th>Application Deadline</th>
<th>Student Notification</th>
<th>Language Training Begins</th>
<th>Work Placement Begins</th>
</tr>
</thead>
</table>

Student information packages are available from the co-operative education office, MBC 1100.

Work Sequence
The work study chart below shows a possible work term and study semester pattern. An alternating sequence, beginning before year three, provides the best learning structure. Other combinations can be arranged to meet student and employer needs, as long as employer requirements for students in the fall and spring terms are met. Students may not end their chosen sequence on a work term.

Co-op Fees
Co-op is a value-added educational experience, and as such, has associated participation fees. Currently, a co-op fee is charged for each and every work practicum in which the student enrols. These fees are tax deductible. For further information see the Undergraduate Fees section.

Graduation Requirements

Degree Program
Four work terms (five for the CA program) must be successfully completed for completion of a degree with a co-op designation. Successful completion of a work term includes a passing grade (comprised of both a work project evaluation and a work performance evaluation) and compliance with minimum standards of participation. A work term is typically full time employment for 13-16 weeks in duration.) Students who meet this condition will have co-op designated on their degree (except bachelor of science – co-operative education).

Certificate Option
Beginning in semester 1998-3, students (except CA and engineering) who attempt and successfully complete three work terms may apply to the co-op office for a certificate of completion. The same performance criteria as noted above are required for the certificate option. Students will receive a certificate stating they have successfully completed the minimum requirements of the Simon Fraser co-operative education program, but will not receive recognition on their actual degree, nor will they be eligible for further work terms in their current program.

An effective work/study sequence

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Semester II</th>
<th>Semester III</th>
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</thead>
<tbody>
<tr>
<td>September – December</td>
<td>January – April</td>
<td>May – August</td>
</tr>
</tbody>
</table>

Year 1
- Study semester #1
  - 15 credit hours
  - cumulative credit hours = 15

Year 2
- Work term #1

Year 3
- Study semester #5
  - 15 credit hours
  - cumulative credit hours = 75

Year 4
- Work term #4

Study semester #2
- 15 credit hours
- cumulative credit hours = 30

Study semester #4
- 15 credit hours
- cumulative credit hours = 60

Study semester #6
- 15 credit hours
- cumulative credit hours = 90

Study semester #7
- 15 credit hours
- cumulative credit hours = 105

Study semester #8
- 15 credit hours
- cumulative credit hours = 120
Actuarial Mathematics
Faculty of Science

No student may take, for further credit, any course offered by the Department of Mathematics and Statistics which is a prerequisite for a course the student has already completed with a grade of C- or higher, without permission of the department.

ACMA 310-3 Mathematics of Compound Interest

ACMA 315-3 Credibility Theory and Loss Distributions

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 annuity accumulation function, moments of apv, basic life annuities. Net annual premiums: actuarial equivalence principle, loss function, accumulation type benefits. Actuarial reserves: prospective loss function, basic contracts, recursive equations, fractional durations. This course covers part of the syllabus of course 150 of the Society of Actuaries. (3-1-0) Prerequisite: ACMA 310 (with a grade of C+ or higher). Corequisite: STAT 280 must precede or be taken concurrently. Corequisite: MATH 232 and STAT 280 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 coefficients, discrete time model, surplus below the initial level, maximal aggregate loss. Applications: claim amount distribution, stop-loss reinsurance. This course covers the syllabus of course 151 of the Society of Actuaries. (3-0-0) Prerequisite: ACMA 320. Corequisite: STAT 280 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. Nonforfeiture benefits and dividends: equity concept, cash values insurance options, asset shares, dividends. This course covers part of the syllabus of course 150 of the Society of Actuaries. (3-1-0) Prerequisite: ACMA 320.

ACMA 445-3 Survival Models

ACMA 455-3 Graduation of Life Tables
Definition of graduation. Smoothness, fit-testing. Graduation methods: moving-weighted-average, Whittaker, Bayesian, parametric. Smooth-junction interpolation. Two dimensional graduation. This course covers the syllabus of course 165 of the Society of Actuaries. (3-0-0) Prerequisite: ACMA 320 and MACM 316.

ACMA 465-3 Mathematics of Demography

Archaeology
Faculty of Arts

ARCH 100-3 Ancient Peoples and Places
A broad survey of human cultural development from the late Palaeolithic/Wellandian periods (ca 40,000 BP) to the rise of civilization and empires, in both the Old and New Worlds. (lecture/tutorial)

ARCH 105-3 The Evolution of Technology
A history of technology from earliest times to the beginning of the Industrial Revolution. The course will discuss the causes and effects of technological change, as illustrated by specific technological developments including stone tools, metallurgy, agriculture, etc. (lecture/tutorial)

ARCH 131-3 Human Origins
A non-technical survey of the primate background of humans, fossil primates, and fossil humans, and the associated evidence of cultural development. An introduction to physical anthropology. (lecture/tutorial)

ARCH 200-3 Special Topics in World Prehistory
Non-specialized introductory summaries of selected regional topics in world prehistory. Students who receive grade credit once for this course may not take it again for further credit. (lecture)
ARCH 201-3 Introduction to Archaeology
A survey of methods used by archaeologists to discover and interpret the past. Examples will be drawn from selected sites and cultures around the world. Students who have taken ARCH 101 may not register in ARCH 201. (lecture/tutorial)

ARCH 223-3 The Prehistory of Canada
A summary review of the pre-contact native cultures of Canada, from their beginnings to the arrival of Europeans, as revealed by archaeology. Lectures focus on how and when the first humans appeared in the land now known as Canada, and how their cultures changed over time, organized in terms of eight 'archaeological regions,' beginning with the Atlantic coast and then moving west and north. (lecture)

ARCH 272-3 Archaeology of the Old World
A survey of the major centres of Old World cultural development from the Palaeolithic to the Bronze Age. Basic concepts used in reconstructing prehistoric cultures, and the artefactual and contextual evidence for the development of culture. (lecture/tutorial) Prerequisite: ARCH 100 or 201.

ARCH 273-3 Archaeology of the New World
A survey of prehistoric cultures of North and South America. The peopling of the New World, the rise of the pre-Columbian civilizations of Mexico and Peru, and the cultural adaptations by prehistoric populations to other parts of the New World. (lecture/tutorial) Prerequisite: ARCH 100 or 201.

ARCH 301-3 Prehistoric and Indigenous Art
Art styles and traditions of prehistoric and preliterate peoples in one or more world cultural areas. (lecture)

ARCH 311-5 Archaeological Dating
A study of various scientific methods of dating archaeological samples, including Carbon 14, thermoluminescence, obsidian-hydration, fission track, potassium-argon, magnetic, and other dating techniques. (lecture/seminar) Prerequisite: PHYS 181 or permission of department.

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 201 and 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 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 characterising 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, organised 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 organisation, religion, ceremony and warfare. (lecture/seminar) Prerequisite: ARCH 201 and 273.

ARCH 365-3 Ecological Archaeology
Deals with the techniques for reconstruction of past environments, as well as the effect of environment on past settlements and people. Environment as considered in the course will encompass the presence of other settlements, and deal with relationships among settlements. (lecture) Prerequisite: ARCH 201.

ARCH 370-3 Western Pacific Prehistory
The exploration of prehistoric developments in the Western Pacific region, beginning with the first traces of humans, dealing with problems in the rise of civilization, and finally, tracing the voyages of the early Pacific navigators. (seminar) Prerequisite: ARCH 272.

ARCH 372-5 Material Culture Analysis
Analysis and interpretation of archaeological material culture. This lecture and laboratory course combines the practical problems of recognition and interpretation of archaeological specimens, typology, seriation, and statistical procedures with the basic principles of archaeological theory. (lecture/laboratory) Prerequisite: ARCH 201.

ARCH 373-5 Human Osteology
A detailed study of the human skeleton with emphasis on lab and field techniques. (lecture/laboratory) Prerequisite: ARCH 131.

ARCH 374-3 Prehistory of South and East Asia
Survey of prehistoric development and cultural origins(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 Archaeology 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 379-3 American Southwest
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. The recognition and critical evaluation of the significance of the similarities and differences among fossil human types. (lecture) Prerequisite: ARCH 131 and 272.

ARCH 386-3 Archaeological Resource Management
Surveys the origins, implementations, and need for archaeological heritage legislation on an international and national scale. Topical issues associated with contract archaeology, public archaeology, native heritage, and avocational societies are incorporated. (lecture/seminar) Prerequisite: ARCH 201.

ARCH 390-5 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 selected regions of the world. (lecture/laboratory) Prerequisite: ARCH 201 and either 272 or 273.

ARCH 410-5 Advanced Archaeometry
The explanation and application of various physical science techniques to archaeology. (lecture/seminar) Prerequisite: PHYS 181 or permission of department.

ARCH 432-5 Advanced Physical Anthropology
An intensive investigation of the theory and problem areas in physical anthropology. (lecture/laboratory) Prerequisite: ARCH 373 and either 344 or 385.

ARCH 433, 434, and 435 are normally taken as a block in one semester as the Archaeological Field School. Students enrolling for these courses must seek permission from the Department of Archaeology before final registration.

ARCH 433-6 Background to Field Work
Lectures cover the archaeological background and rationale for specific field research questions, the critical relationship in any field project between the research questions asked and the methods and techniques employed, and the craft of field work including use of equipment, specific excavating, recording, and cataloguing techniques, field safety and camp life. Prerequisite: normally taken concurrently with ARCH 434 and 435; ARCH 131 and 201; at least one group I course, permission of the department.
ARCH 434-3 Exercises in Mapping and Recording
A series of exercises in which the student must demonstrate the ability to record the various geographic, archaeological and environmental data. The 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 Geoaarchaeology
This course introduces the concept of archaeological sites as active constituents in natural Quaternary land-forming and land-eroding systems. Lectures will focus on all processes which may have contributed to the present geomorphological contexts of archaeological sites and their sedimentary and pedological contents. (lecture) Prerequisite: ARCH 201 and either 272 or 273.

ARCH 442-5 Forensic Anthropology
Current techniques in identification of recent human skeletal remains. (lecture/lab/seminar) 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 485-5 Lithic Technology
An in-depth study of how to manufacture and analyse stone tools. Includes rock and mineral identification, stone working by students, fracture mechanics, and relevance to theoretical problems. (lecture/laboratory) Prerequisite: ARCH 372.

ARCH 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 Faculty of Arts

ASC 101-3 Introduction to Asia-Canada Studies I
This is an introductory course on over-earning Asia-Canada interactions. It will directly address Asia-Canada interactions including issues involving Asian-Canadians in North America. (lecture/seminar) Prerequisite: normally taken concurrently with ARCH 433 and 434; ARCH 131 and 201; at least one group I course; permission of the department.

ASC 102-3 Introduction to Asia-Canada Studies II
This course is an introductory course on Asian civilizations in three areas: East Asia, Southeast Asia and South Asia. A survey course, it is designed to cover multiple dimensions of people’s lives and history in Asia. (lecture/seminar) Prerequisite: normally taken concurrently with ARCH 433 and 434; ARCH 131 and 201; at least one group I course; permission of the department.

ASC 200-3 Introduction to Chinese Culture and History
The course provides the student with an introduction to historical and cultural perspectives on China. Topics covered will include different aspects of Chinese culture. (lecture/seminar) Prerequisite: 15 semester hours. Students who have taken GS 201 or GS 251 may not take this course for further credit.

ASC 201-3 Introduction to Japanese Culture and History
This is an introductory course on Japanese culture and history. It is designed for students with no Japanese background and with no Japanese speaking ability. The course will cover the basic aspects of Japan: geography, history, culture, politics, economy, etc. (lecture/seminar) Prerequisite: 15 semester hours. Students who have taken this course as JAPN 250 may not take this course for further credit.

ASC 202-3 Studies in Chinese Culture
An introduction to Chinese art, literature or philosophy. The emphasis will be on the cultural importance of the subject covered and on its relationship to contemporary Chinese society. (lecture/seminar) Prerequisite: 15 semester hours. Students who have taken GS 201 or GS 251 may not take this course for further credit.

ASC 300-3 Asians and North Americans in Public Discourse
A cross-cultural examination of the ways we perceive and represent each other in public discourse, including literature, news media, cinema, and other education and entertainment media. (lecture/seminar) Prerequisite: ASC 101, 102.

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. (lecture/seminar) Prerequisite: ASC 101, 102.

ASC 302-3 Selected Topics in Chinese Studies
Content will vary according to interests of faculty and students but will involve China-related study within one or more of the social science or humanities disciplines. (seminar) Recommended: 30 semester hours. ASC 200.

ASC 303-3 Selected Topics in Japanese Studies
This course is an intermediate level course. (lecture/seminar) Recommended: 30 semester hours. ASC 201.

ASC 400-3 Senior Seminar on Asia-Canada Relations
This seminar course addresses the issues raised in ASC 101 and 102 in an in-depth manner. It scrutinizes and analyses issues, dimensions, history and discourse of Asian-Canada interactions. (seminar) Prerequisite: ASC 300 or 301.

ASC 401-3 Directed Studies
Individual study. Prerequisite: ASC 101 or 102, and one ASC 300 level course.

Athletics
The four courses in Athletics are designed for students interested in pursuing careers in physical education or coaching. Each course carries a three credit hour designation, but these credit hours are not applicable towards the credit requirements for any degree, diploma or certificate, including PDP. Credit (CR) is assigned for the successful completion of each of these courses. Course information is available from the dean of the Faculty of Education, the director of athletics, or the chair of the undergraduate curriculum committee in Kinesiology.

ATHL 201-3 Individual and Dual Activities
The historical development, skill analyses, progressions, and evaluative procedures for individual and dual activities.

ATHL 202-3 Team Games
Designed to provide the basic knowledge and practical skills needed to teach team sports such as basketball, field hockey, lacrosse, rugby, soccer, team handball and volleyball.

ATHL 203-3 Outdoor Pursuits
A theory and laboratory course to develop knowledge and the practical skills needed to teach outdoor pursuits such as backpacking, camping, canoeing, cross-country skiing, alpine skiing, orienteering and skating, to secondary school students. Note: The content of this course may vary depending upon semester taught and instructor/faculty availability.

ATHL 204-3 Track and Field
The historical development, skill analyses and officiating techniques in track and field.

Biochemistry Faculty of Science
It is intended that Biochemistry major or honors students will take the Biochemistry courses in the order presented under the recommended program, and with the prescribed prerequisites. However, students in other major and honors programs may be admitted into any of these courses at the discretion of the program advisor of the Biochemistry curriculum committee.

For a course to be accepted as fulfilling a prerequisite for a biochemistry course, a student must have obtained a minimum grade of C– (c minus).

BICH 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 preceed BICH 221.

BICH 222-3 Molecular Biology and Biochemistry
An introduction to DNA replication and recombination, RNA transcription and protein synthesis in the context of their locations within the cell and their timing in the cell cycle. The relationship between structure and function of proteins and nucleic acids will be addressed. (3-1-0) Prerequisite: BICH 221. Corequisite: CHEM 282 (or 250). Recommended: CHEM 282 preceed BICH 222.

BICH 311-2 Analytical Biochemistry Laboratory
The biochemical analysis of amino acids, peptides, carbohydrates, lipids, nucleotides, and nucleic acids. (0-0-4) Prerequisite: BICH 222, CHEM 215, 286 (or 250) and 286 (or 255). Corequisite: BICH 321.

BICH 312-2 Metabolism Laboratory
Experiments demonstrating the major energy-yielding processes of metabolism and selected biosyntheses. (0-0-4) Prerequisite: CHEM 215 and 286 (or 255). Corequisite: BICH 321.

BICH 313-2 Human Genetics Laboratory
Experiments demonstrating human gene expression and inheritance. (0-0-4) Prerequisite: BICH 222, CHEM 215, 286 (or 250) and 286 (or 255). Corequisite: BICH 321.
Part-time laboratory research in an area of molecular biology or biochemistry for preparation of a thesis for the honors degree in Biochemistry. Before seeking approval for registration in this course, the student should have already 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 102 pages) 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: BICH 222 and permission of the Biochemistry advisor. Usually, upper level standing with at least 60 semester hours in a Biochemistry major, minor or honors program (attaining a minimum of 3.00 in both the CGPA and upper division GPA) will be required. No more than 15 hours of research courses may be counted towards the honors degree in biochemistry.

### Biological Sciences

**Faculty of Science**

See also courses listed under Marine Science (MASC).

**Note:** Entry into courses numbered 300 and above normally requires completion of the lower division core in Biological Sciences (see Lower Division Core in the Biological Sciences section of the Calendar). Prerequisites for any course may be waived with the approval of the department.

#### BISC 004-3 Apiculture: An Introduction to Bees and Beekeeping

The course will stress the biology of bees as well as management for honey production, and will provide the necessary information required to begin beekeeping. Lecture topics will include basic honeybee biology, beekeeping equipment, seasonal management, and disease prevention. (3-0-1) Prerequisite: open to all students.

#### BISC 100-4 Introduction to Biology

An introduction to the basic concepts of biology, emphasizing evolution as a unifying theme. Topics include cell structure, mitosis and meiosis, DNA structure and function, evolution and population and ecosystem ecology. (3-1-0) 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 with a grade of C+ or better. BISC 101 and 102 need not be taken in any particular sequence, and may also be taken concurrently.

#### BISC 102-4 General Biology

The course begins by surveying the diversity of life, and its evolutionary history on earth. The student is introduced to the study of genetics, development and evolution, giving an overview of how these processes interact to produce form and function. The principles of behavior and ecological relationships of organisms to each other and their environment are also studied. (2-1-4) Prerequisite: high school biology 12 (or equivalent) or BISC 100 with a grade of C+ or better. BISC 101 and 102 need not be taken in any particular sequence, and may also be taken concurrently.

#### BISC 202-3 Genetics

Principles and concepts of the transmission of genetic information treated comparatively in man, animal, plant and microbe. (3-1-1) Prerequisite: BISC 101 and 102 with a grade of C- or better.

#### BISC 204-3 Introduction to Ecology

An introduction to biotic-environmental relationships and dynamics; ecological concepts; population dynamics, variation, adaptation and evolution. (3-1-1) Prerequisite: BISC 101 and 102 with a grade of C- or better. Credit will not be granted for both BISC 204 and GEOG 215.

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**BICH 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: BICH 222 and CHEM 282 (or 250).

**BICH 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 and molecular bases of cancer. (3-1-0) Prerequisite: BICH 222 and CHEM 282 (or 250). Recommended: BICH 321.

**BICH 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: BICH 321 and CHEM 380 (or 261). Recommended: BICH 413 should be taken concurrently.

**BICH 412-4 Enzymology**

Enzyme isolation and assay procedures: energy of activation; enzyme kinetics and inhibition; mechanisms of enzymatic reactions; allosteric enzymes. (2-1-4) Prerequisite: BICH 321, CHEM 360 (or 261) and one of UCH 311 or 312.

**BICH 413-2 Physical Biochemistry Laboratory**

The measurement of physical properties of biomacromolecules; studies with bio-membranes. (0-0-4) Prerequisite: BICH 311, 312 and 321. Corequisite: BICH 412.

**BICH 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.

**BICH 421-3 Nucleic Acids**

Recent literature is examined for insights into the structure and properties of DNA and RNA, drawing on a variety of biochemical, chemical and molecular biological perspectives. (3-1-0) Prerequisite: BISC 331.

**BICH 422-3 Biomembranes**

A review of recent research on the structure, dynamics, function and biosynthesis of membranes, membrane lipids and proteins. (3-1-0) Prerequisite: BICH 321 and 322. Recommended: BICH 403.

**BICH 423-3 Protein Structure and Function**

Recent research in transition state theory; specificity in enzyme catalyzed reactions, the use of recombinant DNA techniques to describe and modify enzyme catalysis, the function of enzymes in organic solvents, and the development of new catalytic activities through monoclonal antibody techniques, (3-1-0) Prerequisite: BISC 331 and either BICH 321 or BICH 322.

**BICH 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 have already 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: BICH 222 and permission of the Biochemistry advisor. Usually, upper level standing with at least 60 semester hours in a Biochemistry major, minor or honors program will be required.

**BICH 491-5 Undergraduate Research**

Part-time laboratory research in an area of molecular biology or biochemistry for preparation of a thesis for the honors degree in Biochemistry. Before seeking approval for registration in this course, the student should have already 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 102 pages) 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: BICH 222 and permission of the Biochemistry advisor. Usually, upper level standing with at least 60 semester hours in a Biochemistry major, minor or honors program (attaining a minimum of 3.00 in both the CGPA and upper division GPA) will be required. No more than 15 hours of research courses may be counted towards the honors degree in biochemistry.

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**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. (3-1-0) 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 with a grade of C+ or better. BISC 101 and 102 need not be taken in any particular sequence, and may also be taken concurrently.

#### BISC 102-4 General Biology

The course begins by surveying the diversity of life, and its evolutionary history on earth. The student is introduced to the study of genetics, development and evolution, giving an overview of how these processes interact to produce form and function. The principles of behavior and ecological relationships of organisms to each other and their environment are also studied. (2-1-4) Prerequisite: high school biology 12 (or equivalent) or BISC 100 with a grade of C- or better. BISC 101 and 102 need not be taken in any particular sequence, and may also be taken concurrently.

#### BISC 202-3 Genetics

Principles and concepts of the transmission of genetic information treated comparatively in man, animal, plant and microbe. (3-1-1) Prerequisite: BISC 101 and 102 with a grade of C- or better.

#### BISC 204-3 Introduction to Ecology

An introduction to biotic-environmental relationships and dynamics; ecological concepts; population dynamics, variation, adaptation and evolution. (3-1-1) Prerequisite: BISC 101 and 102 with a grade of C- or better. Credit will not be granted for both BISC 204 and GEOG 215.
BISC 272-3 Special Topics in Biology
Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule. Entry into this course normally requires completion of the lower division core for biological sciences, or permission of the department.

BISC 302-3 Genetic Analysis
Discussion and manipulations of some of the organisms and techniques applicable to genetic analysis. (2-0-4) Prerequisite: BISC 202 with a grade of C- or better.

BISC 303-3 Microbiology
The biology of micro-organisms and their significance in the understanding of cellular processes. (2-0-4) Prerequisite: BICH 221 with a grade of C- or better.

BISC 304-3 Animal Ecology
A study of the interrelationships of animals and their physical and biotic environment. (3-1-0) Prerequisite: BISC 204 with a grade of C- or better.

BISC 305-3 Animal Physiology
A comparative study of basic physiological mechanisms in invertebrates and vertebrates. (3-1-0) Prerequisite: BICH 221 with a grade of C- or better.

BISC 306-3 Invertebrate Biology
An introduction to the selected invertebrate phyla with emphasis on functional morphology, diversity and ecology. Normally, a compulsory weekend field trip to a marine station is required with this offering. (3-0-3) Prerequisite: BISC 204 with a grade of C- or better.

BISC 307-3 Animal Physiology Laboratory
A laboratory course using contemporary techniques of animal physiological research. (1-1-4) Prerequisite: BISC 305 with a grade of C- or better.

BISC 310-3 The Plants and Animals of British Columbia
An introduction to the plants and animals of British Columbia with emphasis on their ecology, distribution, and general characteristics. Consideration of trees, flowering plants, mammals, birds, and some of the more common non-vascular plants (mushrooms, algae and mosses). These organisms will be examined as they are found in the various biotic regions of the province of British Columbia. A field trip of one to four days normally is a required part of the course. (3-0-4) Prerequisite: 75 semester hours of credit including BISC 101 and 102 with a grade of C- or better.

BISC 312-3 Environmental Toxicology I
An introductory course in environmental toxicology which will concentrate on the biologist’s perspective and will “bridge the gap” between traditional biology courses and formal toxicology courses. The course is required for a minor and extended studies diploma program in Environmental Toxicology. (3-1-0) Prerequisite: BISC 101, 102 and 204 or EVEC 200, all with grades of C- or better.

BISC 313-3 Environmental Toxicology II
This course introduces students to basic principles of toxicology and several classes of widely encountered environmental pollutants. Emphasis is on toxicology as an interdisciplinary science. This course is a prerequisite for all advanced toxicology courses. (3-1-0) Prerequisite: BICH 221 with a grade of C- or better. Corequisite: BISC 312. Students with credit for BISC 311 will not receive credit for BISC 313-3.

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 their adaptations with particular reference to reproduction. A comparison of the functional morphology of some species by laboratory dissections. (3-0-4) Prerequisite: BISC 101 and 102 with a grade of C- or better.

BISC 317-3 Insect Biology
Life histories, bionomics, comparative morphology, and classification of insects and related organisms. A collection may be required, depending on instructor. (2-0-4) Prerequisite: BISC 101 and 102 with a grade of C- or better.

BISC 326-3 Biology of Non-Vascular Plants
A survey of form, function and phenetics. (2-0-4) Prerequisite: BISC 101 and 102 with a grade of C- or better. Note: there are compulsory weekend field trips.

BISC 329-4 Introduction to Experimental Techniques
This course is designed to introduce students to basic measurement methods and instrumentation as used in modern biology. (2-0-8) Prerequisite: BICH 221 and PHYS 102 and CHEM 115.

BISC 331-3 Molecular Biology
The study of gene structure and evolution, DNA replication, and the regulation of gene expression in bacteria and higher organisms. (3-1-0) Prerequisite: BICH 222, BISC 202 with a grade of C- or better. Students with credit for BISC 321 may not take this course for credit.

BISC 333-3 Developmental Biology
Classical and modern experimental approaches will be described for understanding development of embryos of several species having common and distinctive features. These are at the organismal, cellular, molecular and genetic levels. Prerequisite: BISC 202 with a grade of C- or better. BICH 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. (3-0-4) Prerequisite: BISC 101 and 102 with a grade of C- or better. 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 Catalog).

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 with a grade of C- or better.

BISC 356-3 Hormonal Regulation of Plant Growth
Interaction of internal regulatory mechanisms and environmental factors in plant morphogenesis; anatomy-cell differentiation, development and growth of vegetative and reproductive organs. (3-0-4) Prerequisite: BICH 222 with a grade of C- or better.

BISC 366-3 Plant Physiology
The plant’s physical environment and the physiological basis (mechanisms and principles) of the interaction between plants and their environment in relation to their survival and ecological distribution. (3-1-0) Prerequisite: BICH 222 with a grade of C- or better.

BISC 367-3 Plant Physiology Laboratory
A laboratory course using contemporary techniques of plant physiological research. (1-1-4) Prerequisite: BISC 366 with a grade of C- or better.

BISC 372-3 Special Topics in Biology
Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

BISC 400-3 Evolution
The comparative biology of change mechanisms in living systems. The origin of life, major evolutionary trends in geological time, and the comparison of adaptive processes at species, population and individual levels. Man’s origin and the special biological significance of human adaptive capacities. (3-1-0) Prerequisite: 75 semester hours of credit including BISC 101 and 102 with a grade of C- or better.

BISC 402-3 Molecular Genetics
Advanced problems concerning the nature and function of genetic material. (3-1-0) Prerequisite: BISC 302 and 331 with a grade of C- or better.

BISC 404-3 Plant Ecology
Quantitative and qualitative aspects of the distribution, dynamics and ecology of terrestrial plants. A field trip of one to four days normally is a required part of the course. (2-0-4) Prerequisite: BISC 204 with a grade of C- or better and 75 semester hours.

BISC 405-3 Cell Physiology
The physiology of cells with emphasis on the physical and chemical nature of specialized activities. (2-0-4) Prerequisite: BISC 307, or KIN 306, or BISC 305 and 329, all with grades of C- or better.

BISC 406-3 Marine Biology and Oceanography
An introduction to the marine environment, marine organisms and the ecological and oceanographic processes affecting them. (2-0-4) Prerequisite: BISC 306 or 316 with a grade of C- or better.

BISC 407-3 Population Dynamics
An evaluation of factors influencing the natural fluctuation of regulation of animal population numbers. (3-1-0) Corequisite: BISC 304 with a grade of C- or better.

BISC 410-3 Ethology
Animal behavior with emphasis on its causation and evolution, and its adaptiveness in various ecological contexts. (3-1-0) Corequisite: BISC 304 with a grade of C- or better or permission of the department.

BISC 414-3 Limnology
An integrated examination of biological, chemical and physical processes in lakes and running water ecosystems. Interactions among biological, chemical and physical controls on the structure, function and dynamics of aquatic ecosystems are emphasized. Environmental problems resulting from human disturbances to aquatic ecosystems are examined. (2-0-4) Prerequisite: 75 semester hours of credit in a science program, including BISC 204 or GEOG 215, or permission of the instructor.

BISC 415-3 Ornithology
An introduction to the biology of birds, with an emphasis on their reproduction, morphology, behavior, and ecology. (2-0-4) Prerequisite: BISC 304 or 316 with a grade of C- or better.

BISC 416-3 Fish Biology
An introduction to the biology of fishes with an emphasis on classification, evolution, anatomy, physiology, and ecology. (3-0-4) Prerequisite: BISC 316 with a grade of C- or better or permission of the department.

BISC 417-3 Entomology
Analysis of the biological characteristics which enable insects to be successful organisms in nature as well as highly successful pests. Particular emphasis on characteristics which render insects vulnerable to various types of pest management. Laboratory includes recognition of insect pests and project work on selected types of problems encountered by professional entomologists. (2-0-4) Prerequisite: BISC 317 with a grade of C- or better.

BISC 419-3 Wildlife Biology
Theoretical and applied aspects of ecology and behavior in relation to wildlife populations and their habitats, with emphasis on important mammals and
Birds in British Columbia. Attendance on local field trips is required. (2-0-4) Prerequisite: BISC 304 with a grade of C- or better. Recommended: BISC 316.

**BISC 422-3 Population Genetics**

Theoretical and experimental aspects of inheritance at the population level. Topics include Hardy-Weinberg, one-locus selection theory, introduction to quantitative genetics, and Fisher's fundamental theorem of natural selection. (3-1-0)
Prerequisite: BISC 202 with a grade of C- or better and STAT 301.

**BISC 427-3 Biology of the Bees**

Introduction to the biology of bees, emphasizing the evolution of social organization, the morphological, physiological, behavioral, and ecological mechanisms which are involved in apoid sociality. (2-0-4) Prerequisite: BISC 317 with a grade of C- or better and 75 semester hours.

**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 with a grade of C- or better.

**BISC 430-3 Plant Pathology**

Fungi, bacteria, viruses, nematodes, parasitic higher plants and insect vectors as agents of plant disease will be considered. Etiology and ecology of host-parasite relationships will be emphasized via examination of selected economically and/or aesthetically important plant diseases. (3-0-4) Prerequisite: BISC 326 or 337 with a grade of C- or better.

**BISC 431-4 Molecular Biotechnology**

Laboratory with accompanying lectures to give practical experience in the application of recombinant DNA technology to basic and applied research. (3-0-6) Prerequisite: BISC 331 with a grade of C- or better. Corequisite: BICH 322 and/or BISC 402 concurrently.

**BISC 432-3 Chemical Pesticides and the Environment**

The physical, chemical, biological properties of chemical pesticides; risks and benefits associated with their use in pest management. (3-1-0) Prerequisite: BICH 321 or 322 with a grade of C- or better. Recommended: for those who wish entry to the master of pest management program.

**BISC 434-3 Paleozoology and Palynology**

The principles of paleoenvironmental reconstruction, emphasizing the study of pollen grains, spores, and other microfossils in solving problems of paleoecology and earth history. (2-0-4) Prerequisite: minimum 60 credit hours including BISC 204 with a grade of C- or better, or GEOG 215. Some background in botany, biogeography, or earth sciences is desirable.

**BISC 435-3 Introduction to Pest Management**

Survey of the natural enemies, causes and consequences of pest problems and of the natural and applied factors and processes that determine their occurrence and intensity. (3-0-0) Prerequisite: BISC 317 with a grade of C- or better, or 75 semester hours of credit.

**BISC 443-0 Practicum III**

Third semester of work experience in the biological sciences co-operative education program. Prerequisite: BISC 342 with a grade of C- or better.

**BISC 444-0 Practicum IV**

Fourth semester of work experience in the biological sciences co-operative education program. Prerequisite: BISC 443 with a grade of C- or better.

**BISC 445-3 Environmental Physiology of Animals**

A discussion of the physiological mechanisms and adaptations which permit animals to live in diverse environments. The course will adopt a comparative approach to physiology. (3-1-0) Prerequisite: BISC 305 with a grade of C- or better.

**BISC 446-0 Practicum V**

Fifth semester of work experience in the biological sciences co-operative education program. Prerequisite: BISC 444-0 with a grade of C- or better.

**BISC 449-3 Experimental Techniques III: Histochemistry**

Techniques in histochemistry. Principles and application of bright-field-contrast fluorescence — and interference microscopy; microspectrophotometry. (1-1-6) Prerequisite: BISC 329 with a grade of C- or better.

**BISC 453-3 Advanced Developmental Biology**

Intensive examination of the recent research literature in modern molecular studies of development and differentiation of animal systems. Emphasis will be on molecular mechanism which underlie basic development phenomena. (3-0-0) Prerequisite: BISC 333 (or 203) and 331 with a grade of C- or better.

**BISC 455-3 Endocrinology**

A study of endocrine systems and their role in integrating physiological functions in animals. (3-1-0) Prerequisite: BISC 305 and one of BISC 306 or 316 with a grade of C- or better.

**BISC 457-3 Plant Molecular Biology and Biotechnology**

An introduction to plant molecular biology and the techniques and applications of plant engineering. (3-0-6) Prerequisite: BISC 331 with a grade of C- or better, or permission of the department.

**BISC 471-3 Special Topics in Biology**

Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

**BISC 472-3 Special Topics in Biology**

Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

**BISC 473-3 Special Topics in Biology**

Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

**BISC 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, a minimum GPA of 2.76 and a minimum cumulative GPA in Biological Sciences of 3.00. Corequisite: BISC 490 and 491 with a grade of C- or better.

**BISC 498-3 Undergraduate Research**

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.

**Business Administration**

Faculty of Business Administration

See also courses listed under Business Administration and Economics (BUEC).

All upper division BUS courses have a prerequisite of 60 credit hours. However, approved Business Administration majors or minors may take 300 division BUS courses upon completion of 45 credit hours.

For a course to be accepted as fulfilling a prerequisite, or for a core course to be accepted in a student's program in Business Administration, a student must have obtained a minimum grade of C- (C minus).

**BUS 207-3 Managerial Economics**

Emphasis is upon the relevance of economic models to business decision-making and, in particular, upon the rational analysis of choice alternatives within the firm. Course will include consideration of optimizing techniques and analysis of risk, demand, production and profit in addition to examination of long-term investment decisions and business forecasting. (lecture/tutorial) Prerequisite: ECON 103, 105; MATH 157; 15 credit hours. Students with credit for ECON 301 or BUS 307 may not take BUS 207 for further credit.

**BUS 225-0 Co-op Practicum I**

This is the first semester of work experience for students in the co-op program. It provides an opportunity to integrate theory and practice. This course is open only to co-op students. The co-op program co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

**BUS 237-3 Introduction to Computers and Information Systems in Business**

An introduction to computer based information systems and to their applications in business, including a discussion of issues involved in the use of information systems by management. The course also provides hands on tutorial experience in the use of computers, with particular emphasis on business applications of micro computers. (lecture/tutorial) Prerequisite: 15 credit hours. Students may not receive credit for both BUS 237 and 337.

**BUS 242-3 Introduction to Financial Management**

This course is designed to introduce students to the concepts and techniques of corporate financial analysis. The goal is to provide them with the skills and understanding necessary to apply financial tools in a work-related context. Three primary financial functions are considered: management of working capital, the investment decision, and funds acquisition. The course also covers issues from financial accounting related to the development of financial statements and financial statement analysis. Prerequisite: MATH 110. Special Instructions: this course is only open for credit to students in the integrated studies program within the bachelor of general studies degree.
BUS 251-3 Financial Accounting I
An introduction to financial accounting, including accounting terminology, understanding financial statements, analysis of a business entity using financial statements. Includes the time value of money and a critical review of the conventional accounting system. (lecture/tutorial) Prerequisite: 15 credit hours.

BUS 254-3 Managerial Accounting I
Theory and methods of cost compilation for managerial planning, control and decision making; the use of budgets and analysis in planning and controlling operations, establishing supervisory and departmental responsibility, and various techniques of measuring results. (lecture/tutorial) Prerequisite: BUS 251; 15 credit hours. Students with credit for BUS 324 or 328 may not take BUS 254 for further credit.

BUS 272-3 Behavior in Organizations
Theories, concepts and issues in the field of organizational behavior with an emphasis on individual and team processes. Core topics include employee motivation and performance, stress management, communication, work perceptions and attitudes, decision making, employee involvement and conflict management. (lecture/tutorial) Prerequisite: 15 credit hours; one of ENGL 101, 102, 103, 104, 105, 199, PHIL 001, 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 Business 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 or 328; 60 credit hours.

BUS 315-4 Investments
Introduction to personal and institutional investment and portfolio management, approaches to security analysis, efficient markets, portfolio theory, capital asset pricing model, option pricing. (lecture/tutorial) Prerequisite: BUS 312, BUEC 335; 60 credit hours.

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 ethics. (lecture/tutorial) Prerequisite: BUS 254 (or 324 or 328), 237 and 60 credit hours. Students with credit for BUS 252 may not take BUS 319 for further credit. Corequisite: BUS 254 can be taken concurrently with BUS 319.

BUS 320-3 Financial Accounting: Assets
In-depth coverage of the accounting methods, problems and limitations associated with assets. Alternative valuation bases will be emphasized and illustrated together with the impact on income. Integration of theory and practice in relation to the treatment of assets. (lecture/tutorial) Prerequisite: BUS 319; 60 credit hours.

BUS 321-3 Financial Accounting: Equities
In-depth coverage of accounting, methods, problems, and limitations, associated with liabilities and owners’ equity. An introduction to the unique aspects and issues of accounting for not-for-profit organizations will also be provided. (lecture/tutorial) Prerequisite: BUS 320-3; 60 credit hours.

BUS 325-0 Co-op Practicum II
This is the second semester of work experience for students in the co-op program. It provides an opportunity to integrate theory and practice. This course is open only to co-op students. The co-op program co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

BUS 326-0 Co-op Practicum III
This is the third semester of work experience for students in the co-op program. It provides an opportunity to integrate theory and practice. This course is open only to co-op students. The co-op program co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

BUS 327-0 Co-op Practicum IV
This is the fourth semester of work experience for students in the co-op program. It provides an opportunity to integrate theory and practice. This course is open only to co-op students. The co-op program co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

BUS 329-3 Income Taxation for Business Decision-Making
An examination of the underlying principles, concepts and methodology of income taxation in Canada, with emphasis upon the use of current reference sources. The course focus will be upon business taxation. (lecture) Prerequisite: 60 credit hours. Corequisite: BUS 321 or permission of Faculty.

BUS 336-4 Management Science
The application of Management Science techniques to the analysis of marketing, finance, production, or organizational and administrative problems. (lecture/tutorial) Prerequisite: MATH 157 and BUEC 232, 60 credit hours.

BUS 343-3 Introduction to Marketing
The environment of marketing; relation of social sciences to marketing; evaluation of marketing theory and research; assessment of demand, consumer behavior analysis; market institutions; method and mechanics of distribution in domestic, foreign and overseas markets; sales organization; advertising; new product development, publicity and promotion; marketing programs. (lecture/tutorial) Prerequisite: 60 credit hours.

BUS 344-3 Business to Business Marketing
This course deals with the marketing of products and services to industrial and other non-consumer sector buyers. The student will be expected to apply previously acquired marketing skills to purchasing situations which arise between organizations. Due to the nature of manufacturing activity in this province, industrial marketing will be approached from a resource industry based standpoint where discussions permit. (lecture/tutorial) Prerequisite: BUS 343; 60 credit hours.

BUS 346-3 International Business
Study of international environment and its impact on business behavior: cultural, social, economic and institutional factors; major functions of international business; export and import trade, foreign investment, production and marketing operations; theoretical principles, government policies, business practices. (lecture) Prerequisite: BUS 312; 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 (oral) Prerequisite: BUS 319. Topics include analysis of communication problems, message character, message monitoring, message media. Exercises in individual and group messages and presentations will be conducted. (lecture) Prerequisite: 60 credit hours.

BUS 362-4 Information Analysis and Systems Design
The course focuses on the various issues involved in investigating, analyzing and designing systems, and the strategies used to manage the process. In addition, students will make use of computer-aided software engineering (CASE) tools in laboratory, performing their systems analysis and design. (seminar/laboratory) Prerequisite: BUS 237; 60 credit hours. Recommended: CMPT 101.

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 272 or 372, or permission of the Faculty; 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 346; 60 credit hours. Students with credit for BUS 430 may not take BUS 380 for further credit. Recommended: BUS 374.

BUS 381-3 Introduction to Human Resource Management
Subjects include human resource planning, job analysis and design, recruitment, employment equity, selection and placement, performance appraisal, compensation and benefits, training and development, occupational health and safety, and industrial relations. For each subject an overview of current Canadian issues and practices is presented. (lecture/tutorial) Prerequisite: BUS 272 (or 372); 60 credit hours.

BUS 393-3 Commercial Law
Common law, equity, and statute law: contracts, agency, and negotiable instruments; partnership and corporation law; international commercial law. (lecture/tutorial) Prerequisite: BUS 346; 60 credit hours. BUEC 391 is not to be taken concurrently with BUS 393.

BUS 394-3 Selected Topics in Business Administration
The subject matter will vary from semester to semester depending upon the interest of Faculty and
Undergraduate Courses
Business Administration and Economics
Faculties of Business Administration and Arts
See also course descriptions for Business Administration (BUS) and Economics (ECON).
BUEC courses are offered jointly by the Faculty of Business Administration and the Department of Economics. They may count for credit in either Business Administration or Economics programs, but not for both.
A student may not receive credit for both BUEC courses and (former) ECON/COMM courses which have the same number.
For a course to be accepted as fulfilling a prerequisite, or for a required course to be accepted in a student's economics program, a grade of C- or higher must be obtained.

BUEC 232-3 Elementary Economic and Business Statistics I
An introduction to elementary statistical techniques with emphasis on their application to business and economics. Students will be required to carry out projects of individual interest. (lecture/tutorial) Prerequisite: MATH 157 and 15 credit hours. MATH 157 may be taken concurrently with BUEC 232. STAT 270, Introduction to Probability and Statistics, will be accepted in lieu of BUEC 232. Students with credit for STAT 270 may not take BUEC 232 for further credit.

BUEC 280-3 Introduction to Labor Economics
Basic analysis of the labor market and the industrial relations system with emphasis on the major issues of public policy in Canada. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205. Students who have taken ECON 301, 305 or 381 may not take BUEC 280 for further credit.

BUEC 333-3 Elementary Economic and Business Statistics II
An introduction to more advanced statistical techniques including an introduction to econometrics and operations research. Students will be required to apply statistical techniques discussed to data they collect in analysing problems of individual interest. (lecture/tutorial/lab) 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
Industrial relations systems, legal and other environmental settings for labor management relations, structure of bargaining and bargaining organizations, political supplements or alternatives to collective bargaining. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours. Students with credit for BUEC 386 may not take BUEC 384 for further credit.

BUEC 385-3 Collective Bargaining
The collective agreement negotiation process and work stoppage: analytics, experience, legal and market constraints. Contents of the collective agreement. Administration of the collective agreement. Roles of third parties in collective bargaining. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours. Students with credit for BUEC 386 may not take BUEC 385 for further credit.

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 397-5 Government and Business
The theory and practice of the control of monopoly and maintenance of competition. The need for development of public policies with regard to the regulation of business activity; anti-competitive business practices; anti-trust legislation in Canada, and the United States and its judicial interpretation; the preservation of competition as a means of regulating private business; alternative approaches to the monopoly problem. (lecture) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours.

BUEC 433-5 Forecasting in Business and Economics
Modern techniques of statistical, econometric, population and technological forecasting are presented along with discussions of a wide range of topics including Box-Jenkins methods, leading indicators, survey data, world models and the use of information sets of increasing size. Applied work on the Canadian and BC economies. (lecture/tutorial) Prerequisite: BUEC 333; 60 credit hours.

BUEC 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.

Chemistry Faculty of Science
See also courses listed under Nuclear Science (NUSC).

Chemistry Faculty of Science
See also courses listed under Nuclear Science (NUSC).

Students are not normally permitted to register in chemistry courses for which a grade of D was obtained in any prerequisite.

For courses marked with an asterisk (*), tutorials will be held in the open workshop format, i.e. students are expected to work together in small groups. No previous training in Chemistry is required for this course. Chemical equilibria; electrochemistry; chemical kinetics; elements; periodic table; gases, liquids, solids, and solutions. 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. If BC high school Mathematics 12 credit not obtained, then MATH 100 must be taken as a corequisite to CHEM 110. Students may not count both CHEM 110 and 111 for credit.

CHEM 120-3 General Chemistry I
Atomic and molecular structure; chemical bonding; thermochemistry; elements; periodic table; gases, liquids, solids, and solutions. This course has the same lecture component as CHEM 121 but no laboratory work. (3-1-0) Prerequisite: BC high school chemistry 12 or CHEM 111 or CHEM 110 (or 101). Students may not count both CHEM 120 and 121 for credit. Recommended: MATH 151 (or 154) and PHYS 120 (or 101) as a corequisite.

CHEM 121-4 General Chemistry I Laboratory
Atomic and molecular structure; chemical bonding; thermochemistry; elements; periodic table; gases, liquids, solids, and solutions. This course includes a laboratory component. (3-1-2) Prerequisite: BC high school chemistry 12 or CHEM 111 or CHEM 110 (or 101). Students may not count both CHEM 120 and 121 for credit. Recommended: MATH 151 (or 154) and PHYS 120 (or 101) as a corequisite.

CHEM 122-2 General Chemistry II
Chemical equilibrium; electrochemistry; chemical thermodynamics; kinetics. (2-1-0) Prerequisite: CHEM 121 or 120 (or 102) Corequisite: MATH 152 (or 154) and PHYS 121 (or 102).

CHEM 126-2 General Chemistry Laboratory II
Experiments in chemical equilibrium, acids and bases, qualitative analysis, electrochemistry and chemical kinetics. This course is designed to complement CHEM 122 and students who expect to take further courses in physical or inorganic chemistry should take CHEM 122 concurrently with 126. (0-0-4) Prerequisite: CHEM 121 (or 102 and 115).

CHEM 215-4 Introduction to Analytical Chemistry
The principles of analytical chemistry and their practical application to analytical problems. 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 stereochecmistry. 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 156 (or 103 and 118). Corequisite: CHEM 230.

CHEM 260-4 Atoms, Molecules, Spectroscopy Elements of physical chemistry from the molecular point of view. Introduction to quantum chemistry, atomic and molecular structure, and spectroscopy. (3-1-2) Prerequisite: CHEM 122 (or 103), MATH 152, PHYS 121. Recommended: MATH 232.

CHEM 281-4 Organic Chemistry I Structure, bonding, physical and chemical properties of simple organic compounds. Introduction to spectroscopy. Kinetics and mechanisms of organic reactions. This course includes a laboratory component. (3-1-2) Prerequisite: CHEM 121. Corequisite: CHEM 122 (or 103).


CHEM 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 the health professions or related areas. Prerequisite: completion of 28 credit hours in a science program, including first-year calculus, chemistry and physics. Minimum CGPA 2.67 (or permission of co-op co-ordinator).

CHEM 307-0 Practicum II This is the second semester of work experience in the Chemistry Co-operative Education program. Prerequisite: CHEM 306 and completion of 42 credit hours toward a BSc degree. Minimum CGPA 2.67 (or permission of co-op co-ordinator).

CHEM 316-4 Introductory Instrumental Analysis Principles and applications of basic analytical instrumentation based upon spectroscopy, chromatography and electrochemistry. (2-0-4) Prerequisite: CHEM 215 (or 218). Students may not count both CHEM 316 and 416 for credit.

CHEM 317-2 Analytical Environmental Chemistry Principles and applications of the methodologies of analytical chemistry employed in the determination of substances in air, water, and soil, with particular emphasis upon sample preparation. (0-0-4) Prerequisite: CHEM 316 and 371. Corequisite: CHEM 372 should be taken concurrently.

CHEM 331-4 Practical Aspects of Inorganic Chemistry Introduction to bonding, spectroscopy and laboratory techniques in inorganic chemistry. The laboratory part will include spectroscopy from solid state, main group and transition metal chemistry. (2-0-4) Prerequisite: CHEM 215 and 230 (or 232).

CHEM 332-3 Chemistry of the Transition Metals The chemistry of transition elements, lanthanides and actinides; the stability and structure of complexes. (3-1-0) Prerequisite: CHEM 331.

CHEM 333-3 Inorganic Chemistry of Biological Processes An introduction to the principles governing the formation, properties and investigation of metal-ligand complexes with special reference to the role of metals in biological processes. (3-1-0) Prerequisites: BICH 321 (or 301); or CHEM 282 (or 250) and CHEM 230 (or 232).

CHEM 336-2 Inorganic Chemistry Laboratory Laboratory experiments in co-ordination, organometallic and bioinorganic chemistry. (0-0-4) Prerequisite: CHEM 332 must precede or be taken concurrently.

CHEM 357-4 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) Prerequisites: CHEM 250 (or 252) and 255 (or 356).

CHEM 360-3 Chemical Kinetics and Thermodynamics Elements of physical chemistry from the macroscopic point of view. Thermodynamics, and its applications to chemical equilibrium. Chemical kinetics and reaction rate theories. (3-1-0) Prerequisite: CHEM 122 (or 103), MATH 152 (or 155), PHYS 121 (or 102).

CHEM 361-3 Physical Chemistry II Elements of physical chemistry from the microscopic point of view. Fundamentals of quantum chemistry. Molecular energy levels and molecular spectroscopy. (3-1-0) Prerequisite: CHEM 103 (or 105), PHYS 211. Recommended: MATH 232.

CHEM 362-3 Physical Chemistry III Energy distributions and elementary statistical thermodynamics, kinetic theory of gases, transport processes, surface chemistry, properties of ionic solutions, electrochemistry. (3-1-0) Prerequisite: MATH 251, CHEM 261 (or PHYS 385) and CHEM 261 (or PHYS 244 or 344).

CHEM 363-3 Kinetics and Mechanism Basic principles of chemical kinetics, rate laws, mechanisms, reactive intermediates, theories of bi-molecular reactions, solvent effects, photochemistry and experimental methods. (3-1-0) Prerequisite: CHEM 232, 250 (or 252), 261 and MATH 152; or CHEM 362.

CHEM 366-2 Physical Chemistry Laboratory I Experiments in thermodynamics, chemical kinetics, electrochemistry, and atomic and molecular structure. (0-0-4) Prerequisite: CHEM 261.

CHEM 367-2 Physical Chemistry Laboratory II Continues CHEM 366. (0-0-4) Prerequisite: CHEM 361 (or PHYS 385) and 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) Prerequisites: CHEM 281 (or 150) and CHEM 380 (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 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 411-3 Crystal Structure Analysis Geometric features of crystals; X-ray and neutron diffraction by single crystals; structure determination and refinement techniques. (3-1-0) Prerequisite: PHYS 121.

CHEM 415-3 Selected Topics in Analytical Chemistry Principles and applications of emerging techniques in analytical chemistry. (3-1-0) Prerequisite: CHEM 316.

CHEM 432-3 Organotransition Metal Chemistry The organometallic chemistry of the transition elements; the synthesis, characterization and catalytic behavior of organometallic compounds. (3-1-0) Prerequisite: CHEM 332.

CHEM 439-3 Special Topics in Inorganic Chemistry An in-depth treatment of a current topic in inorganic chemistry. Contact the department for information regarding the topic to be covered in a given semester. (3-1-0) Prerequisite: CHEM 332.

CHEM 450-3 Mechanistic Organic Chemistry A study of the structure, stereochemistry and conformation of molecules and their effect on the reactivity of organic molecules. The physical basis of organic chemistry. (3-1-0) Prerequisite: CHEM 360 (or 261) and 357. Recommended: CHEM 363.

CHEM 455-3 Organic Synthesis This course teaches the principles involved in the planning and execution of the synthesis of organic molecules. Emphasis is taken on naturally occurring compounds of biological importance. (3-1-0) Prerequisites: CHEM 357 or permission of the instructor.

CHEM 459-3 Special Topics in Organic Chemistry An advanced, in-depth treatment of a specialized area of organic chemistry. (3-1-0) Prerequisite: CHEM 357 or permission of the instructor.

CHEM 462-3 Molecular Spectroscopy Atomic spectra. Electronic, vibrational and rotational spectra of diatomic and polyatomic molecules. The Raman effect. Nuclear and electron spin resonance. Symmetry classification of molecules and their energy levels. (3-1-0) Prerequisite: CHEM 361 or PHYS 385.

CHEM 465-3 Electrochemistry Theory of electrochemistry, and its applications to chemical and industrial processes. Interfacial potential and charge transfer at electrodes; mechanisms of electrode reactions. Nature and control of corrosion. Electrodeposition and electorefining of metals; industrial electrochemical processes. Batteries, fuel cells, energy storage and conversion. (3-1-0) Prerequisite: CHEM 360 (or 261) or equivalent background in thermodynamics.

CHEM 469-3 Selected Topics in Physical Chemistry The content of this course will cover topics such as chemical kinetics, physical chemistry of polymers, thermodynamics of solutions and other aspects of modern physical chemistry. (3-1-0) Prerequisite: CHEM 260 and 360 (or 261) and permission of the instructor.

CHEM 472-3 Special Topics in Theoretical Chemistry Aspects of theoretical chemistry (topics will be determined at the time of offering) such as molecular orbital theory of conjugated systems, Hückel theory, orbital symmetry and group theory. Advanced
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applications of quantum mechanics to chemical problems. (3-1-0) Prerequisite: CHEM 361 or PHYS 385.

CHEM 481-5 Undergraduate Research
Experimental and/or theoretical research, and preparation of thesis for major or honors degree in Chemistry. Admission requires selection of a faculty supervisor and submission of a preliminary research proposal to the department at least two months prior to the start of the semester in which the course will be taken. Prerequisite: permission of the department; knowledge of chemistry at an advanced level. Normally taken during the fourth year of study.

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.

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.

Chinese Language
Division of Interdisciplinary Studies

Chinese Language
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 Interdisciplinary Studies general office for the procedure to be followed.

Native speakers of Chinese, or students who received their secondary education entirely within a Chinese speaking community will not normally be admitted to a 100 or 200 level Chinese language course. Students with some prior knowledge of Chinese should see the department for a placement interview with a Chinese language instructor.

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. (lecture/laboratory) Prerequisite: CHIN 101 or 102 or equivalent.

CHIN 201-3 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 lecture/laboratory Prerequisite: CHIN 101 or 102 or equivalent.

Cognitive Science
Faculty of Arts

COGS 100-3 Introduction to Cognitive Science
This course provides a basic integrative overview of how cognitive science aspires to integrate the empirical findings 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) Prerequisites: lower division Cognitive Science course requirements. Students with credit for COGS 400 may not take COGS 300 for further credit.

COGS 490-5 Honors Project I
An in-depth investigation of a topic in cognitive science culminating in a critical literature review and the formulation of a research proposal. (seminar/tutorial) Prerequisite: 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.

Communication
Faculty of Applied Sciences

CMNS 110-3 Introduction to Communication Studies
An introduction to selected theories about human communication. This course is required for a major, honors or minor in communication. (lecture/tutorial)

CMNS 130-3 Explorations in Mass Communication
An introduction to the role of mass communication (radio, television, telecommunication and the press) in Canadian society. This is required for a major, honors or minor in communication. (lecture/tutorial)

CMNS 205-3 Introduction to Interpersonal Communication
An introduction to human communication networks. Topics include: cliques, isolates, liaisons, strong vs. weak ties; contacts and influence; societal cohesiveness; networks and power. (lecture/tutorial) Prerequisite: 30 credit hours.

CMNS 205-3 Introduction to Interpersonal Communication
An introduction to the study of interpersonal communication with emphasis on the ways in which relationships are constructed and maintained by the technological environment. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 210-3 History of Communication
An assessment of the social implications of developments in information technology from prehistory to the beginning of the 20th century. Topics include: the development of writing and numeration; the consequences of print; and the initial changes brought about by electronic media. The general orientation will be towards exploring the relationship between technological and social change, and the cultural and psychological dimensions of literacy. (lecture/tutorial) Recommended: CMNS 110 or introductory course in social science theory.

CMNS 220-3 Understanding Television
This course examines television, both as a medium of communication and an element of culture. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 221-3 Media and Audiences
An introduction to the study of popular culture and mass media, with a focus on the organization and role of audiences. (lecture/tutorial) Recommended: CMNS 110 or 130.

CMNS 223-3 Advertising as Social Communication
An interdisciplinary examination of the significance of advertising as a social message system in our consumer society. The course proposes an analytical method for appreciating the changing styles and functions of advertising in the 20th century. (lecture/tutorial) Recommended: CMNS 110 or 130.

CMNS 224-3 Social Issues and Communication
This course introduces students to the foundations of interdisciplinary analysis for the study of communication by examining how social issues are represented within the media and popular culture. The course examines images and arguments that characterize debates over social issues such as poverty, sexuality, morality and the economy. Several critical perspectives on how 'common sense' understandings of social issues gain popularity in the media will be analysed in terms of the relationship of power to knowledge and of political economy to systems of representation and communication. (lecture/tutorial) Prerequisites: at least 30 credit hours; one course in any of English, history, philosophy, contemporary arts or humanities; and one course in any of sociology, anthropology, political science, psychology or women’s studies. Recommended: CMNS 110.

CMNS 230-3 Introduction to Communication Media
Provides an overview of the development of broadcasting and telecommunication systems in Canada and their relationship to contemporary society. Topics covered include the history of the CBC, cable television, the domestic film production industry, Canadian satellite development, and alternative media in Canada. (lecture/tutorial) Prerequisite: CMNS 130.

CMNS 235-3 Introduction to Journalism in Canada
An overview of journalism as a social, cultural and political institution in Canada. Topics include: themes of news; print and electronic journalism; journalism and politics; history of Canadian journalism; legal, technological, professional, corporate and ethical influences. (lecture/tutorial) Prerequisite: CMNS 130.
CMNS 240-3 The Political Economy of Communication
Examination of the political and economic processes that have generated the policies and structures of mass media, telecommunications, and related industries, and the role of the mass media in determining local, national, and international policy. (lecture/tutorial) Prerequisite: CMNS 130. Recommended: CMNS 230.

CMNS 247-3 International Communication
A survey and analysis of opportunities and constraints in the field of international communication. The course will consider perspectives from which to understand and address regional differences, universal patterns of communication in international relations, and in development co-operation. Comparative and contrastive examples will be drawn from communication practices current in the Asia-Pacific region. (lecture/tutorial) Prerequisite: 45 or more credit hours; at least two lower division courses in Communication. Students with credit for CMNS 346 may not take this course for further credit. Recommended: UNRG 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 255-3 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 source manipulation, and basic studio techniques will be presented and students will use the school’s studio facilities. Applications of the tape medium to such areas as media analysis, aural history, social documentation, interpersonal communication, and tape music composition will be discussed. (lecture/laboratory)

CMNS 259-3 Acoustic Dimensions of Communication I
A course designed to develop the student’s perception and understanding of sound and its behavior in the interpersonal, social, environmental, media and creative fields. The acoustic and psychoacoustic bases of sound will be introduced with special reference to acoustic design, the electroacoustic media, and sonic environments. (lecture/laboratory)

CMNS 260-3 Introduction to Empirical Communication Research Methods
An introduction to empirical research methods in diverse traditions of communication enquiry. Some methods recognize communication as everyday interactions; others analyze communication as a process; still others blend traditional scientific empiricism with analytical and critical methods derived from the arts and humanities. Topics include: paradigms, conceptualization and operationalizing research, sampling, interviews, surveys, unobtrusive observation, content analysis, and the role of statistics in communication research. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 261-3 Documentary Research in Communication
Media and communication studies often utilize historical, governmental and corporate records. The course introduces the techniques necessary to analyze the primary source documents. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 286-3 Selected Topics
Analysis of a particular topic in the general area of communication. (lecture/tutorial) Prerequisites: 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: one upper level course in communication, or permission of the instructor.

CMNS 305-4 Interpersonal Communication in a Technological Environment
An examination of contemporary issues in interpersonal communication in specific contexts, especially family and friendship within the contemporary technological environment. (lecture/ seminar) Prerequisite: CMNS 205.

CMNS 310-4 Communication Thought in the Evolution of the Social Sciences
An examination of discussions of human communication in the social thought of the 18th and 19th centuries, including that of Rousseau, Montesquieu, 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, and the marketing mix through an examination of the critical writing and advocacy movements which have arisen around the problem of children’s media. (lecture/tutorial) Prerequisite: CMNS 220.

CMNS 321-4 The Cultural Production of Popular Music
Examination of the cultural production of popular music with emphasis on the relationship between the nature and strategies of popular music production and the patterns of its audience consumption. (lecture/tutorial) Prerequisite: CMNS 221.

CMNS 323-4 Cultural Dimensions in Advertising
An examination of the way that advertisements use messages to build an elaborate system of meaning. Some cultural dimensions to be studied include fashion, industrial design and popular culture. (lecture/tutorial) Prerequisite: CMNS 223.

CMNS 326-4 Applied Media Workshop: On The Hill
This course provides an opportunity for students to build on the knowledge they have acquired in Introduction to Digital Video and apply that knowledge to the production of the School of Communication’s cable program On The Hill. Students will draw on their communication backgrounds to create new and innovative visual images and messages to build an elaborate system of meaning. (lecture/laboratory) Prerequisite: CMNS 221.

CMNS 327-4 Media and Social Change
An introduction to the analysis of the role and impact of media in society. (lecture/tutorial) Prerequisite: CMNS 221.

CMNS 329-4 Communication and Social Change
An introduction of new media or technologies, assessing the uses and consequences of the technology transfer and new communication policies. (including cable television and satellites). (lecture/laboratory) Prerequisite: one upper level course in communication, or permission of the instructor.

CMNS 330-4 Media, Communication and Government
Examination of the laws, policies and regulations governing the Canadian broadcasting system (including cable television and satellites), (lecture/ tutorial) Prerequisite: CMNS 230, 253 and 261.

CMNS 333-4 Broadcasting Regulation and Policy in Canada
An analysis of the various facets of the Canadian arts – film, video, art including photography, theatre and dance – concentrating primarily on the policies and laws affecting them. (lecture/tutorial) Prerequisite: CMNS 230.

CMNS 335-4 The Newspaper Industry and Press Policy in Canada
An analysis of the various facets of the Canadian newspaper industry, and of policies and laws that affect the press. (lecture/tutorial) Prerequisite: CMNS 235. Recommended: 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) Recommended: CMNS 261.

CMNS 345-4 Communication and Development
An introduction to explanations and interpretations of the roles of communication in development, and the historical framework through which such analysis is made. It shows how an unequal structure of world political economy is conserved in association with ever increasing amounts of information and new means to communicate. Examples from Canada and other countries will be used. (lecture/tutorial) Prerequisite: CMNS 110 or 130 and completion of 60 credit hours.

CMNS 347-4 Communication in Conflict and Intervention
The role of communication, and in particular the mass media, in various types of conflict and the uses of communication-based strategies in the intervention, arbitration and mediation of those conflicts. (lecture/tutorial) Prerequisite: 45 or more credit hours; at least two lower division courses in communication. Students with credit for CMNS 322 may not take this course for further credit. Recommended: CMNS 247 or 346.

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 230.

CMNS 358-4 Sound Tape Recording: Theory and Use
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.

CMNS 359-4 Acoustic Dimensions of Communication II
A special topics course and small class work group at an intermediate level in acoustic communication dealing intensively with specific problems in psychoacoustics, acoustic design, soundscape studies, noise in the community, acoustic aspects of social organization, the acoustic aspects, language and interpersonal communication, electronic sound production, media analysis, theories of information processing, and information processing. (seminar/ laboratory) Prerequisite: CMNS 259.

CMNS 362-4 Evaluation Methods for Applied Communication Research
Evaluative techniques and research design for use in assessing the uses and consequences of the introduction of new media or technologies, technology transfer and new communication policies. (lecture/tutorial/laboratory) Prerequisite: at least 80 credit hours, including CMNS 253, and one of CMNS 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
CMNS 425-4 Applied Communication for Social Issues
An advanced seminar in applied communication that focuses on the research and strategic design of media messages, campaigns and programs for public awareness, education, and social change. This course involves the application of theories and approaches in critical media analysis to the tasks of media design and media use for public understanding, engagement and participation around social issues. (seminar) Prerequisite: at least 75 credit hours, including CMNS 221 and 323.
CMNS 426-4 Communication Design for Non-Broadcast Video
The workshop examines the growing role that video is playing in a variety of public relations, industrial, advocacy and educational contexts. The emphasis of this course is on issues of communication design in relation to the goals and values in specific communication forums. (seminar/lab) Prerequisite: CMNS 220, 221 plus two of 323, 320, 363.
CMNS 428-4 Media Analysis Project Group
An advanced workshop in media analysis focused on applied research. (laboratory) Prerequisite: two upper division CMNS courses and permission of the instructor.
CMNS 433-4 Issues in Communication Policy
Advanced seminar on current issues in communication policy. (seminar) Prerequisite: CMNS 261. Recommended: CMNS 261.
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 and at least one of CMNS 253, 333, 334, 335, 353.
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. (lecture/tutorial) Prerequisite: at least 75 credit hours; CMNS 230, 240 and 333.
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 442-4 Science and Public Policy II: Standards
To examine the origination, implementation and enforcement of standards. Standards to be examined include: communication standards, standards used in risk evaluation of environmental and occupational hazards and standards used in technology assessment. (lecture/seminar) Prerequisite: CMNS 261. Recommended: CMNS 342.
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: CMNS 240; at least 75 credit hours.
CMNS 446-4 The Communication of Science and the Transfer of Technology
Evaluation of the communication of scientific knowledge and the transfer of 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. (lecture/seminar) Prerequisite: at least 75 credit hours including CMNS 345. Recommended: CMNS 247 or 346, and 362.
CMNS 447-4 Negotiation as Communication
This course provides frameworks and tools with which to understand 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. (lecture/seminar) Prerequisite: one of CMNS 247, 322, 346, 347. Students with credit for CMNS 423 may not take this course for further credit.
CMNS 448-4 International Communication Project 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 and new computer/communication technologies, at the level of comprehensive theories of society, on one hand, and major public policy, on the other. (lecture/seminar) Prerequisite: CMNS 253; at least 75 credit hours.
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) Recommended: CMNS 253 or 353.
CMNS 456-4 Communication to Mitigate Disasters
An examination of the special role communication and information systems play in efforts to mitigate effects of major emergencies and disasters. Topics include: Canadian and international disaster management programs, practices and issues; principles of emergency communication planning and operation, and the application and influence of new communication and information technologies (including electronic networks) in hazard information gathering, interpretation, exchange and management. (seminar/laboratory) Prerequisite: one of CMNS 230, 253 or 353.
CMNS 458-4 Information Technology Project Group
An advanced workshop in applied information technology and its evaluation focussed on applied research. (laboratory) Prerequisite: two upper division CMNS courses and permission of instructor.
CMNS 471-4 Selected Topics in Publishing
An in-depth analysis of selected facets of book and related publishing activities such as literary publishing, publishing for children, electronic publishing, the history of print, editing, book design, magazine publishing, etc. The course will build directly upon CMNS 371. (seminar) Prerequisite: CMNS 371 and 372.
CMNS 472-4 Books, Markets and Readers
This course will examine the major markets for the sale of books, book buying and book reading. Special emphasis will be placed on popular genres and successful authors and outlets such as independent and chain bookstores, book clubs, libraries and specialty stores. (seminar) Prerequisite: 60 credit hours; CMNS 372.
CMNS 473-4 Publication Design and Print Production
An examination of theory, principles and applications in publication design and print production including computer applications. The course focusses on magazines, books and electronic formats. Creative, marketing and managerial issues will all be explored. (lecture/laboratory) Prerequisite: 60 credit hours; CMNS 375.
CMNS 474-4 The Business of Publishing
This course examines business practices within publishing firms. It emphasizes financial planning and operations, acquisitions, marketing and promotion. (lecture/tutorial) Prerequisite: 75 credit hours and CMNS 372. Students with credit for CMNS 370 may not take this course for further credit.

CMNS 478-4 Publishing Project Group
An advanced workshop in publishing analysis or design focussed on applied research. (laboratory) Prerequisite: two upper division CMNS courses and permission of the instructor.

CMNS 480-2 Directed Study
Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: two upper division CMNS courses and consent of instructor. No more than 10 hours of directed study may be taken.

CMNS 480-3 Directed Study
Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: two upper division CMNS courses and consent of instructor. No more than 10 hours of directed study may be taken.

CMNS 480-4 Directed Study
Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: two upper division CMNS courses and consent of instructor. No more than 10 hours of directed study may be taken.

CMNS 480-5 Directed Study
Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: two upper division CMNS courses and consent of instructor. No more than 10 hours of directed study may be taken.

CMNS 480-6 Special Topics in Communication
Intensive analysis of a particular topic in the general area of communication and/or attention to the work of a particular writer or school of thought. (seminar) Prerequisite: permission of the instructor.

CMNS 480-7 Field Placement
For students who have at least 24 upper level credit hours in communication, this course offers the opportunity to work under faculty supervision in a field placement situation related to one of the areas of concentration in communication. Arrangements for field placement and faculty supervision are the responsibility of the student, and enrolment will depend upon the availability of faculty resources in any semester. Prerequisite: 75 credit hours and permission of the school.

CMNS 494-0 Communication Practicum III
The third semester of work experience for students in the School of Communication’s co-operative education program. Prerequisite: CMNS 396 and normally 56 semester hours, and a minimum GPA of 2.70. Credit is given if withdrawn (P/W).

CMNS 495-0 Communication Practicum IV
The last semester of work experience for students in the School of Communication’s co-operative education program. Credit is awarded as in CMNS 395, 396, or 494. Prerequisite: CMNS 494 and a minimum GPA of 2.70. Credit is given as pass/ withdraw (P/W).

CMNS 496-0 Communication Practicum V
Optional semester of work experience for students in the School of Communication’s co-operative education program. Prerequisite: CMNS 495 and a minimum GPA of 2.70. Credit is given as pass/ withdraw (P/W).

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. (seminar) 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.

CMNS 499-4 Publishing Project Group
An advanced workshop in publishing analysis or design focussed on applied research. (laboratory) Prerequisite: two upper division CMNS courses and permission of the instructor.

Community Economic Development Faculty of Arts

CED 400-4 Contexts for Community Economic Development
Examination of the nature of community economic development with a focus on ecological sustainability, appropriate technology and forms of community enterprise. (seminar) Prerequisite: normally, acceptance in the community economic development post baccalaureate diploma program or completion of 90 semester hours. Students with it for CED 402 may not take CED 400 for further credit.

CED 401-4 Concepts, Techniques and Principles for CED Practice
Study of concepts and techniques for economic and policy analysis in community economic development. (seminar) Prerequisite: CED 400 or permission of the instructor.

CED 403-4 Models and Cases in Community Economic Development
A review and integration of economic issues and ecological issues from CED 400 and 401 with the methods for case studies of communities and their socio-economic development. (seminar) Prerequisite: CED 400, or permission of instructor.

CED 404-4 Project
Provides a situation in which a student applies ideas and models acquired in the program to a practical problem in community economic development. Prerequisite: successful completion of CED 400, 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 400 or permission of the 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: community economic development post baccalaureate diploma program admission, CED 400 and 401.

Computing Science Faculty of Applied Sciences

See also courses listed under Mathematics and Computing Science (MACM).

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, presentation graphics. Techniques of solving problems using structured programs in a modern database programming environment are introduced. (lecture/laboratory) Prerequisite: CMPT 100 or MATH 110. Students who have taken CMPT 101, 102, or 103 may not take CMPT 100 for further credit.

CMPT 101-4 Introduction to Computer Programming
This course is an introduction to problem solving using a computer and is intended as a first computing course for those wishing to major in Computing Science or a related program. Topics include: techniques and methodologies for the analysis and decomposition of the problem; the structural and algorithmic design of a solution; and the modular implementation and testing of the design. Structured programming using sub-programs, recursion, modules and libraries. Structured data objects including arrays, strings and records. (lecture/laboratory) Prerequisite: MATH 100. MATH 100 is waived for those with a minimum grade of B in BC high school mathematics 12. Students with credit for CMPT 102, 103 or 104 may not take CMPT 101 for further credit.

CMPT 102-3 Introduction to Scientific Computer Programming
A programming course which will provide the science student with a working knowledge of a scientific programming language and an introduction to computing concepts, structured programming, and modular design. The student will also gain knowledge in the use of programming environments including the use of numerical algorithm packages. (lecture/laboratory) Corequisite: MATH 125 or 155 (or 158). Students with credit for CMPT 101, 103 or 114 may not take CMPT 102 for further credit.

CMPT 103-3 Introduction to PASCAL Programming
Introduces the student to a high level programming language. The programming assignments cover techniques such as looping, decision-making, construction of subroutines, input/output handling and documentation. (lecture/laboratory) Prerequisite: BC high school algebra 12 (or equivalent) or MATH 100. Students with a grade of B or higher in BC high school computer science 12, or those with credit for CMPT 101, 112 or 115 may not take CMPT 103 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. (lecture/ laboratory) Prerequisite: BC mathematics 12 (or equivalent) or MATH 100 or MATH 110.

CMPT 112-1 Introduction to an Additional Programming Language – C
This is a self-study course for students who wish to learn C. A self-study guide is provided and the student will have regular meetings with the instructor. (self study) Prerequisite: CMPT 101, 102 or 103. This course may not be taken for credit if the student has studied C in a previous course.

CMPT 116-1 Introduction to a Second Programming Language: SMALLTALK
This is a self-study course for students who wish to learn SMALLTALK. A study guide is provided and the student will have regular meetings with the instructor. (self study) Prerequisite: CMPT 101 or 102 or 103. This course may not be taken for credit if the student has studied SMALLTALK in a previous course.

CMPT 117-3 Introduction to Internet Programming – Java
This is a self-study course for students who wish to learn about the Java programming language and how to develop Internet based applications. A self-study guide is provided and the student will have regular meetings with the instructor. (self study) Prerequisite: computer science studies in a university level programming course.

CMPT 118-3 Special Topics in Computer and Information Technology
Special topics in computing science which are of current interest to non-computing students. The course will be offered from time to time depending on availability of faculty and on student interest. Students who have obtained credit for, or are currently enrolled in a computing science course at the 200 level or higher, may not take CMPT 118 for further credit. (3-0-0)

CMPT 150-3 Introduction to Computer Design
Digital design concepts are presented in such a way that students will learn how logic blocks can be designed and employed to construct a simple computer. Topics covered include: basic Von Neumann computer architecture; an introduction to assembly language; combinational logic design; and sequential logic design. An interactive simulation environment will provide for assignments. Assembly language programming is introduced. (lecture/tutorial) This course is identical to ENSC 150 and students cannot take both courses for credit. Students who have taken CMPT 290 cannot take this course for further credit.

CMPT 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 interpretive languages, functional programming, modularization, abstract data types, object-oriented programming, framework-based languages, and automatic garbage collection will also be covered. (lecture/laboratory) Prerequisite: CMPT 101 (or 104) and MACM 101.

CMPT 212-3 Object-Oriented Applications Design in C++
Introduction to object-oriented software design concepts, the object-oriented features of the C++ language, other advanced C++ features, plus a simple introduction to the fundamentals of graphical user interfaces and the development of 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 implementation of main memory and 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. (lecture/laboratory) 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
An introduction to the various software engineering techniques used for both analysis/design and for software project management. The course centers on a team development project that involves requirements gathering and object-oriented analysis, examination of case use scenarios to drive user documentation and design phases, followed by implementation, testing, installation, support and maintenance issues. Throughout the course, software project planning, quality assurance, metrics, configuration management, and people management are examined. (lecture/laboratory) Prerequisite: CMPT 201, MACH 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 system solutions. Topics include multi-programming, process management, memory management, and file systems. (lecture/laboratory) Prerequisite: CMPT 201, MACH 101 (or CMPT 205). Students with credit for CMPT 401 may not take CMPT 300 for further credit.

CMPT 301-3 Information Systems Management
Topics include strategic planning and use of information systems, current ad future technologies, technology assimilation, organizational learning, end-user computing, managing projects and people, managing production operations and networks, evaluating performance benefits, crime management and disaster recovery, security and control, financial accountability, and proactive management techniques for a changing environment. (lecture/laboratory) Prerequisite: CMPT 201.

CMPT 305-3 Computer Simulation and Modelling
Introduces the techniques for modelling and computer simulation of complex systems. The philosophy and practice of modelling and of Monte Carlo simulation will be reviewed. The student will learn at least one simulation language (SIMULA, SIMSCRIPT, GPSS, CCS or other languages implemented at Simon Fraser University), apply it to a model, and simulate a non-trivial system from his/ her area of interest. (lecture/laboratory) Prerequisite: CMPT 201, MACH 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, MACH 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. (lecture/laboratory) Prerequisite: MACM 201.

CMPT 310-3 Artificial Intelligence Survey
Provides a unified discussion of the fundamental approaches to the field of 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 MACH 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. (lecture/laboratory) Prerequisite: CMPT 201.

CMPT 320-3 Social Implications of a Computerized Society
An examination of social processes that are being automated and implications for good and evil, that may be entailed in the automation of procedures by which goods and services are allocated. Examination of what are dehumanizing and humanizing parts of systems and how systems can be designed to have a humanizing effect. (lecture/seminar) Prerequisite: a course in computing science and 45 credit hours. Students with credit for CMPT 260 may not take CMPT 320 for further credit.

CMPT 340-3 Computers in Biomedicine
The principles involved in using computers for data acquisition, real-time processing, pattern recognition and experimental control in biology and medicine will be developed. The use of large data bases and simulation will be explored. (lecture/laboratory) Prerequisite: completion of biology 101, CMPT 101 (or 102, 103 or 104 with a grade of B or higher).

CMPT 354-3 Database Systems I
Logical representations of data records. Data models. Studies of some popular file and database systems. Document retrieval. Other related issues such as database administration, data dictionary and security. (lecture/laboratory) Prerequisite: CMPT 201, MACH 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 (colour, shading, raytracing, radiosity), and interaction techniques. (lecture/laboratory) Prerequisite: CMPT 201 and MATH 232. Students with credit for CMPT 351 may not take CMPT 361 for further credit.

CMPT 363-3 User Interface Design
This course 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 (wedge-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.
CMPT 307-3 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 201, CMPT/ENSC 250 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. (lecture/laboratory) 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 formulae, 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 400-3 High Performance Computer Architecture
This course explores techniques and architectures for construction of high performance computing systems. Arithmetic pipelines, general instruction pipelines and vector processing, SIMD architectures including interconnection networks and algorithms. Introduction to MIMD architectures. (lecture/laboratory) Prerequisite: CMPT 201, and CMPT/ENSC 250 or CMPT 390, MACM 101 (or CMPT 205).

CMPT 401-3 Operating Systems II
This second course on operating systems studies in depth some of the issues introduced in CMPT 300, as well as new, more advanced topics in modern operating systems. Topics may include interprocess communication, threads, remote procedure calls, language constructs for concurrency, deadlocks, virtual machines, distributed systems, distributed concurrency control, group communication, issues in file system design, security and protection, performance evaluation. (lecture/laboratory) Prerequisite: CMPT 300 and 371.

CMPT 402-3 Operating System Software Laboratory
This course provides hands-on practical experience in mini computer and microcomputer environments. Low level computer features are discussed. Lecture topics include interrupt handling, CPU scheduling, memory management, process management, device drivers, network communication, bootstrapping and overall operating systems design. Case studies of UNIX-like operating systems are discussed. Laboratory work consists of implementing various components of an operating system. (lecture/laboratory) Prerequisite: CMPT 300 and 390. Students with credit for CMPT 393 may not take CMPT 402 for further credit.

CMPT 405-3 Design and Analysis of Computing Algorithms
Models of computation, methods of algorithm design; complexity of algorithms; algorithms on graphs, NP-completeness, approximation algorithms, selected topics. (lecture) Prerequisite: CMPT 307.

CMPT 406-3 Computational Geometry
Mathematical preliminaries; convex hull algorithms; intersection problems; closest-point problems and their applications. (lecture) Prerequisite: CMPT 307.

CMPT 407-3 Computational Complexity
Machine models and their equivalences, complexity classes, separation theorems, reductions, Cook’s theorem, NP-completeness, the polynomial time hierarchy, boolean circuit models and parallel complexity theory, other topics of interest to the students and instructor. (lecture) Prerequisite: CMPT 307.

CMPT 408-3 Theory of Computer Networks/Communications
Network design parameters and goals, dynamic networks and permutations, routing in direct networks, structured communication in direct networks, other topics of interest to the students and instructor. (lecture/laboratory) Prerequisite: CMPT 307 and 371.

CMPT 409-3 Special Topics in Theoretical Computing Science
Current topics in theoretical computing science depending on faculty and student interest. (lecture) Prerequisite: CMPT 307.

CMPT 411-3 Knowledge Representation
Formal and foundational issues dealing with the representation of knowledge in artificial intelligence systems are covered. Questions of semantics, incompleteness, nonmonotonicity and others will be examined. As well, particular approaches, such as procedural or semantic network, may be discussed. (lecture/laboratory) Prerequisite: completion of nine credit hours in Computing Science upper division courses or, in exceptional cases, permission of the instructor.

CMPT 412-3 Computational Vision
Computational approaches to image understanding will be discussed in relation to theories about the operation of the human visual system and with respect to practical applications in robotics. Topics will include edge detection, shape from shading, stereopsis, optical flow, Fourier methods, gradient space, three-dimensional object representation and constraint satisfaction. (lecture/laboratory) Prerequisite: MATH 152, and nine credit hours in Computing upper division courses or permission of the instructor.

CMPT 413-3 Computational Linguistics
This course examines the theoretical and applied problems of constructing and modelling systems, which aim to extract and represent the meaning of natural language sentences or of whole discourses, but drawing on contributions from the fields of linguistics, cognitive psychology, artificial intelligence and computing science. (lecture/laboratory) Prerequisite: completion of nine credit hours in Computing Science upper division courses or, in exceptional cases, permission of the instructor.

CMPT 414-3 Model-Based Computer Vision
This course covers various topics in computer vision with the emphasis on the model-based approach. Main subjects include 2-D and 3-D representations, matching, constraint relaxation, model-based vision systems. State-of-the-art robot vision systems will be used extensively as study cases. The solid modelling and CAD aspects of this course should also interest students of computer graphics. (lecture/laboratory) Prerequisite: MATH 152 and nine credit hours in CMPT upper division courses, or permission of the instructor.

CMPT 415-3 Special Research Projects
To be individually arranged.

CMPT 416-5 Special Research Projects
To be individually arranged.

CMPT 417-3 Intelligent Systems
Development of intelligent (aka expert) systems, the MYCIN system, abduction and uncertain reasoning, intelligent systems in the Prolog language, modern model-based systems, constraint satisfaction, exhaustive vs. incremental search techniques, constraint logic programming methods, applications in diagnosis, scheduling, planning, process control and animation. (lecture) Prerequisite: CMPT 384.

CMPT 419-3 Special Topics in Artificial Intelligence
Current topics in artificial intelligence depending on faculty and student interest. (lecture/laboratory) Prerequisite: CMPT 310 or permission of the instructor.

CMPT 426-0 Practicum I
The first semester of work experience for students in the computing science co-operative education program. It provides an opportunity to integrate theory and practice. Prerequisite: The computing science co-op co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

CMPT 427-0 Practicum II
The second semester of work experience for students in the computing science co-operative education program. It provides an opportunity to integrate theory and practice. Prerequisite: The computing science co-op co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

CMPT 428-0 Practicum III
The third semester of work experience for students in the computing science co-operative education program. It provides an opportunity to integrate theory and practice. Prerequisite: The computing science co-op co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

CMPT 429-0 Practicum IV
The fourth semester of work experience for students in the computing science co-operative education program. It provides an opportunity to integrate theory and practice. Prerequisite: The computing science co-op co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

CMPT 430-0 Practicum V
The fifth (and optional) semester of work experience for students in the computing science co-operative education program. It provides an opportunity for a high degree of specialization. Prerequisite: The computing science co-op co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

CMPT 454-3 Database Systems II
An advanced course on database systems which covers crash recovery, concurrency control,
transaction processing, distributed database systems as the core material and a set of selected topics based on the new developments and research interests, such as object-oriented data models and systems, distributed systems, deductive database systems, and security and integrity. (lecture/labatory) Prerequisite: CMPT 354.

CMPT 459-3 Special Topics in Database Systems Current topics in database and information systems depending on faculty and student interest. (lecture/labatory) Prerequisite: CMPT 354.

CMPT 461-3 Advanced Computer Graphics This course covers advanced topics and techniques in computer graphics. Topics include: solid modelling, curves and surfaces, fractals, particle systems, advanced rendering techniques (color spaces, shading, raytracing, radiosity, texture mapping, stereoscopy), animation, and post-production techniques. Applications in virtual reality, human figure animation, CAD, scientific visualization, and other research areas will be discussed. (lecture/labatory) Prerequisite: CMPT 361 and MACM 201. Students with credit for CMPT 451 may not take CMPT 461 for further credit.

CMPT 468-3 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. (lecture/labatory) Prerequisite: CMPT 361 or permission of the instructor.

CMPT 469-3 Scientific Visualization This course is an introduction to the field of scientific visualization. Topics include: the necessity/ importance of visualization (current trends, the role of the computer scientist, identification of the purpose, data, and audience user interface issues), existing tools and techniques for data, future trends, and social impact. Applications range from medical imaging to architecture. Projects will be of an interdisciplinary nature. (lecture/labatory) Prerequisite: CMPT 361.

CMPT 469-3 Special Topics in Computer Graphics Current topics in computer graphics depending on faculty and student interest. (lecture/labatory) Prerequisite: CMPT 361.


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/labatory) Prerequisite: CMPT 371 or permission of the instructor.

CMPT 475-3 Software Engineering II The team approach needed in the development of a software product will be examined in depth. Students will study team dynamics and team management, project estimation/planning/control, and the benefits of employing modern techniques at appropriate phases for a variety of software development lifecycles. The importance of configuration management, change management and control, release planning and of quality assurance throughout a project (reviews, inspections, testing strategies) will be brought out. A team project will allow students to try out these techniques. (lecture/labatory) 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/labatory) Prerequisite: CMPT 401.

CMPT 480-3 Foundations of Programming Languages Theoretical foundations of programming language semantics. Topics will typically include abstract syntax, lambda calculus, fixpoint theory, denotational semantics, axiomatic semantics, type theory, algebraic specifications, (lecture/labatory) Prerequisite: CMPT 383 and MACM 201.

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 functional types. (lecture/labatory) 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/labatory) 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/labatory) Prerequisite: CMPT 383.

CMPT 493-1 Computing Science Presentation Seminar This seminar will be devoted to presentation methods and content analysis. (lecture/labatory) Prerequisite: CMPT 105 and at least 60 semester hours credit.

CMPT 499-3 Special Topics in Computer Hardware Current topics in computer hardware depending on faculty and student interest. (labatory) Prerequisite: CMPT/ENSC 290 or CMPT 390.

Contemporary Arts Faculty of Arts

Notes:
Courses marked with an asterisk (*) may be of particular interest to students in other departments. The subject matter (and prerequisites) of special or selected topics courses vary by semester.

Students are reminded that the School for the Contemporary Arts is an interdisciplinary fine and performing arts department, and are strongly advised to acquaint themselves with the courses available under all of the disciplinary sub-headings below. Where a prerequisite is or includes ‘prior approval,’ approval must be obtained before registering in the course. Contact the school for further information.

FPA courses are listed under one of the six FPA courses are listed under one of the six

Interdisciplinary 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 arts in context courses. (lecture/tutorial)

FPA 211-3 Introduction to Contemporary Theory in the Arts
This course extends the interdisciplinary study of the arts begun in FPA 111 by introducing some of the basic terms and concepts of contemporary cultural theory. Problems in the interpretation of specific works, selected from across the fine and performing arts, will be approached through concepts derived from semiotics, structuralism, post-structuralism, psychoanalysis and feminist theory. (lecture/tutorial) Prerequisite: FPA 111 or 24 credit hours in the Faculty of Arts.

FPA 216-3 Introduction to the Fine and Performing Arts in Canada
This course introduces a repertoire of Canadian dance, film, music, theatre and visual art within a context of historical, theoretical, and institutional issues particular to the Canadian context. It will include aspects of Canadian history, institutions and society that inform the arts in Canada. It will also consider contemporary Canadian art practice in relation to theoretical issues and debates around modernism, the avant-garde and post-modernism. (lecture/demonstration/tutorial) Prerequisite: FPA 111 or 24 credit hours in the Faculty of Arts.

FPA* 279-3 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 The Arts in Context: Selected Topics A specific topic in an historical/theoretical aspect of the fine and performing arts which is not otherwise covered by the arts in context courses. (lecture/tutorial) Prerequisite: 45 credit hours which must include FPA 111 or another critical or history course within the School for the Contemporary Arts. Recommended: FPA 211 or 216.

FPA* 313-5 The Arts in Context: Enlightenment and Romanticism A selective study of painting, sculpture, architecture, music, dance and theatre in the context of the second half of the 18th century and the first half of the 19th century. (lecture/tutorial) Prerequisite: 45 credit hours which must include FPA 111 or another critical or history course within the School for the Contemporary Arts. Students who have completed FPA 113 or 213 may not take FPA 313 for further credit. Recommended: FPA 211 or 216.

FPA* 314-5 The Arts in Context: Modernism A selective study of European painting, sculpture, architecture, music, dance, film and theatre in the
context of the late 19th century and the first quarter of the 20th century. (lecture/tutorial) Prerequisite: 45 credit hours which must include FPA 111 or another critical or history course within the School for the Contemporary Arts. Students who have completed FPA 114 or 214 may not take FPA 314 for further credit. Recommended: FPA 211 or 216.

**FPA* 315-5 The Arts in Context: The Contemporary Period**

A selective study of painting, sculpture, architecture, music, dance, film and theatre in the context from about 1920 to the present. (lecture/tutorial) Prerequisite: 45 credit hours which must include FPA 111 or another critical or history course within the School for the Contemporary Arts. Students who have completed FPA 215 may not take FPA 315 for further credit. Recommended: FPA 211 or 216.

**FPA* 379-3 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 upon the particular topic in a given semester. Prerequisite: will vary with the topic.

**FPA* 382-3 Aesthetics of Performance**

This course will examine theatre, dance, and film as public arts. Relationship of form and meaning among these and other modes of performance will be investigated through topics that may vary from semester to semester. This course is specifically designed for students in all study areas of the School for the Contemporary Arts. (seminar) Prerequisite: 45 semester hours credit.

**FPA* 384-3 Criticism of Performance**

This course is designed to give students practice and encouragement in articulating their responses to live performances of drama, dance and other forms of theatrical presentation. The course will involve discussions about critical method in relation to various performing arts and about individual productions, as well as attendance at numerous performances and occasional rehearsals. A substantial amount of critical writing will be required. (seminar) Prerequisite: 45 semester hours credit.

**FPA 388-3 Directed Studies in Fine and Performing Arts I**

This course is intended to provide an opportunity for advanced students to carry out an independent project which is planned and completed in close consultation with the supervisory instructor. Prerequisite: six hours of upper division credit in FPA and prior approval.

**FPA 389-3 Directed Studies in Fine and Performing Arts II**

This course is intended to provide an opportunity for advanced students to carry out an independent project which is planned and completed in close consultation with the supervisory instructor. Prerequisite: six hours of upper division credit in FPA and prior approval.

**FPA 411-5 Selected Topics in Contemporary Theory**

This course will provide an in-depth investigation of a selected theoretical topic associated with the fine and performing arts. The course requires independent research leading to a substantial paper, as well as directed reading preparation for seminars. Topics will vary from semester to semester. (seminar) Prerequisite: at least 45 credit hours including FPA 211 plus one arts in context course.

**FPA 412-5 Senior Seminar in Art and Culture Studies**

The senior seminar in the Art and Culture Studies major program will consider questions of culture and a selected range of art works within a defined historical and geographical frame. The course will use various theoretical approaches in the consideration of art works and their relationship to their social and historical context. 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. (seminar) Prerequisite: eight upper level credit hours including one arts in context course.

**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. (directed study) Prerequisite: will vary according to the topic.

**Dance**

**FPA* 120-3 Introduction to Contemporary Dance**

Development of movement skills through fundamentals of contemporary dance technique, explorations in improvisation, and short composition studies. An introduction to dance literature will focus on selected topics. (studio) Students with credit for PDP 244 or KIN 044 or 144 or FPA 122 may not take FPA 120 for further credit.

**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. Emphasis on work in modern dance and ballet technique and introduces theoretical approaches to modern dance. (studio) Prerequisite: prior approval as a result of an audition. Corequisite: dance majors and extended minors must take FPA 129 and 122 concurrently.

**FPA 123-4 Contemporary Dance II**

Second studio course in a series designed for students intending to pursue a major or extended minor in dance. Emphasizes work in modern dance and ballet technique and introduces theoretical approaches to modern dance. (studio) Prerequisite: FPA 122.

**FPA 124-3 Dance Improvisation**

Selected dance improvisational skills will be explored in a variety of solo, duet, small group and large group forms through structured movement themes. Emphasis will be on sensory awareness, elements of movement, and literal and abstract imagistic stimuli. (studio) Recommended: dance or theatre experience for dance majors and extended minors.

**FPA* 127-3 History of Dance: Origins to the 20th Century**

Survey of the function and form of dance from primitive culture through the 19th century ballet in tsarist Russia. Emphasis will be upon western theatre dance and evolution of the classical ballet. (Lecture/Seminar) Students with credit for FPA 326 or 327 or KIN 310 may not take FPA 127 for further credit.

**FPA* 129-3 Fundamental Integration of Human Movement**

This studio/theory course incorporates techniques of body awareness, centering, and structural realignment. The course will be of interest to dancers, actors, kinesiologists, and athletes. (seminar/studio) Corequisite: dance majors and dance extended minors must take FPA 122 and 129 concurrently.

**FPA 220-4 Contemporary Dance III**

Studio work designed to develop technical facility in movement and acquaint the student with form and style in contemporary dance and ballet. (studio) Prerequisite: FPA 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* 227-3 History of Dance: The 20th Century**

Study of the development of modern dance and the reformation of the ballet in the 20th century. Emphasis will be placed on sensiman dance artists and on the impact their work has had upon the art form in western theatre dance. (lecture/seminar) Students with credit for FPA 328 may not take this course for further credit. Recommended: FPA 127

**FPA 228-3 Dance Composition II**

This is a continuation of FPA 224-3. Emphasis will be upon source material for choreography with applications of elements of craft. (studio) Prerequisite: FPA 224-3.

**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 upon 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 will 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. Emphasis will be upon the understanding of body placement, balance flexibility and strength. Practical studio experience is offered within the context of specific theoretical principles. (studio) Prerequisite: FPA 221.

**FPA 323-3 Ballet II**

This course explores the vocabulary and movement range of classical ballet technique on the lower intermediate level. Further attention will be given to the understanding of body placement, balance, flexibility and strength. Practical studio experience is offered within the context of specific theoretical principles. (studio) Prerequisite: FPA 322.

**FPA 324-3 New Dance Composition**

This course will explore non-traditional compositional directions in choreography. Emphasis will be upon the creation and analysis of work generated by extending the parameters of source, style and form in contemporary dance. (studio) Prerequisite: FPA 228 or one of FPA 246, 251, 260 or 231.

**FPA 325-3 Special Project in Dance Composition**

A specific topic or set of techniques related to the field of 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. Corequisite: students must be concurrently enrolled in a technique course at an appropriate level.

**FPA 327-3 Repertory II**

This is one of two courses which provide advanced
level dance students with the opportunity to work as an ensemble rehearsing and preparing for a series of public performances. Choreography will be created and/or selected by a faculty director. (studio) Prerequisite: FPA 123 and prior approval.

Corequisite: students must be concurrently enrolled in a technique course at an appropriate level.

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 423-3 Directed Studies in Choreography Directed project in choreography culminating in public performance. This course is designed to enable talented student choreographers to undertake intensive individual study. Project proposal must be approved prior to registration. (directed study) Prerequisite: FPA 228, one of FPA 324 or 325 and prior approval.

FPA 424-3 Directed Study in Selected Repertory Participation in at least two repertory works staged by faculty or other experienced artists in a specific public presentation. (directed study) Prerequisites: FPA 221 and project proposal approved prior to registration. Audition may be required for specific works.

FPA 425-5 Intensive Studies in Dance Intensive advanced study in particular styles of contemporary dance and/or participation in repertory works staged by experienced artists. (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 in the various media that combine to form cinema. (seminar/laboratory) Prerequisite: prior approval through questionnaire/interview. A laboratory fee is required. Students who have taken FPA 132, 133, 134 or 230 may not take FPA 130 for further credit.

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 soundtrack, 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. Filmmaking may require personal funding in addition to the lab fee. 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 artistic expression in film. A substantial number of films will be shown during laboratory sessions. (lecture/tutorial/laboratory) Students with credit for FPA 237 offered in 1982/83 and prior years may not take FPA 137 for further credit.

FPA 230-5 Filmmaking II The first of two courses (FPA 231-5 is the second) which form an intensive study of the craft of syncound 16 mm. filmmaking, with an emphasis on production planning, development and the shooting and editing of short films. In-class exercises and film screenings will lead to the production of several original films. Each student will be expected to play major creative and technical roles in these productions. (production) Prerequisite: FPA 131, one of FPA 136 or 137 and prior approval. Film production may require personal funding in addition to the 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 syncound 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. Film production may require personal funding beyond the lab fee.

FPA 232-2 The Techniques of Film This course covers the technical aspects of basic 16 mm. production skills: camera, lighting, sound, editing, lab processing. These skills are taught as discrete units of instruction, with lab exercises and exams at the end of each unit. (laboratory) Prerequisites: FPA 131 and prior approval. Laboratory fee required. This course is not a duplicate of FPA 233 Video Production. Corequisite: FPA 230.

FPA* 236-3 Cinema in Canada The course will explore the concept of ‘national culture’ in the context of increasing globalization of market industrial society. The class will view and discuss Canadian dramatic, documentary and experimental film in relation to the myths and ideologies of our culture. (lecture/seminar) Prerequisite: one of FPA 136,137, CMNS 110 or CMNS 120.

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: national cinemas; film and politics; Canadian cinema; documentary film and video, etc. Weekly screenings will be accompanied by lecture/tutorial 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 perform a variety of writing assignments and each will be expected to complete one or more short original scripts. (seminar) Prerequisite: one of FPA 136,137 or 253 and prior approval. Students who have taken FPA 332 for credit may not take FPA 238 for further credit.

FPA 290-2 Video Production I This course will give students a grounding in technical aspects of video production. The course will be organised 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 and prior approval. Students who have taken FPA 233 Video Production for credit may not take FPA 290 for further credit.

FPA 330-3 Film Sound Through lectures, demonstrations and studio work, students will be introduced to several aspects of audio post production for film and video. Topics to include synchronization, editing, music scoring and mixing. (lecture/laboratory) Prerequisite: FPA 230, or 147 and 245, and prior approval. Recommended: CMNS 258.

FPA 332-3 Film Production Seminar This course facilitates an in-depth understanding of the organizational aspects of film production, with emphasis on preproduction planning. The class will study methods of proposal writing, preproduction and production of short films, developing projects for production in FPA 430/432. (seminar) Prerequisite: FPA 231.

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 a 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. Recommended: for all film majors.

FPA 334-3 Selected Topics in Film and Video Production This course will cover a specific topic within the field of film and video production not covered in depth in regularly scheduled courses, such as optical printing techniques, film and video editing, experimental film and video production, or documentary film and video production. (seminar/studio) Prerequisite: FPA 231 and prior approval.

FPA* 335-4 Introduction to Film Theory This course is concerned with the systematic understanding of the general phenomenon called Cinema rather than with the properties or techniques of individual films. Various theoretical positions will be assessed and compared in terms of cinematic
practice and its ideological functions. (lecture/ seminar) Prerequisite: six credits from among FPA 136, 137, 237. Students who have taken FPA 234 for credit may not take FPA 335 for further credit.

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: one of FPA 136, 137 or 237. Students who have taken FPA 339 Selected Topics in Film for credit may not take the same topic under FPA 337 for further credit.

FPA 338-3 Screenwriting II
This course will present advanced theory and techniques for writing dramatic, experimental and documentary film and video scripts. Additional topics covered include script analysis, production breakdown, and the writing of treatments and proposals. This course provides an opportunity for students to prepare scripts for fourth year film or video projects. (lecture/ seminar) Prerequisite: one of FPA 238 or 353 or 456 and prior approval.

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 permission of the department. Students who have completed Directing and Acting in the spring of 1990 or earlier, may not take this course for further credit. This course is not a duplicate of FPA 339 Selected Topics in Film, available in summer 1990 and earlier.

FPA 390-3 Video Production II
This course is intended for students interested in video as a means of artistic expression. Students will be encouraged to challenge accepted notions of the video medium and explore 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 potential 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.

FPA 393-2 Techniques of Video
This is an intermediate course that examines the complex technical basis of the video medium. Emphasis is placed on the use of studio equipment, particularly video signal processing procedures. This course is a prerequisite for all directed studies work in video. (lecture/laboratory) Prerequisite: FPA 290 or equivalent and prior approval.Corequisite: FPA 390.

FPA 430-5 Filmmaking IV
The first half of a two-semester project in advanced 16 mm. film production. Students are expected to participate in the realization of one or more films or video productions 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 335 and prior approval. A laboratory fee is required. Students should be advised that film production may require personal funding beyond the 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 may require personal funding beyond the lab fee.

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. Examples include: work 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.

FPA 437-3 Directed Study in Film Studies I
An independent course of study in film studies, to be pursued by the student in close consultation with the instructor. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. (directed study) Prerequisite: 60 credit hours including FPA 335, and prior approval. This is not a duplicate of FPA 437 Advanced Video and Electronic Cinema, offered in 1989/90 and previous years.

FPA 438-3 Directed Study in Film Studies II
An independent course of study in film studies, to be pursued by the student in close consultation with the instructor. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. (directed study) Prerequisite: 60 credit hours including FPA 335, and prior approval.

FPA 439-3 Directed Study in Film and Video
An independent course of study in film or video will be pursued by the student in close consultation with the instructor. This may involve an independent project, collaboration with students in another class, a research topic, or a professional internship. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. The course may be repeated once for credit; however, only one offering may be applied toward fulfillment of the Film major requirements. (seminar/lab) Prerequisite: six credit hours in upper level film and prior approval.

Music
FPA* 104-3 Music Fundamentals
This course is designed to provide a basic understanding of the elements of music and teaches the skill of reading music notation. An introduction to music theory and exposure to the application of music fundamentals 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) Prerequisite: FPA 145-3 Introduction to Music Composition and Theory

FPA* 143-3 Introduction to Music Composition and Theory
This course introduces basic concepts of music composition such as melody and pitch organization, harmony, rhythm and form. The fundamental principles of theory and acoustics (eg. voice-leading, overtone structure, metre) will be studied with particular reference to composition. Students will compose short works within given guidelines that address specific compositional issues. (lecture/ studio) Prerequisite: FPA 114.

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 music computer 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 through interview. Contact school.

FPA 240-3 Contemporary Music Performance I
Performance of works from the contemporary music repertoire for instruments and voice. A range of material will be covered from more improvisational pieces to conventionally notated scores. (studio) Prerequisite: audition/interview, or FPA 141.

FPA 242-3 Western Music in the 17th Through 19th Centuries
An introduction to the history of European music in the period from approximately 1600 to 1900 including musical styles, genres and institutions. Many aspects of western music in the 20th century (eg. public concerts, the symphony orchestra, opera, modern instruments and their literature, etc.) originate in this period. This course does not cover music from the 20th century concert repertoire. These and other topics will be discussed in conjunction with selected music by composers such as Monteverdi, Purcell, Bach, Mozart, Schubert and Verdi. Lectures will use recordings, slides and videos. No previous music experience is necessary. (lecture) Students who have completed FPA 143 may not take this course for further credit.

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 as a composer. The course is designed as a preparation for students to study contemporary music composition. Students will also be responsible for the performance of their works. (lecture/laboratory) Prerequisite: FPA 144.

FPA 246-3 Music Composition II
This course is a continuation of FPA 245. (seminar/studio) Prerequisite: FPA 245.

FPA 247-3 Electroacoustic Music
The theory and practice of electroacoustic music
technology and composition. In addition to expanding upon the issues introduced in FPA 147, the course will examine through lecture and studio work the following topics: analog and digital synthesis, microcomputer use, the multitrack studio, signal processing, communication protocols such as MIDI and sampling techniques. (lecture/laboratory) Prerequisite: FPA 147.

FPA 243-3 Gamelan II
Continuation of FPA 243, with increased emphasis on the theoretical and ethnomusicological aspects of gamelan. (seminar/studio) Prerequisite: FPA 243.

FPA 244-3 Contemporary Music Analysis and Criticism
An in-depth investigation of selected social, critical and theoretical issues associated with contemporary music, with special emphasis on the period c. 1945 to the present. Issues discussed might include such theoretical concerns as integral serialism; indeterminacy; process music; timbral concerns; or new approaches to melody, harmony and tonality. Critical topics such as music and technology; popular music and the mass media; or critical issues connected with world music might also be considered. The material of the course will be presented through the study of scores, recorded examples and when possible, live concerts. (lecture) Prerequisite: FPA 244.

FPA 245-3 Music Composition III
This course is a continuation of FPA 246, (seminar/studio) Prerequisite: FPA 246 or 247, and prior approval.

FPA 246-3 Music Composition IV
This course is a continuation of FPA 245, (seminar/studio) Prerequisite: FPA 245. 

FPA 247-3 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 247 under its former title may take this course for further credit.

FPA 249-3 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 250-3 Gamelan III
Continuation of FPA 243 with emphasis on the technique of the elaborating instruments of the gamelan ensemble. (seminar/studio) Prerequisite: FPA 243.

FPA 251-3 Acting II
Continues and expands upon the work undertaken in FPA 250. (studio) Prerequisite: FPA 250 and 254. Corequisite: FPA 254.

FPA 252-3 Playmaking I
Introduces the concepts of elements of playmaking.

The nature of this course will change according to the perceived needs of the group. The work will consist of in-depth exploration of playmaking processes such as self-scripting, mask exploration, clown work, political theatre, or any activity which falls under the general heading of playmaking. The ultimate objective is to enable students to make their own theatre pieces. (studio) Prerequisite: prior approval. Corequisite: theatre major students must take FPA 252 concurrently with either FPA 250 and 254, or 251 and 255.

FPA 253-3 Playmaking II
Continues the development of the playmaking research work undertaken in FPA 252-3. (studio) Prerequisite: prior approval. Corequisite: theatre major students must take FPA 253 concurrently with either FPA 250 and 254, or 251 and 255.

FPA 254-2 Theatre Laboratory I
This is the first of four courses in performance research, each of which is attached to dramaturgy of the four courses: FPA 250, 251, 350 and 351. The work comprises voice and speech training. (laboratory) Prerequisite: prior approval. Corequisite: FPA 250 and FPA 124 or 129.

FPA 255-3 Theatre Laboratory II
This is the second of four courses in performance research. The work comprises voice and speech training, (laboratory) Prerequisite: FPA 250 and 254. Corequisite: FPA 251 and FPA 124 or 129.

FPA 257-3 Foundations of Theatre I
This course is a survey of the theatre from its origins to the Renaissance. It involves the study of dramatic texts and dramaturgy, theatre architecture and technology, staging, theatrical convention, and the social and historical context of theatre production. Particular emphasis will be placed on the changing relationship between theatre and its audience. (lecture)

FPA 258-3 Foundations of Theatre II
This course is a survey of the theatre from the Renaissance to the end of the 19th century. It involves the study of dramatic texts and dramaturgy, theatre architecture and technology, staging, theatrical convention, and the social and historical context of theatre production. Particular emphasis will be placed on the changing relationship between theatre and its audience. (lecture)

FPA 259-3 Selected Topics in Theatre I
A specific topic in theatre which is not otherwise covered in depth in regular courses. The work may be practical (studio), theoretical or a combination of the two, depending on the particular topic in a given semester. Prerequisite: prior approval.

FPA 270-3 Technical Theatre
For students who have gained a basic familiarity with technical theatre. The course will offer continued training in staging, audio and lighting for theatre, dance and music presentations. (lecture/laboratory) Prerequisite: FPA 170.

FPA 350-3 Acting III
Continues and expands upon the work undertaken in FPA 250 and 251. Work with established texts will receive increasing emphasis. Scene work may lead to a series of informal presentations. (studio) Prerequisite: FPA 251 and 255 and prior approval. Corequisite: FPA 354.

FPA 351-3 Acting IV
Continues and expands upon the work of FPA 350. (studio) Prerequisite: FPA 350 and 354. Corequisite: FPA 355.

FPA 352-3 Playmaking
A course designed to continue the development of the playmaking research begun in FPA 252 and 253. Emphasis will be placed upon the creation of original materials with the possibility of presentation before an audience. (studio) Prerequisite: FPA 251 and 255 and prior approval.
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FPA 353-3 Playmaking IV
Continues the playmaking work of FPA 352. (studio)
Prerequisite: FPA 350 and 354 and prior approval.

FPA 354-2 Theatre Laboratory III
This is the third of four courses in performance research comprising voice and speech training. (laboratory) Prerequisite: FPA 251, 255. Corequisite: FPA 350.

FPA 355-2 Theatre Laboratory IV
This is the fourth of four courses in performance research, comprising voice and speech training. (laboratory) Prerequisite: FPA 350, 354. Corequisite: FPA 351 and 426.

FPA 359-3 Selected Topics in Theatre II
A specific topic in theatre which is not otherwise covered in depth in regular courses. The work may be practical (studio), theoretical or a combination of the two, depending on the particular topic in a given semester. (studio) Prerequisite: FPA 250 and/or prior approval.

FPA 370-3 Introduction to Stage Design
For students who have gained the basic knowledge of technical theatre. Students will study various scenographic techniques and be required to solve theoretical problems related to aspects of production. (seminar/laboratory) Prerequisite: FPA 170.

FPA 371-3 Stage Lighting
This course explores contemporary stage lighting for theatre, dance and opera. Participants will review the principles of theatrical lighting instrument 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. (seminar/laboratory) Prerequisite: FPA 270 and prior approval.

FPA 372-3 Technical Production I
Students with basic technical theatre experience will undertake introduction to technical production responsibilities. As crew chiefs and stage management personnel, students will be required to research problems in construction, staging and organization of production and to apply their solutions within the production process. (open laboratory/seminar) Co/Prerequisite: FPA 370 and prior approval.

FPA 373-3 Technical Production II
As a continuation of FPA 372-3, students with some intermediate level technical theatre experience will undertake further production responsibilities. As crew chiefs and stage management personnel, students will be required to research problems in construction, staging and organization of production and to apply their solutions within the production process. (open laboratory/seminar) Prerequisite: FPA 372 and prior approval.

FPA 400-3 Advanced Studio Skills I
This course will undertake advanced performance work with research into specific skills that will enrich the repertoire of technique acquired in the earlier studios. Course content may be adjusted according to needs and interests of specific students. This could include the theatrical techniques of Commedia Dell'arte, classical and contemporary acting styles, circus skills, advanced period movement, stage combat and contact improvisation. (studio) Prerequisite: FPA 351 and prior approval.

FPA 453-3 Selected Topics in Directing
This course will focus on specific aspects of the director's craft. Topics such as composition, picturization, musical, rhythm, theatrical convention, staging choices, rehearsal technique and play selection will be considered. There will be practical problems in directing styles. (seminar/studio) Prerequisite: FPA 253, 350 and prior approval.

FPA 456-3 Selected Topics in Dramatic Theory
This course will focus on issues of dramatic structure. These will include the use of exposition, story structure in the three act play or narrative film, alternative approaches to dramatic structure in the contemporary theatre, and the problems of writing for performers. The course might entail the intensive study of a single author or the consideration of a major critical issue such as the question of style in dramatic composition. The work will include theory and practical assignments. (seminar/studio) Prerequisite: 45 credit hours including at least six upper division FPA credit hours and prior approval.

FPA 458-3 Directed Studies in Theatre I
This course is intended for advanced theatre students who wish to undertake coherent project work in theatre under close supervision. (directed study) Prerequisite: FPA 351 and prior approval.

FPA 459-3 Directed Studies in Theatre II
This course is intended for advanced theatre students who wish to undertake coherent project work in theatre under close supervision. (directed study) Prerequisite: FPA 351 and prior approval.

Visual Art
FPA* 160-3 Introductory Studio in Visual Art I
This course deals with problems of art-making in terms derived from recent and non-traditional directions in visual art. Work in a variety of media will be assigned, and some reading is required. (studio) Prerequisite: prior approval, as a result of an interview. Contact school. A course materials fee is required. Students with credit for FPA 160 under its former title may not take this course for further credit.

FPA* 161-3 Introductory Studio in Visual Art II
Permits interested students to continue work undertaken in FPA 160. Work in a variety of media will be assigned, and some reading is required. (studio) Prerequisite: FPA 160. A course materials fee is required.

FPA* 163-3 Issues in Spatial Presentation
An interdisciplinary studio course concentrating on ideas of spatial perception, modification and installation, as they generally apply to the arts. From conceptualization and drawn perspective plans, to methods of scaling, projection, and construction and manifestation in actual space. (studio)

FPA* 167-3 History of Art: Renaissance to Modern
An introduction to the history of the visual arts from the beginnings of the Renaissance around 1400 to the end of the 19th century. A chronological review of the major works in the Western tradition, placed in their social, institutional and stylistic context. Introduces concepts necessary for analysing general historical development in the arts and for analysing the meaning of individual works. (lecture)

FPA 168-3 History of Art: 20th Century
This course covers western art of the 20th century with attention to the important artists, artworks, ideologies and debates of this period. Works of art will be considered in the context of their artistic and aesthetic programs, manifestoes, exhibitions and institutions. Debates around modernism, postmodernism, 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 free, chosen and assigned projects in various contemporary media. Research 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.

FPA 263-3 Painting I
This course introduces students to painting as an art form, through the acquisition and application of skills and concepts relevant to the practice of the medium in a contemporary context. Students will work through problems and projects assigned by the instructor to develop their technical abilities in relation to subjects and content. (studio) Prerequisite: FPA 160.

FPA 264-3 Sculpture I
This course introduces students to 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 160.

FPA 265-3 Photography I
This course introduces students to the technical and material problems of photography as an art form and its relation to current art discourses and issues. Students will work through projects assigned by the instructor to develop their technical abilities in relation to subjects and content. (studio) Prerequisite: FPA 160.

FPA* 269-3 Selected Topics in Visual Art I
A specific topic in visual art which is not otherwise covered in depth in regular courses. The work may be practical (studio), theoretical or a combination of the two, depending on the particular topic in a given semester. (studio) Prerequisite: will vary according to the topic.

FPA 360-3 Studio in Visual Art III
An open critical studio course. Students are required to have a program of work prepared at the beginning of the semester. This program will constitute the basis of the student's work in the course, and will be the subject of continuing critical discussion. This discussion will be integrated with theoretical studies in the parallel seminar course, FPA 366. (studio) Prerequisite: FPA 261 and status as an approved major in visual art. A course materials fee is required. Corequisite: FPA 366.

FPA 361-3 Studio in Visual Art IV
An open critical studio course. It will continue and extend work done in FPA 360. Students are required to have a program of work prepared at the beginning of the semester. This program will form the basis of the student's work in the course, and will be the subject of continuing critical discussion. This discussion will be integrated with theoretical studies in the parallel seminar course, FPA 367. (studio) Prerequisite: FPA 360 and 366. Corequisite: FPA 367.

FPA 362-3 Drawing II
A studio course in advanced drawing skills, media and techniques. Drawing is taught in the context of its functions in contemporary art. Advanced skills, approaches and techniques are practised both to develop students' physical abilities and their capacities to use drawing as a creative and imaginative method in all artistic work. (studio) Prerequisite: FPA 262 and status as an approved major or extended minor in visual art. A course materials fee is required.
FPA 363-3 Painting II
This is an advanced course in contemporary problems of painting emphasizing the acquisition and application of skills and concepts relevant to the practice of the medium in a contemporary context. Students will work through problems and projects assigned by the instructor to develop their technical abilities in relation to subjects and content. (Studio) Prerequisite: FPA 264 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 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 theoretical issues in contemporary art photography as an art form and its relation to current art discourses and issues. Students will work through projects assigned by the instructor to develop their technical abilities in relation to subjects and content. (Studio) Prerequisite: FPA 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
This is a seminar course to be taken by all students in FPA 360. It deals with visual art topics of an historical, critical and theoretical nature which concern 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. (Seminar) Prerequisite: FPA 211. Corequisite: FPA 360.

FPA 367-3 Seminar in Visual Art II
This is a seminar course to be taken by all students in FPA 361-3. 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. (Seminar) Prerequisite: FPA 366. 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 Directed Project in Visual Art
An independent guided studio course in visual art. Students will be expected to complete a body of planned and approved work. (Independent studio) Prerequisite: FPA 460 and prior approval by application.

CRIM 104-3 Sociological Explanations of Criminal and Deviant Behavior
A survey of some major sociological perspectives on crime and deviance that will include mainstream and critical theories. These will include neutralization, control, group conflict, sub-cultural, ecological, functionalist and critical theories. Critical analysis of the assumptions upon which each theory is based. Examination of the similarities and differences between/among the various explanations. (lecture/tutorial) Students who have completed any or all of CRIM 101, 103 and 104 may not register for CRIM 100 or 102. Recommended: SA 150.

CRIM 131-3 Introduction to the Criminal Justice System — A Total System Approach
Introductory analysis of the structure and operation of the Canadian criminal justice system. Examination of the patterns of crime and victimization; police operations, discretion and decision making; the criminal courts, including sentencing; the corrections system, including correctional institutions and community-based models; the youth justice system. Patterns of contact and conflict between various social groups and the criminal justice system. (lecture/tutorial)

CRIM 135-3 Introduction to Canadian Law and Legal Institutions: A Criminal Justice Perspective
A general introduction to the fundamental and competing principles of jurisprudence and to the basic legal institutions of Canada. Prepares students for those law and law related courses offered within the School of Criminology and will consider the history of Canadian law, the development of the Canadian constitution, the system of Canadian courts and the roles and responsibilities of members of the legal profession. In addition, the course will consider the nature of legal reasoning, the doctrine of precedent, principles of statutory interpretation and will also introduce the fields of contract, torts, administrative law, and family law. Also examines the process of law reform in Canada. (lecture/tutorial)

CRIM 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 minimum cumulative 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 philosophic movements and schools of thought. Consideration of the history and evolution of punishment and penal methods and the historical forces influencing the development, implementation, and modification of these methods. (lecture/tutorial) Prerequisite: CRIM 102 (or CRIM 101 and 104).

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 criminal justice system and youth; 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: CRIM 100 and 102 (or CRIM 103 and 104).

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 crime relationships of control and punishment. (lecture/tutorial) Recommended: CRIM 100 and 102 (or CRIM 103 and 104).

CRIM 220-3 Research Methods in Criminology
An introduction to criminological research that is intended to develop the student's research and analytical skills. Specifically, the course will focus on the theory of inquiry, the logic, and structure of criminological inquiry, research design, data gathering, analysis and reporting. (lecture/tutorial) Prerequisite: CRIM 100 and STAT 101 or 203 or PSYC 210.

CRIM 230-3 Criminal Law

CRIM 231-3 Introduction to the Judicial Process
A critical examination and evaluation of the judicial process. An introduction to the criminal courts and the legal profession. The structure and functions of the criminal court system and its relationship to other branches of government. The role of the criminal court judge, prosecutor, lawyer, jury, witness, expert, etc. Appointment, tenure, removal of judges; the social psychology of the courts; the jury system; plea bargaining; judicial behavior of the courts; the courts and the community; public opinion, attitudes and images of the courts; the mass media and the courts. (lecture/tutorial) Prerequisite: CRIM 131. Recommended: CRIM 135.

CRIM 241-3 Introduction to Corrections
An examination of the organization, structure and operation of contemporary Canadian corrections. A consideration of the history and development of provincial and federal correctional systems. The role of sentencing in the correctional process and alternatives to confinement. Discussion of the social organization of correctional institutions, including the inmates, correctional officers, correctional treatment staff and administrators. Parole board decision making and the issues surrounding the re-entry of offenders into the community. Community-based corrections programs and outcomes. (lecture/tutorial) Prerequisite: one of CRIM 100, 101, 102, 131.

CRIM 251-3 Introduction to Policing
An examination of the organization and operation of contemporary Canadian policing. Consideration of the history and development of policing in Canada, the role of the police in Canadian society and the police occupation, including recruitment and training. Discussion of the legal principles relating to certain specific crimes and to certain major defences. Impact of Canadian Charter of Rights and Freedoms on the criminal law. (lecture/tutorial) Prerequisite: CRIM 100 and 102. CRIM 161 and 45 credit hours with a minimum CGPA of 2.75.

CRIM 300-3 Current Theories and Perspectives in Criminology
A detailed examination of current theories and perspectives in criminology. The content of the course will change with developments in the area. Students can expect to study biological, psychological and sociological theories and perspectives, as well as those from other relevant disciplines, and their relationship to crime (e.g. geography, political science and cultural studies). (lecture/tutorial) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 301-3 Crime in Contemporary Society
Contemporary issues, problems and themes pertinent to the field of criminology. Development, character and function of criminal law as an academic and professional discipline. Status of criminality 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
Critical approach to traditional criminological theory and of the conventional approaches to the problems of crime and punishment. Critical approach to criticisms of the policy and practice of the police. The role of the police in Canadian society and the penal and therapeutic commitment of the inmate. (lecture/tutorial) 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 topics 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 examination of the law of custody and Delegazation in Canada and the United States. (seminar) Prerequisite: one of CRIM 100, 101 or 102; 210.

CRIM 311-3 Minorities and the Criminal Justice System
An analysis of political, economic, and ethnic minorities and their relationship with the criminal justice system. Critical analysis of possible racial, ethnic, and racial minorities such as Native Indians, Inuit, Metis, Doukhobor and others and the legal and social norms of the 'host' majority. Women and the criminal justice system. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 312-3 Criminological Perspectives on Social Problems
Involves detailed study of forms of deviance that have been commonly defined as constituting 'social problems.' Consideration of drug abuse (alcohol, nicotine, heroin and others), suicide, prostitution, obscenity, gambling and abortion. Justifications for present legislative policy and the relationship between these activities and the criminal justice system. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 313-3 Specific Types of Crime
Critical analysis 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 offenses, professional crimes, mortality crime, etc. (seminar) Prerequisite: one of CRIM 100, 101 or 102.
CRIM 335-3 Human Rights and Civil Liberties
A study of the relationship between the government and the individual. Focus upon the Canadian Charter of Rights and Freedoms and its interpretation by the judiciary. Examination of the issues of equality before the law, freedom of speech, freedom of religion and freedom of expression. A study of human rights at the international, federal and provincial levels. (lecture/seminar) Prerequisite: CRIM 330.

CRIM 336-3 Corporate Crime and Corporate Regulation
An examination and analysis of the nature, scope and impact of corporate crime, the principal organizational, social, political and economic factors involved in the definition and commission of such crime, and the ways in which governments and organizations respond to the problem. Particular types of corporate crime will be explored, including issues of exploring the legal and administrative framework that define(s) and regulates corporate wrongdoing. (seminar) Prerequisite: one of CRIM 100, 101 or 102; 135. Recommended: CNS 280 or ECON 101.

CRIM 338-3 Philosophy of Law
Introduction to the philosophy of law. Concepts of law, constitutions, theories. The nature and sources of law. Examination of natural law, legal positivism, Kelsen's pure theory of law, legal realism, modern normative and analytical theories, critical legal theory and feminist theory. (lecture/tutorial) Prerequisite: one of CRIM 100, 101 or 102; 135.

CRIM 342-3 Dynamics of Interpersonal Relationships
Study of crime in an interactionist perspective. Critical analysis of criminogenic situations resulting from primary group and non-primary group relationships. Study of the dynamics of interpersonal relationships leading to the commission of violent crimes. Dynamics of helpful-client relationship in correctional settings; probationer-probation officer, parole officer-parolee, etc. Dynamics of interpersonal and intergroup relationships in correctional institutions. Group dynamics. Relationships within the adolescent gang. (lecture/seminar) Prerequisite: one of CRIM 100, 101 or 102. Recommended: PSYC 100, 102 and CMNS 220.

CRIM 343-3 Correctional Practice I
An in-depth consideration of a range of factors influencing contemporary correctional practice. The fundamental tension between the interests of offenders and the requirements of those managing correctional settings is provided by underlying theoretical assumptions about correctional practice and by influences such as public perceptions, politics and the economy. (seminar) Students with credit for CRIM 340 may not take CRIM 343 for further credit. Prerequisite: one of CRIM 100, 101 or 102. Recommended: CRIM 241.

CRIM 350-3 Techniques of Crime Prevention I
Techniques of mobilizing community resources for crime prevention. Organizing, implementing and managing citizen efforts to reduce crime. Recruiting citizen assistance, training requirements, establishing and operating citizen organizations, evaluating results. Organizing programs for reducing criminal opportunity, programs for education, employment and recreation. Operating youth services centres, residential programs, crisis intervention and emergency centres. (lecture/seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 355-3 The Forensic Sciences
This course explores the scope 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, fingerprinting, arson, explosives, toxicology and questioned documents. Techniques will be illustrated with case studies. (lecture/tutorial) Prerequisite: CRIM 330.

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 60 credit hours with a minimum CGPA of 2.75.

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 fields and research situations; the conflict between the professional's duty to protect society and his duty to his 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 401-3. A student may not take for credit 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 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 and 320.

CRIM 411-3 Crime and Victimization of the Elderly
The elderly in conflict with the law: analysis of specific behavioral changes associated with old age likely to bring the elderly person in conflict with the law. Analysis of certain types of offences sometimes committed by the elderly. Treatment and prevention strategies. The elderly as victims: proneness and vulnerability to victimization, patterns of victimization, individual and environmental correlates of victimization, fear of victimization. Treatment and preventive strategies. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 412-3 Crime, the Media and the Public
Focus is upon the relationship among the content of media, especially books, films and TV. 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 such relationships (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 and interpretative perspectives will be employed to examine the impact of terrorism on various countries and the response of governments to it. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 415-3 Victimology
Analysis of the phenomenon of criminal victimization. Review historical development of victimology, its scope and subject matter. Characteristics of the victim and victimization of the victim and the typical victim. An in-depth analysis of the extent and patterns of criminal victimization, victimizers' attitudes to their victims, victim/target selection. Examination of the theoretical explanations of the differential risks of criminal victimization, focusing on multiple victimization, lifestyle/routine/activity/opportunity models and the possibility of developing an integrated model of criminal victimization. (lecture/ seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 416-3 Current Issues in Criminology and Criminal Justice
A critical analysis of current 'hot' issues in criminology and criminal justice. The topics covered change from semester to semester. (seminar) A student may not take for credit toward the degree more than three special topics courses (i.e. CRIM 416, 417, 418). Prerequisite: one of CRIM 100, 101 or 102.

CRIM 417-3 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) A student may not take for credit toward the degree more than three special topics courses (i.e. CRIM 416, 417, 418). Prerequisite: one of CRIM 100, 101 or 102.

CRIM 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 toward the degree more than three special topics courses (i.e. CRIM 416, 417, 418).

CRIM 419-3 Indigenous Peoples, Crime, and Criminal Justice
An in-depth examination of indigenous peoples and the criminal justice system. Historical and 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; 320.

CRIM 430-3 Judicial Administration and Planning
Theory and practice of court administration. Examination of the nature of the 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; caseload 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 charters, and other legal means to achieve gender equality through the legal system in the areas of work, employment and pay, and compensatory schemes for personal injuries will also be examined. This course will also examine women’s struggles to gain admittance to the legal profession, and barriers which may still prevent them from participating equally in the profession today. (Seminar) Prerequisite: CRIM 330.

CRIM 436-3 Corporate Crime and Corporate Regulation: Advanced Topics
A detailed examination and analysis of particular types of corporate wrongdoing and the nature and impact of the relevant legal and administrative framework. The topics will be selected by the particular course instructor and will therefore, vary according to the instructor’s interests as well as topicality. The areas of corporate crime which are chosen may include one or more of the following: ‘economic crimes’ such as violations of statutes which regulate competition, protect intellectual property, and 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.

CRIM 437-3 Crimes Among the Professional Elite
This course will examine the use of self-regulation by professional organizations (e.g. law societies, colleges of physicians and surgeons, stock exchanges) and the increasing demand by other occupational groups and social and economic entities to be governed by these internal controls in addition to, or in lieu of, the criminal law. It will specifically examine how the criminal law is used in the context of self-regulation and how professional codes can bypass the criminal law through self-regulating organizations. The professions will be examined in the context of administrative, civil and criminal law. Implications for self-regulation in other areas and the future of self-regulation will also be considered. (Seminar) Prerequisite: CRIM 330.

CRIM 440-3 Correctional Administration and Planning
Theory and practice of organization and administration of correctional agencies. Particular attention is given to the political/bureaucratic interface in correctional administration, management styles, labor relations, management support systems and program planning. Identification and assessment of corrections management objectives. The relationship between corrections administration and other components of the criminal justice system.

CRIM 442-3 Correctional Practice
An in-depth examination of the various treatment programs utilized in corrections beyond including traditional psychodynamic therapies, e.g., behavior modification, group therapy, interaction, positive peer culture, juvenile programs, academic prison education, skill development, community programs, service projects. The ethical and practical programs encountered in correctional practice. A consideration of the applicability of the precepts of clinical criminology to correctional practice. (Seminar) Prerequisite: CRIM 343.

CRIM 450-5 Techniques of Crime Prevention II
Introduction to the modern techniques of crime prevention. Emphasis will be on crime prevention and reduction in fear of crime. Crime prevention through social change. Crime prevention through environmental design. Crime prevention through physical planning and architectural design. The concept of ‘defensible space.’ Obstructing and reducing the opportunities for the commission of crimes. Evaluating crime prevention programs. (Lecture/Laboratory) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 455-3 Law Enforcement Administration and Planning
This course will cover the following topics: theory and practice of organization and administration of law enforcement agencies. Professional police management. Internal relations. Police strikes. Problems of law enforcement manpower recruitment, selection, education, training, manpower alternatives, forecasting manpower needs. Problems of development, promotion and advancement. Personnel supervision, internal discipline. Problems of communication, information and statistics. Improving resource allocations by means of operational research. Evaluative research; cost-benefit analysis. Computer uses in law enforcement. Police-community relations. Improving police image and public attitudes towards the police. Relations with other sectors of the criminal justice system. (Lecture/Seminar) Prerequisite: one of CRIM 100, 101 or 102.

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 seminars with faculty supervisors and other field practicum students. Prerequisite: prior approval of the school and a minimum CGPA of 2.5 is required. Applicants must be formal criminology majors or honors students, and must be registered in or have completed CRIM 320 and CRIM 369. A minimum grade of B- in CRIM 389 is required. Only under exceptional circumstances, to a limit of three credit hours, and with the formal written approval of the director of the undergraduate program, will registration for course work in addition to CRIM 462 be permitted.

CRIM 470-5 Directed Studies
Independent research in a selected criminological area, under the direction and supervision of at least one faculty member. A research report is required. Prerequisites: CRIM 320 and 330. Written application to the school no later than the last day of classes of the preceding semester. Reserved for criminology honors and majors. Recommended: CRIM 370.

CRIM 490-5 Honors Thesis I
An in-depth investigation of a selected topic in criminology, including a comprehensive review of the literature and the formalization of a research proposal. Open only to students who have been admitted to the criminology honors program.

CRIM 491-5 Current Theory and Research in Criminology: Advanced Topics
A detailed and comprehensive examination of the dominant theoretical research programs currently found in criminology. The subject matter of the seminars may change from year to year according to topicality and may include the following: biological theory and research; social psychological research programs (e.g., social learning theory); environmental criminology; state theory; new social movements theory; left realism; feminism; post structuralism and post modernism. Students are also required to attend a weekly pro-seminar. (Seminar) Prerequisite: normally open only to students who have been admitted to the criminology honors program. Other students may be admitted under exceptional circumstances with the written permission of the director of undergraduate programs.

CRIM 499-12 Honors Thesis II
An honors thesis is a research report written under the supervision of a faculty member, a copy of which is to be permanently lodged in both the University library and the School of Criminology. Students are required to attend a weekly seminar at which various issues associated with the linking of theory and method are examined and where students can both discuss their progress and share their research experiences. On completion, the thesis is to be orally defended in a school seminar. Open only to students who have been admitted to the criminology honors program. Students are not permitted to take other courses while enrolled in this course.

Earth Sciences

Faculty of Science

EASC 101-3 Physical Geology
An introduction to the origin and character of minerals, rocks, earth structure, earth surface processes and plate tectonic theory. (2-0-2) Students with credit for EASC 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)

EASC 201-3 Stratigraphy and Sedimentation
An introduction to the nature, origin and interpretation of stratified earth materials. Principles of lithostratigraphy, biostratigraphy and chronostatigraphy. Sequence stratigraphy. The facies concept. (2-0-2) Prerequisite: EASC 101 or EASC 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. Corequisites: CHEM 121.

EASC 203-3 Paleontology
Principles of classification, morphology and development of the major groups of animals and plants in the geological record; the paleoecologic significance of fossils. (2-0-2) Prerequisite: EASC 102 and BISC 100.

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 301-3 Igneous and Metamorphic Petrology
Mineralogy, phase relations, origin of igneous rocks; classification of igneous rocks. Mineralogy and textures of metamorphic rocks; hand sample and thin sections. (2-0-3) Prerequisite: EASC 205.

EASC 302-3 Sedimentary Petrology
Description and classification, field and microscopic identification of sedimentary rocks; petrogenesis and paleoenvironmental reconstruction. (2-0-3) Prerequisite: STAT 101, EASC 201 and 205.

EASC 303-3 Environmental Geoscience
Environmental geology is a branch of ecology which deals with the relationship of people to their geological habitat. Topics covered will include environmental impact of 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 credits in Earth Sciences.

EASC 304-3 Hydrogeology
Introduction to the theory of groundwater flow; flow nets; well hydraulics; regional groundwater evaluation. (2-0-3) Prerequisite: EASC 201 and PHYS 121.

EASC 306-2 Field Geology II
A ten day field camp held after final exams in the Spring semester. The camp will focus on the field methods of reducing, mapping and interpreting rocks in the field setting. Field locations will vary from year to year. (field study) Prerequisite or corequisite: EASC 201, 204, 205 and 206.

EASC 307-3 Applied Geophysics
Application, instrumentation and limitations of electrical, electromagnetic, ground penetrating radar and seismic methods for engineering and geoscience applications. (2-0-3) Prerequisite: EASC 207.

EASC 308-3 Low Temperature Geochemistry

EASC 309-3 Global Tectonics
The study of motion and deformation of the earth's crust and upper mantle at a regional and global scale. A detailed examination of plate tectonic theory; plate boundary types, mechanics of plate movements, basin formation and mountain building. Case studies of major orogenic belts of the world highlighting regional structural deformation, processes in response to tectonic stresses. (2-0-3) Prerequisite: EASC 201, 204, 205, 206. Students who completed EASC 407 prior to fall 1998 may not take this course for credit.

EASC 401-3 Mineral Deposits
The petrology and genesis of metallic/lleous ore deposits; description of classic ore deposits; the occurrence and exploitation of industrial and non-metallic minerals. (2-0-3) Prerequisite: EASC 201, 204, 207 and 301.

EASC 402-3 Sedimentology
Sediment transport in fluids, the formation, character and classification of internal structures in sediments and paleoenvironmental analysis. (2-0-3) Prerequisite: EASC 302.

EASC 403-3 Quaternary Geology
Stratigraphy and history of the quaternary period with emphasis on glaciation, glacial sediments, and holocene alluvial fills. (2-0-3) Prerequisite: EASC 201 and GEOG 313.

EASC 404-3 Subsurface Methods for Environmental Geoscience
Theory, analysis and practical interpretation of well logs. Use of well logs in petroleum, coal resource evaluation, and environmental geoscience. (2-0-3) Prerequisite: at least 60 credit hours including nine hours of upper level earth sciences credits.

EASC 405-3 Basin Analysis
The study of major depositional systems. Methods of analyzing basin geometry, depositional and tectonic history; basin classification; basin models; basin characteristics. Extensive use of western Canadian examples. (2-0-3) Prerequisite: 75 credit hours and EASC 306.

EASC 406-3 Field Geology III
Methods of observing, recording and correlating geologic data. A 14 day field school will be held after the spring examination period. (field study) Prerequisite: EASC 306.

EASC 408-3 Regional Geology of Western Canada
The stratigraphy, structure and historical geology of western Canada. Terrain analysis. Important mineral and fossil sites will be discussed. (2-0-3) Prerequisite: EASC 309. Students who completed EASC 305 prior to fall 1998 may not take this course for credit.

EASC 409-3 Rivers: Environments and Engineering
Fluid mechanics of open channel flow, channel formation and maintenance, sediment transport and deposition, and river engineering case studies. (2-0-2) Prerequisite: EASC 201, GEOG 313, MATH 150 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 490-0 Undergraduate Seminar
A seminar for undergraduates in their final year of the earth sciences program. Visiting speakers, site visits to mines and drilling locations. Discussions of the application of earth science in industry. (2-0-2) Prerequisite: 90 credit hours and majoring in earth sciences or physical geography.

EASC 491-1 Directed Readings
A course in which reading and research, and/or field work will be supervised by a faculty member. (seminar) Prerequisite: 75 credit hours including 30 hours in earth sciences courses and permission of the department.

EASC 492-2 Directed Readings
A course in which reading and research, and/or field work will be supervised by a faculty member. (seminar) Prerequisite: 75 credit hours including 30 hours in earth sciences courses and permission of the department.

EASC 493-3 Directed Readings
A course in which reading and research, and/or field work will be supervised by a faculty member. (seminar) Prerequisite: 75 credit hours including 30 hours in earth sciences courses and permission of the department.

EASC 499-9 Honors Thesis
An in-depth investigation of a topic in earth science. (student project) Prerequisite: 105 credit hours, admittance to the honors program and consent of supervisor.

Economics
Faculty of Arts
See also courses listed under Business Administration and Economics (BUJC).

ECON 101-3 The Canadian Economy
An introduction to the development of the Canadian economy and the analysis of Canadian economic problems. (lecture/tutorial) Students with credit for Economics courses at the 200 (or higher) division (excluding ECON 200 and 205) may not take ECON 101 for further credit.

ECON 102-3 Twentieth Century Economies
An examination of the nature, experience and prospects in the 20th century of economies with differing structures, systems and levels of economic development. Consideration of the role, merits and problems of economic planning, both in developed and less developed countries. (lecture/tutorial) Students with credit for Economics courses at the 200 (or higher) division (excluding ECON 200 and 205) may not take ECON 102 for further credit.

ECON 103-3 Principles of Microeconomics
The principal elements of theory concerning utility and value, price and costs, factor analysis, productivity, labor organization, competition and monopoly, and the theory of the firm. (lecture/tutorial) Prerequisite: 12 credit hours. Students with credit for ECON 200 cannot take ECON 103 for further credit.

ECON 105-3 Principles of Macroeconomics
The principal elements of theory concerning money and income, distribution, social accounts, public finance, international trade, comparative systems, and development and growth. (lecture/tutorial) Prerequisite: 12 credit hours. Students with credit for ECON 205 cannot take ECON 105 for further credit.

ECON 110-3 Foundations of Economic Ideas
A preliminary approach designed to familiarize students with economic ideas and methods of economic analysis. The course may 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 relationship between doctrines and the economic, political, and social environment in which they are developed. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205. Students with credit for ECON 308 may not take ECON 208 for further credit.

ECON 210-3 Money and Banking
Banking theory and practice in a Canadian context; the supply theory of money; the demand for money and credit creation; monetary policy in a centralised banking system and 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 History of Economic Development (A)  
The pre-industrial period. History of the economic development of civilization from ancient times until the industrial revolution. Emphasis will be placed on the influence of geographical factors, discoveries and inventions, religion, and social organization and customs. (lecture/tutorial) Prerequisite: ECON 103 or 200 and ECON 105 or 205. Students with credit for ECON 150 cannot take ECON 250 for further credit.

ECON 252-3 History of Economic Development (B)  
The industrial period. Analysis of the main historical features of economic development from the industrial revolution to the present. (lecture/tutorial) Prerequisite: ECON 103 or 200 and ECON 105 or 205. Students with credit for ECON 152 cannot take ECON 252 for further credit.

ECON 260-3 Environmental Economics  
Economic analysis of environmental problems (water and air pollution, etc.). Evaluation of market failures due to externalities and public goods. Market and non-market regulation of environmental problems. (lecture/tutorial) Prerequisite: ECON 103 or 200. Students with credit for ECON 360 cannot take this course for further credit.

ECON 261-3 Resources and the Economy of British Columbia  
Review of the development of the British Columbia economy with particular emphasis on the role played by natural resources. Examination of the economics of major BC natural resources and the design of policies for their exploitation. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205. Students with credit for ECON 201 cannot take this course for further credit.

ECON 278-0 Economics Practicum I  
First semester of work experience in the Economics Co-operative Education Program. Prerequisite: 30 credit hours including ECON 103 or 200 and ECON 105 or 205. At least 12 of these 30 hours must be completed at Simon Fraser University with a minimum CGPA of 2.50. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester.

ECON 279-0 Economics Practicum II  
This is the second semester of work experience in the economics co-operative education program. Prerequisite: economics lower division requirements and completion of 45 semester hours at least 12 of which must be completed at Simon Fraser University, with a CGPA of 2.50. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester.

ECON 282-3 Selected Topics in Economics  
The subject matter will vary from semester to semester. (lecture/tutorial) Prerequisite: ECON 103 or 200, and 105 or 205.

ECON 290-3 Canadian Microeconomic Policy  
A general survey of Canadian microeconomic policy issues. The course covers topics such as regulation, taxation, environmental and resource policy, health care, education and income distribution. (lecture/tutorial) Prerequisite: ECON 103 or 200 and ECON 105 or 205.

ECON 291-3 Canadian Macroeconomic Policy  
A general survey of Canadian macroeconomic policy issues. Topics will include the costs of inflation and unemployment, monetary and fiscal policy, the effects of government debt and exchange rate policy. (lecture/tutorial) Prerequisite: ECON 103 or 200 and ECON 105 or 205.

ECON 301-5 Intermediate Microeconomic Theory  
The study of the main principles and techniques of economic analysis in their application to modern theories of price, production, distribution, and the theory of the firm. (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, 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 331-5 Introduction to Mathematical Economics  
The mathematical interpretation of fundamental economic concepts: demand, supply, competitive equilibrium. Application of the calculus to production and distribution theory, growth models and investment theory. Differential and difference equations in dynamic economic models. Introduction to activity analysis. (lecture/tutorial) Prerequisite: ECON 301 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 353-5 Economic History of Canada  
Analysis of leading issues in Canadian economic history. The historical experience of other areas will be examined when useful contrasts can be made. (lecture/tutorial) Prerequisite: ECON 301; 60 credit hours.

ECON 355-4 Economic Development  
Analysis of theories of economic development. Consideration will be given to the requirements of successful development, to aspects of international co-operation, and to procedures of economic planning. Problems of emerging countries and models of various developing economies will be studied. (lecture) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours. Students with credit for ECON 455 may not take ECON 355 for further credit.

ECON 362-4 Economics of Natural Resources  
Application of economic analysis to natural resource problems and efficient management practice; public policy considerations in respect to development and conservation; benefits-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 Regional Economic Analysis  
Introduction to regional impact analysis. Analysis of economic models of industrial location and spatial equilibrium. Examination of regional growth theories and their policy implications. Presentation of techniques for analysis of regional economic structure and performance. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours. Students with credit for ECON 365 may not take this course for further credit.

ECON 378-0 Economics Practicum III  
This is the third semester of work experience in the economics co-operative education program. Prerequisite: economics division requirements and completion of 60 credit hours, at least 12 of which must be completed at Simon Fraser University with a CGPA of 2.50. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester.

ECON 379-0 Economics Practicum IV  
This is the last semester of work experience in the economics co-operative education program. Prerequisite: ECON 301-5 or ECON 305-5 and 75 credit hours with a CGPA of 2.50. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester.

ECON 381-4 Labor Economics  
Analysis of the economics of the labor market with particular emphasis on wage determination, the concept of full-employment, and manpower policies. (lecture/tutorial) Prerequisite: ECON 301; 60 credit hours.

ECON 382-3 Selected Topics in Economics  
The subject matter will vary from semester to semester. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours.

ECON 383-3 Selected Topics in Economics  
The subject matter will vary from semester to semester. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours.

ECON 387-3 Selected Topics in Economics  
The subject matter will vary from semester to semester. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours.

ECON 388-3 Introduction to Law and Economics  
An introduction to the economic analysis of law, emphasizing the concepts of transaction costs and property rights. A variety of topics will be analyzed, ranging from the allocative effects of alternative property rights to contract tort and nuisance law, out-of-court settlements and alternative legal fee structures. (lecture/tutorial) Prerequisite: ECON 301; 60 credit hours.

ECON 390-3 Canadian Economic Policy  
A description and analysis of all types of Canadian economic problems without devoting too much attention to any one specialized area. Both macro and microeconomic problems will be discussed. Topics will include inflation, employment, stability, growth, regional problems, agricultural policies, national identity problems, international policy, natural resource policies with particular emphasis on current problems. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours.
ECON 392-3 Public Finance
The study of public goods, redistribution of income, and taxation, with emphasis on efficiency and equity as criteria for decision-making in the public sector. (lecture/tutorial) Prerequisite: ECON 301; 305; 60 credit hours. Students with credit for ECON 491 may not take ECON 392 for further credit.

ECON 395-5 Comparative Economic Systems
Economic analysis of various methods of the allocation of resources and distribution of income. Comparative study of capitalist, communist, socialist, and mixed forms of national economic organization. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours.

ECON 398-3 Directed Studies
Independent reading and research on topics selected in consultation with the supervising instructor. This course can only be taken once for credit towards a degree or diploma. Prerequisite: ECON 103 or 200 and ECON 105 or 205; 60 credit hours.

ECON 402-3 Advanced Topics in Microeconomics
A series of topics of a more technical nature than those developed in ECON 301. The topics include demand, supply, general equilibrium, and applied welfare measures. (seminar) Prerequisite: ECON 301, 305 and 331; 60 credit hours.

ECON 403-3 Advanced Topics in Macroeconomics
A series of topics of a more technical nature than those developed in ECON 305. The topics include treatment of rational expectations, the welfare costs of inflationary finance, theories of unemployment and inflation. (seminar) Prerequisite: ECON 301, 305 and 331; 60 credit hours.

ECON 404-3 Honors Seminar in Methodology of the Social Sciences
Critical discussion of contemporary and original papers in the social sciences. Emphasis will be on the objectives, the logical aspects, and the testability of social science theories and models. (seminar) Prerequisite: 70 credit hours.

ECON 407-3 Seminar in Marxian Economics
Examination of particular areas of current interest and work in Marxian economics. Focus will vary from semester to semester. (seminar) Prerequisite: ECON 309 or permission of the department.

ECON 409-3 Seminar in Economic Thought
Consideration of particular economic theorists, schools of thought or themes in economic thought. Focus will vary from semester to semester. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours; or permission of the department; 60 credit hours.

ECON 410-3 Seminar in Monetary Theory
Analysis of money as an economic variable; role of money in micro and macroanalysis. (seminar) Prerequisite: ECON 210 or 310, 301, and 305; 60 credit hours.

ECON 422-3 Seminar in Game Theory
An introduction to the basic concepts of game theory and their application to problems in a number of areas. (seminar) Prerequisite: ECON 301, 60 credit hours; or permission of the department.

ECON 425-3 Seminar in Industrial Organization
This course will cover topics in industrial organization in depth. Topics may include theories of the firm and contractual behavior, the economics of vertical restraints, product differentiation, theories of market structure, an analysis of empirical industrial organization studies, topics in competition policy or antitrust law, public utility regulation. Emphasis will be given to covering a limited number of issues in detail rather than attempting a broad survey of industrial organization theories. (seminar) Prerequisite: ECON 301; 60 credit hours.

ECON 428-3 Seminar in Behavioral and Applied Economics
This is a research course covering topics in experimental economics, tests and economic behavior, and issues in applied economics. Experimental economic methods, results, and their implications for economic analyses will be reviewed. Individual projects will be designed and carried out by participants. (seminar) Prerequisite: ECON 301 and 305, 60 credit hours; or permission of the department.

ECON 431-5 Intermediate Mathematical Economics
The application of input-output studies, linear programming and the theory of games to economic analysis. Dynamic models, general equilibrium models and the mathematics of marginal analysis. (lecture/tutorial) Prerequisite: ECON 301 and 305; MATH 232 or ECON 331; 60 credit hours.

ECON 435-5 Quantitative Methods in Economics
The application of econometric techniques to the empirical investigation of economic issues. (lecture/tutorial) Prerequisite: ECON 301 and 305; BUEC 333; 60 credit hours.

ECON 443-3 Seminar in International Trade
Focus will vary from semester to semester. (seminar) Prerequisite: ECON 301, 305 and 342: or permission of the department; 60 credit hours.

ECON 446-3 Seminar in International Finance
Focus will vary from semester to semester. (seminar) Prerequisite: ECON 301, 305 and 345, or permission of the department; 60 credit hours.

ECON 450-3 Seminar in Quantitative Economic History
Focus will vary from semester to semester. (seminar) Prerequisite: ECON 301, 305 and 353 or permission of the department; 60 credit hours.

ECON 451-3 Seminar in European Economic History
A detailed examination of the major issues in European economic history. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours. Students with credit for ECON 351 may not take ECON 451 for further credit.

ECON 455-3 Seminar in Economic Development Topics in economic development. (seminar) Prerequisite: ECON 305 and 355, and 60 credit hours.

ECON 459-3 Seminar in Economic Demography
Analysis of the economic forces that affect key population variables such as mortality, natality and migration. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours.

ECON 460-3 Seminar in Environmental Economics
Focus will vary from semester to semester. (seminar) Prerequisite: ECON 301, 305; 60 credit hours.

ECON 469-3 Seminar in Regional Economic Development
Examination of the regional disparity problem, with particular reference to the Canadian situation, its causes and policy remedies. Analysis of migration, capital, and trade flows between regions. Economic effects of the policies and institutions of Canadian federalism. (seminar) Prerequisite: ECON 103 or 200 and 105 or 205; ECON 368; 60 credit hours.

ECON 478-0 Economics Practicum V
This is an optional semester of work experience in the economics co-operative education program. Prerequisite: ECON 301, 305, one 400 division course and 90 credit hours and a CGPA of 2.50. Students should apply to the Faculty of Arts co-op coordinator by the third week of the preceding semester.

ECON 480-3 Seminar in the Economics of Labor Market Policy
Seminar focusing on public policy as it relates to employment and income security. Special emphasis will vary from term to term, but may include such topics as examinations of current manpower, welfare and public insurance programs, labor legislation, and private institutional practices (such as union-management pension arrangements) that may affect income security. (seminar) Prerequisite: either ECON 381 or both of 301 and 305; 60 credit hours.

ECON 482-3 Selected Topics in Economics
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours.

ECON 484-3 Selected Topics in Economics
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours.

ECON 490-3 Seminar in Public Choice
The application of economic theory to political market place. Topics may include the economics of constitutions, voting, democracy, bureaucracy, rent-seeking, and redistribution. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours.

ECON 496-3 Selected Topics in Economics
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (seminar) Prerequisite: ECON 301 and 305; 60 credit hours.

ECON 496-3 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. Pr- or cosequre: 435

Education Faculty of Education
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 222-2 Educational Psychology Laboratory Laboratory experiences and exercises in educational psychology. Corequisite: EDUC 220-3

EDUC 230-3 Introduction to Philosophy of Education
This course provides prospective teachers and others interested in education an opportunity to examine a variety of educational problems from a philosophical perspective. The central concern of the course is to elucidate the nature of education as a phenomenon distinct from such activities as training, schooling, and socialization. May be applied towards the certificate in liberal arts.

EDUC 240-3 Social Issues in Education
Social functions of the school; education and socialization; social, political, economic and cultural influences on the institutions and practices of education. May be applied towards the certificate in liberal arts.
EDUC 250-3 Studies in the History of Education in the Western World
This course will consist of a study of major trends in educational practice from antiquity to the present. May be applied towards the certificate in liberal arts.

EDUC 298-2 Special Topics
Courses will be on current concern. Subjects to be taught and the exact assignment of credit (2 or 3) will be announced prior to the beginning of each semester. Course may be on a pass/fail basis. A maximum of 12 semester hours of credit in education special topics courses may be used towards a bachelor of education degree.

EDUC 299-2 Special Topics
Courses will explore issues of current concern. Subjects to be taught and the exact assignment of credit (2 or 3) will be announced prior to the beginning of each semester. Course may be on a pass/fail basis. A maximum of 12 semester hours of credit in education special topics courses may be used towards a bachelor of education degree.

EDUC 320-3 Instructional Psychology
This course examines theories of instruction and research about learning, motivation, individual differences, and social environments as foundations for designing instruction. Topics include: models of cognition, models and beliefs about metacognition, self-regulated learning, and learning skills; problem solving and transfer; cognitive processing models of instruction in mathematics, science, social studies, reading, and composition. Prerequisite: EDUC 220.

EDUC 325-3 Assessment for Classroom Teaching
A survey of assessment methods that contribute to improving teaching and learning, and for making judgements and decisions about qualities of teaching, the classroom environment, and student achievement and growth. Topics include: goal and task analysis, validity and reliability, observing and assessing classroom processes and environments, self-report methods, assessing student achievement, published tests of achievement and aptitude, marking and reporting. Prerequisite: EDUC 220.

EDUC 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 tenets of a number of management approaches and to translate these principles into specific teaching strategies and skills. (lecture/ seminar) Prerequisite: 60 hours of credit.

EDUC 341-3 Literacy, Education and Culture
An introduction to the study of literacy from an interdisciplinary perspective, one which explores the role of literacy in social development, the economic and cultural values of literacy, and the effects of literacy on cognitive processes. The particular concern of this course is with the formal transmission of literacy in educational institutions. The course will especially address the varying conceptions of literacy that educators have traditionally valued, and the research that aims to explain, justify, and prescribe educational practices intended to increase literacy. This course is required for the certificate in literacy instruction. Prerequisite: 60 hours of credit.

EDUC 342-3 Contemporary Approaches to Literacy Instruction
The focus of this course is adult literacy, understood as the basic ability to read and write. The course is organized around four discrete units: (1) a general introduction to adult literacy education; (2) models of adult literacy instruction in developing societies; (3) models of adult literacy instruction in developed societies; and (4) the practicum proposal: the selection, justification and preparation to implement, in a particular, practical context one model of adult literacy instruction. This course is required for the certificate in literacy instruction. Corequisite: EDUC 341.

EDUC 343-5 Literacy Practicum
The literacy practicum is the vehicle through which students in the Certificate in Literacy Instruction implement and evaluate the model of adult literacy instruction developed in EDUC 342. Implementation may occur in a variety of contexts and institutions with adults; the literacy practicum will be supervised and may involve supervised teaching, curriculum development, or research field work. Prerequisite: EDUC 342.

EDUC 351-3 Teaching the Older Adult
This is a basic course in adult education for students from all disciplines, of particular interest to those working (or preparing to work) with older adults. The goal is to assist students to develop more effective strategies for meeting the needs of an aging population through education. Prerequisite: 60 credit hours.

EDUC 367-4 Integrating ESL Learners in Different School Subjects
There are important differences in the kinds of English used in different school subjects. A general purpose English as a second language (ESL) course may not provide ESL school children or adolescents with the kind of English required for academic survival in some subjects. This course provides subject area teachers with techniques for helping ESL learners in their classes to cope with the English specific to a given school subject. This course is not for specialists in ESL. This course may be used only once for credit towards a degree. 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 (2, 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 semester hours of credit 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 content. Prerequisite: 60 hours of credit.

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 of approximately ten weeks, in a BC public school. This practicum is designed as an opportunity to familiarize students with the British Columbia school system and 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 420-4 Cognitive Strategies in Learning
Current theory and research on cognitive strategies; applied research about teaching cognitive strategies. Prerequisite: EDUC 220. Recommended: EDUC 320.

EDUC 422-4 Learning Disabilities
A study of conceptual and historical foundations of learning disabilities and an introduction to the methodologies of diagnosis and of learning disabilities. Prerequisites: 60 hours of credit and EDUC 220.

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 425-4 School Counselling for the Classroom Teacher
Intended for senior students or practising teachers who wish to explore the area of school counselling and develop some counselling skills that can be used within a classroom setting. A combination of lectures, discussion and supervised practice will be used as a means for exploring such areas as the role of the school counsellor, school counselling systems, vocational decision-making, standardized testing, communication skills, and ‘affective’ development. Prerequisites: EDUC 401/402, EDUC 220 or PSYC 100 and 102.

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 children, students having learning disabilities. Prerequisite or corequisite: EDUC 422.

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. Current theory and research on cognitive strategies; applied research about teaching cognitive strategies. Prerequisite: 60 hours of credit.

EDUC 431-4 Concepts of Childhood in the History of Western Education
This course will consist of a study of some of the origins of 20th century concepts of childhood and their relationship to educational thought and practice in the western world. Prerequisite: 60 hours of credit. May be applied towards the certificate in liberal arts.

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
**Undergraduate Courses**

**EDUC 437-4 Ethical Issues in Education**
Ethical problems in education are identified and examined. Emphasis is placed on the ethical dimensions and consequences of classroom and administrative activities. Topics include: sexual harassment within the workplace; responsibility for curriculum development; potential legal liabilities encountered in the BC public school system. Special attention is devoted to the ethical dimensions and consequences of classroom and administrative activities. Major conceptions of educational value in the contemporary arts, and application of these ideas to the development of visual arts programs in the schools. Prerequisite: 60 hours of credit.

**EDUC 457-4 Drama and Education**
This course deals with theory, curriculum methodologies and practice in drama education. Topics will include a selection from the following: aims of drama education; drama as methodology; role of the teacher in the classroom; evaluating students in drama classes; developing major projects with students such as choral dramatization, docudrama, and readers theatre; introducing scene work, stagecraft, and theatre history. Prerequisite: EDUC 401/402.

**EDUC 459-4 Instructional Activities in Physical Education**
This course focuses on the theory and curriculum of school physical education programs. Emphasis is given to the movement education orientation as it pertains to the various program activities and approaches applicable to primary, intermediate and secondary levels. Prerequisite: EDUC 401/402.

**EDUC 463-4 Educational Media**
Media in relation to methodologies of teaching, learning and curriculum design; development of instructional materials in laboratory settings. Prerequisite: EDUC 401/402.

**EDUC 464-4 Early Childhood Education**
Current trends, issues and research relating to the education of young children. Prerequisite: 60 hours of credit.

**EDUC 465-4 Children's Literature**
Historical, sociological and literary perspectives on literature for children. Prerequisite: 60 hours of credit.

**EDUC 467-4 Curriculum and Instruction in Teaching English as a Second Language**
Students will learn to use English language teaching grammatical and communicative competence. Prerequisite: FREN 301 and 370.

**EDUC 451-4 Classroom French Curriculum Practices**
Classroom French Curriculum Studies which is given on campus. The general objective of this course is to help prospective French teachers better understand the pedagogical relevance of and the relationship between cultural competence and communicative competence. Prerequisite: FREN 301 and 370.

**EDUC 454-4 Multicultural Education**
Social and psychological dimensions of multiculturalism in Canada and implications for education. Topics include: dealing with prejudice, discrimination, stereotyping and value conflicts, developing multicultural education programs and analysis of social issues which impinge on educational practice. Prerequisite: 60 hours of credit.

**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 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 may be contemplating a career as French-language teachers of core French or French immersion and 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 course is given in French on campus. The general objective of this course is to help prospective French teachers better understand development and second language learning research will be explored. Students are expected to have acquired previously a basic level of competence in methods for teaching English as a second language. Prerequisite: EDUC 467.

**EDUC 469-4 Music Education as Thinking in Performance**
Understanding the language of music, both historical and contemporary, and use of electronic and acoustic instruments in the general music classroom. Prerequisite: 60 hours of credit.

**EDUC 470-4 Experience in Teaching Students Who Have Limited English Proficiency**
This course is for those who intend to teach people with limited proficiency in English. It permits teachers to develop those classroom skills specific to teaching the English language to non-native speakers and to reflect upon their own development as teachers. Prerequisite: EDUC 467. A letter of approval is required from a qualified supporting agency willing to supervise the field work component of this course. The appropriate form is available through the Centre for Distance Education.

**EDUC 471-4 Curriculum Development: Theory and Practice**
Explorations of curriculum theory and processes of development with applications at different levels and in several subject areas. Prerequisite: 60 hours of credit.

**EDUC 472 to 485 Designs for Learning Courses**
Planning for learning; creating learning environments; developing teaching strategies and materials. Sections in each course will deal with applications at different levels of schooling.

**EDUC 474-4 Social Studies**
This course focuses on the theory and practice of social studies education with major emphasis on instructional strategies. Topics include: the nature and purposes of social studies, the BC curriculum, unit planning and an examination of such strategies as inquiry methods, critical thinking, procedures, simulations, group work and community interaction. Prerequisite: EDUC 401/402.

**EDUC 475-4 Mathematics**
Planning for learning; creating learning environments; developing teaching strategies and materials. Sections in each course will deal with applications at different levels of schooling.

**EDUC 476-4 Natural Sciences**
This is an introductory course in the curriculum and methodology of science education. The course addresses contemporary programs in science intended for use in public schools, K-12, as well as public awareness programs related to the social impact of science and technology. Prerequisite: EDUC 401/402.

**EDUC 477-4 Art**
Prerequisite: EDUC 401/402.

**EDUC 478-4 Music**
Prerequisite: EDUC 401/402.

**EDUC 479-4 Physical Education**
Prerequisite: EDUC 401/402. Corequisite: EDUC 459.
EDUC 480-4 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 French Immersion and Programme-cadre de Français
History, definition and growth of immersion (a Canadian phenomenon) and its relations to programme-cadre in British Columbia. Emphasis on integration of four skills (listening, speaking, reading and writing) particularly on speaking. Error analysis, teaching techniques and development of activity centres. Exploration and adaptation of various commercial programs in different subjects (e.g. French, math). Prerequisite: EDUC 401/402 (French Immersion). Instruction given in French.

EDUC 482-4 Educational Uses of Computers
Students will develop a critical understanding of the role of computers in education and will learn how microcomputers can be used. The course focuses on learning about computers and software and provides experience with courseware designed for instruction and software to facilitate the task of teaching. Prerequisite: EDUC 401/402.

EDUC 483-8 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. Techniques for providing effective writing experiences will be studied, demonstrated and practised. Students will observe, use and evaluate these techniques. Course content: teacher as writer – writing skills, autonomous writing, 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, support systems. Teacher as developer of curriculum – student writing, drama, literature, use of texts. Prerequisite: EDUC 401/402.

EDUC 486-489 3,4,6 Special Topics
Sections will deal with major issues of present concern. Subjects to be discussed will be announced during the semester prior to that in which the course is to be offered. The exact assignment of credit hours (3, 4 or 6) 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 Faculty of Education

EDPR 347-3 Developmental Supervision
This course is intended for classroom teachers or administrators who wish to supervise student teachers in their classrooms as part of a professional preparation program. Concepts and practices related to the supervision of student teachers will be introduced. Theories and models of supervision will be discussed, and research on supervisory practices will be surveyed. Supervisory skills will be demonstrated and practised. The developmental model of supervision currently used in the professional development will be studied in detail. Prerequisite: this course is available to any teacher or administrator with a minimum of two years of classroom experience who is interested in working with student teachers. Supervisory experience is not required.

EDPR 361-3 Contemporary Issues and New Developments in Educational Practice
Examines new developments and current issues in teaching and educational practice. Prerequisite: 60 hours of credit.

EDPR 384-399 2,3,4,5,6 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.

EDPR 407-5 Field Based In-Service: Theory and Practice of Implementation
EDUC 407 provides a structure for teachers to use their own classrooms as the setting for systematically implementing new curriculum or institutional techniques. The course includes the following components: instruction in the theory and practice of implementation; classroom work; and seminars.

• Theory and practice of implementation: This component allows teachers to systematically study theories, issues and practices in school based implementation and planned change. (10-20 hours).
• Classroom work: This component recognizes that feedback, coaching, consultation and other aspects of on-site supervision are important features of successful implementation. EDUC 407 includes visits by a trained supervisor for observation, feedback and coaching. (approx. 30 hours).

Related course work: EDUC 407 emphasizes the process of implementation and encourages teachers to identify relevant content unique to their professional needs. A fourth component, recent or concurrent education course work provides the academic and professional background on which to base the implementation projects. EDUC 407 may be completed ONCE only for a Simon Fraser University degree program or post baccalaureate diploma program. Prerequisite: EDUC 405, teaching experience and permission of the department. Grading will be on a pass/withdrawal basis.

EDPR 410-413 2,3,4,5 Field Based Studies in Curriculum Development
These courses are intended for practising teachers, school administrators or other practising educators who wish to undertake a field based studies course. Each student 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 project proposal. Evaluation is based on a pass/withdrawal system. Field based studies in educational practice may not form a component of EDUC 404. These courses may form a component of an approved program of studies for the post baccalaureate diploma. Prerequisites: teaching certificate or permission of the director of field programs. A maximum of 10 semester hours of credit of Field Based Studies in Educational Practice may be used towards a BEd degree.

EDPR 461-4 Trends and Developments in In-Service Education
Examines trends and developments in in-service education as they apply to staff development and the implications for school improvement. Prerequisite: EDUC 401/402.

EDPR 490-499 2,3,4,5,6 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 Faculty of Applied Sciences
ENSC 100-3 Engineering Technology and Society
This course is designed to provide an introduction to the practice of engineering, surveying its history and its current state. The social and political aspects of engineering decisions will be illustrated by a number of case studies. (3-0-0)
ENSC 101-1 Writing Process, Persuasion and Presentations
This course provides a general introduction to the principles of effective communication with special emphasis on the writing process, persuasive writing, research papers, and oral presentations. In conjunction with ENSC 100-3, the course also explores current social and ethical issues in engineering. (1-0-0) Corequisite: ENSC 100.

ENSC 102-1 Form and Style in Professional Genres
The major focus of this course is on the style and format of technical writing with attention to laboratory reports and project documentation. This course also examines resumes, cover letters, interview skills and formal reports to help students prepare for their first internship semester. It also addresses listening skills and group dynamics in the context of the team projects undertaken for ENSC 151. (1-0-0) Corequisite: ENSC 151 and 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 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. 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. (3-0-0)

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 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/withdraw (P/W) only, based on the employer’s and co-operative education coordinator’s evaluation of the student’s work during the semester and of the work report submitted at the end of the work session.

ENSC 196-0 Job Practicum II
This is the second semester of work experience in the co-operative education program available to engineering students. Credit is awarded as in ENSC 195. ENSC 196 may or may not involve the same employer as ENSC 195. Prerequisite: ENSC 195.

ENSC 201-3 The Business of Engineering
This course covers the business, management and entrepreneurial concepts that are important to engineers who manage projects, run businesses, or need to decide on the most efficient method for accomplishing a task. The topics to be covered include: financial accounting, rates of return, taxes, cost-benefit analyses, marketing, financing methods, and business plans. (3-0-0) Prerequisite: 45 credit hours. This course will be offered for the first time in 99-2.

ENSC 204-1 Graphical Communication for Engineering
This course provides an introduction to graphical communication with attention to manual drafting and computer-assisted design. The course involves the use of several CAD packages for circuit schematic entry, mechanical design and circuit board layout. (1-0-0)

ENSC 220-3 Electric Circuits I
This course will cover the following topics: fundamental electrical circuit quantities, and circuit elements; circuits laws such as Ohm law, Kirchoff’s voltage and current laws, along with series and parallel circuits; operational amplifiers; network theorems; nodal and mesh methods; analysis of natural and step response of first (RC and RL), as well as second order (RLC) circuits; real, reactive and rms power concepts. In addition, the course will discuss the worker safety implications of both electricity and common laboratory practices such as soldering. (3-0-1) Prerequisite: ENSC 151, PHYS 121 and 131. Corequisite: MATH 232 and 310. Students with credit for ENSC 125 cannot take this course for further credit.

ENSC 225-4 Microelectronics I
This course covers 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 mixers. (3-0-2) Prerequisite: ENSC 150 or CMPT 150, and ENSC 220. Students with credit for ENSC 222 cannot take this course for further credit.

ENSC 230-4 Introduction to Mechanical Design
This course presents the elements and principles involved in design and analysis of basic mechanical structures and mechanisms. 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 or CMPT 290 or 105 with permission of instructor. This course is identical to CMPT 250 and students cannot take both courses for credit. Students who have taken CMPT 390 may not take CMPT 250 for further credit.

ENSC 263-3 Special Topics in Engineering Science
Prerequisite: permission of the undergraduate curriculum chair.

ENSC 264-4 Special Topics in Engineering Science
Prerequisite: permission of the undergraduate curriculum chair.

ENSC 295-0 Job Practicum III
This is the third semester of work experience in the co-operative education program available to engineering students. Credit is awarded as in ENSC 195. ENSC 295 may or may not involve the same employers as preceding practicum semesters. Prerequisite: ENSC 196.

ENSC 296-0 Job Practicum IV
This is the fourth semester of work experience in the Co-operative Education Program available to engineering students. Credit is awarded as in ENSC 195. ENSC 296 may or may not involve the same employers as preceding practicum semesters. Prerequisite: ENSC 295.

ENSC 300-3 Engineering Design and Management
An introduction and overview of modern concepts of engineering design, problem solving and management. Material is presented through lectures, seminars, case studies, and historical review. Studies involve the interrelationship of such factors as problem definition, feasibility studies, specification, constraints, analysis techniques, evaluation, 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 emphasis is on the economic analysis of capital projects and production processes. Financial analysis: mortgages, loans, direct costs, depreciation, taxes, financial statements, financing alternatives. Estimation techniques, and operating costs of new processes and products. Cash flows. Market evaluation comparison of alternatives. Study is in part through independent reading rather than formal lectures. (3-0-0) Prerequisite: completion of at least 60 credit hours.

ENSC 304-1 Human Factors and Usability Engineering
The course will be a survey of the human factors and usability of computer and human interfaces. The focus will be on the design of interfaces and on how to make them usable and how to integrate usability constraints and testing procedures into the design process. (1-0-0)

ENSC 305-1 Project Documentation and Group Dynamics
This course is integrated with an ENSC project course (typically ENSC 340 or 370) and covers the writing of various project documents including proposals, functional specifications, design specifications, progress reports, and user’s manuals. The course also examines the issues of creative thinking, group dynamics, individuality, leadership, dispute resolution and collaborative writing. (1-0-0) Corequisite: ENSC 340 or 370, of an alternative approved project course.

ENSC 306-1 Research Methods for Engineers
This course ensures that engineering students are familiar with library resources, database searches, patent searches, and industry standards. The course also covers strategies for formulating research questions and approaching the research task as well as literature surveys and bibliographic conventions. It also provides opportunities for students to explore the implications of technology and to lead group discussions of issues arising from their research.

ENSC 320-3 Electric Circuits II
This course is a second course on electric circuits and the topics covered include: the use of Laplace transform in circuit analysis, including poles and zeros, the frequency response and impulse response; convolution as a method for computing circuit responses; resonant and bandpass circuits; magnetically coupled circuits; three-phase circuits; two port circuits; and filtering. (3-0-1) Prerequisite: ENSC 220. Students with credit for ENSC 125-5 cannot take this course for further credit. Corequisite: ENSC 380-3.

ENSC 325-4 Microelectronics II
This course introduces students to analog integrated circuit design in the context of modern silicon integrated circuits technology. Topics included: integrated circuit technology and design tools; integrated component characteristics and limitations, differential amplifiers; multi stage amplifiers;
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.

ENSC 330-4 Engineering Materials
An introductory course in materials science which covers materials — their structures, properties, and performance; crystal structures and instruments for structure determination; polymers, ceramics, composites; quality control and reliability. (3-0-2) Prerequisite: CHEM 102, PHYS 121.

ENSC 340-3 Engineering Science Project
This course is based around a group project that consists of building and testing a hardware implementation of a working system. The course also includes material on how to design for safety and project management. (1-0-4) Prerequisite: ENSC 151 or CMPT 290, ENSC 222 or ENSC 225 and ENSC 351 or ENSC 385. Students with credit for ENSC 370 cannot take ENSC 340 for further credit. Corequisite: ENSC 305.

ENSC 350-3 Digital Systems Design
This course deals with advanced topics in digital design such as advanced 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 250. 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 370-4 Transducers and Embedded Systems
This course introduces the student to the two areas of transduction: sensing and actuation, and to the practical aspects of interfacing transducers to computers to form embedded systems. The course illustrates the limitations of measurement and its effect on sensors and actuators through coverage of measurement techniques and transduction devices. It includes transducer/processor interfacing, and software techniques for data acquisition and control. This course is strongly laboratory based with a substantial project component. ENSC 105-1, taken concurrently with this course, will assist the student with project management and documentation. (2-0-4) Prerequisite: ENSC 222, CMPT 290. Corequisite: ENSC 105.

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 modeling 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 agreement with semesters of (1-1-1) laboratory work. 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 00-1.

ENSC 383-4 Feedback Control Systems
This course is an introduction to analysis, design, and applications of continuous time linear control systems. Topics include transfer function representation of open and closed loop 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.

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 operating 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 work strengthens the understanding of component performance, system design and integration. (3-0-2) Prerequisite: ENSC 281 or 380.

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. Prerequisite: ENSC 395 and permission of the undergraduate curriculum chair.

ENSC 400-4 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. Typically, no more than a total of two directed study and special project laboratory courses will be approved as engineering science electives as set out in the program requirements. Upon completion of a directed study course, the student must submit a copy of the ‘deliverables’ to the chair of the undergraduate curriculum committee.

ENSC 401-4 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. Typically, no more than a total of two directed study and special project laboratory courses will be approved as engineering science electives as set out in the program requirements. Upon completion of a directed study course, the student must submit a copy of the ‘deliverables’ to the chair of the undergraduate curriculum committee.

ENSC 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. Typically, no more than a total of two directed study and special project laboratory courses will be approved as engineering science electives as set out in the program requirements. Upon completion of a directed study course, the student must submit a copy of the ‘deliverables’ to the chair of the undergraduate curriculum committee.

ENSC 404-2 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: 120 credit hours or permission of the instructor.

ENSC 405-0 Job Practicum VII
This is the seventh 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 406-0 Job Practicum VIII
This is the eighth 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. Prerequisite: ENSC 395 and permission of the undergraduate curriculum chair.

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 system functions are treated, with project activities in the laboratory. Topics: CMOS and digital design, operational 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, ROMs, counters, controllers. Communication electronics: AM and FM modulators and demodulators, multiplexers, pulse modulation. Laboratory work is included in this course. (2-0-4)
Prerequisite: ENSC 222.

ENSC 426-4 High Frequency Electronics
Transmission lines and waveguides, microwave devices, travelling wave devices. An introduction to the theory of radiation, antennae and wave propagation, and microwave scattering theory. The design of complete communication systems incorporating microwave, optical and satellite channels. Laboratory work is included in this course. (3-0-2) Prerequisite: PHYS 324.

ENSC 427-4 Communication Networks
Quantitative performance analysis and design of data and integrated services networks. Re- transmission error recovery schemes, networks of queues, congestion control, routing strategies. Multiple access techniques in data networks, design for specified throughput and delay performance. Wireless networks, routing approaches in mobile networks. Analysis and design of broadband integrated services digital networks, asynchronous time division multiplexing. Laboratory work is included in this course. (3-0-2) Prerequisite: ENSC 327 or permission of instructor.

ENSC 428-4 Data Communications
This course will cover the physical-layer design issues in digital communication systems. The major topics covered are: information measures and the notion of channel capacity; link budgets; digital modulation techniques, including the signal space concept and optimal detectors, error performance in noise, suboptimal detectors, pulse shaping, synchronization, and equalization; error control techniques such as block and 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. System development for digital signal processing. Laboratory work includes familiarization with digital signal processing software packages. (2-0-2)
Prerequisite: ENSC 281 or 380 or 382, and 327.

ENSC 450-4 VLSI Systems Design
This course provides an introduction to the design of Very Large Scale Integrated (VLSI) circuits and systems using mainly CMOS technology. It links computer architecture and design limitations with integrated circuit physical layout issues. Topics will include: CMOS technology and circuit layout rules; combinational and sequential logic: logic simulation; systems design: verification, functional testability, 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 CMFT 250 or ENSC 250.

ENSC 453-4 Semiconductor Device Engineering
Design of semiconductor devices, quantitative relationships among electrical, technological and material parameters, device modelling techniques, physical limitations for devices, engineering aspects of device integration and fabrication, interaction between devices in the integrated circuit. The laboratory focuses on measurement, characterization, and modelling of semiconductor devices. (3-0-2) Prerequisite: PHYS 365.

ENSC 460-4 Special Topics in Engineering Science
Studies in areas not included within the undergraduate course offerings of the engineering science program. (3-0-2) Prerequisite: permission of the director.

ENSC 461-4 Special Topics in Engineering Science
Studies in areas not included within the undergraduate course offerings of the engineering science program. (3-0-2) Prerequisite: permission of the director.

ENSC 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 the 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 feedback control systems, eigenspectrum assignment, and state estimator design. (3-0-2) Prerequisite: ENSC 381 or 382 or 383.

ENSC 488-4 Introduction to Robotics
Fundamentals of robotics: mathematical representation of kinematics, dynamics and compliance. Planning and execution of robot trajectories. Feedback from the environment: use of sensors and machine vision. A brief introduction to robot languages. Different application domains for manipulator robots, e.g., assembly, manufacturing, etc. (3-0-2) Prerequisite: ENSC 381 or 382 or 383.

ENSC 493-3 Special Project Laboratory
The locale of the work, supervision and other arrangements follow those for ENSC 498. Grading of ENSC 493 activities will be assessed during this review phase and the student will be directed to register in the appropriate course. Typically, no more than a total of two directed study and special project laboratory courses will be approved as engineering science elective as set out in the program requirements. 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. Prior approval 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 covered will be: clean room technology and economics, silicon wafer production, thermal oxidation, photolithography, thin film deposition (evaporation, sputtering, chemical vapour deposition, epitaxial growth), etching (wet, plasma, sputtering, reactive ion), diffusion, ion implantation, multilayer conductor technology, packaging, device yields, and examples in CMOS and bipolar IC’s. This course is directed at any student with a basic background in transistor operation and is also an optional course for those in engineering physics. (2-0-4) Prerequisite: ENSC 222 or 225.

ENSC 498-3 Engineering Science Thesis Proposal
The student’s time in this course is devoted to supervised study, research and development work leading to a formal proposal for the project work in ENSC 499. This activity can be directly augmented by other course work and by directed study. The locale of the work may be external to the University or within a University laboratory, or may bridge the two locations. Supervision may be by the company sponsoring the internship or by faculty members, or through some combination. A plan for the student’s ENSC 498 activities must be submitted to the school at least one month prior to the start of the semester in which the course will be taken. Preparatory of the undergraduate thesis project proposal is the formal requirement of this course and is 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
Faculty of Arts

Course outlines for all courses vary each semester. Check at the Department of English general office.

The following four courses 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 twentieth century. Each course includes attention to writing skills.

ENGL 101-3 Introduction to Fiction

ENGL 102-3 Introduction to Poetry

ENGL 103-3 Introduction to Drama

ENGL 104-3 Introduction to Prose Genres

The literary study of a variety of prose genres, such as the essay, biography, autobiography, travel narrative, and journalistic writing. May include works which challenge the boundary between fiction and non-fiction.

ENGL 105-3 Introduction to Issues in Literature and Culture

An introduction to the study of literature within the wider cultural field, with a focus on contemporary issues across genres and media.

ENGL 199-3 Introduction to University Writing

An introduction to reading and writing in the academic disciplines. Prerequisite: 12 university credit hours.

ENGL 204, 205, 206 and 207 undertake the study of individual works in relation to the times in which they were written. The emphasis is on the distinctiveness of literary perception and the relationship of that perception to changing social, historical, and philosophical contexts.

ENGL 204-3 Medieval and Renaissance Literature

The study of literary works from the Old English, Middle English and Renaissance periods. Prerequisite: previous credit or standing in two of ENGL 101, 102, 103, 104, 105, 109, 199.

ENGL 205-3 Seventeenth and Eighteenth Century Literatures in English

The study of literary works from the Jacobean, Commonwealth, Restoration and 18th century periods. May include some writing from North America. Prerequisite: previous credit or standing in two of ENGL 101, 102, 103, 104, 105, 199.

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: previous credit or standing in two of ENGL 101, 102, 103, 104, 105, 199.

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: previous credit or standing in two of ENGL 101, 102, 103, 104, 105, 199.

ENGL 210-3 Advanced University Writing

Advanced study of writing in the scholarly genres in a variety of academic disciplines. Prerequisite: previous credit or standing in two of ENGL 101, 102, 103, 104, 105, 199.

ENGL 212-3 Introduction to the Study of Language

An introduction to grammatical, stylistic and discursive features of the English language. Prerequisite: previous credit or standing in two of ENGL 101, 102, 103, 104, 105, 199.

ENGL 214-3 Introduction to the Study of Rhetoric

An introduction to the principles of rhetoric, with special attention to those germane to the study of reading and writing. Prerequisite: previous credit or standing in two of ENGL 101, 102, 103, 104, 105, 199.

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: previous credit or standing in two of ENGL 101, 102, 103, 104, 105, 199.

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: 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.

ENGL 301-4 Old English II: Advanced Old English

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: 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.

ENGL 306-4 Chaucer

The study of selected works of literature of the Romantic period to the beginning of Modernism. May include some writing from North America. Prerequisite: previous credit or standing in two of ENGL 101, 102, 103, 104, 105, 199.

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: 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.

ENGL 310-4 Studies in Drama to 1642

The study of selected dramatic works written in English prior to the theatres in 1642. May be organized by various critical approaches or issues. 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.

ENGL 312-4 Shakespeare

The study of selected works by William Shakespeare, situated in the context of Elizabethan and Jacobean culture. 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.

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: 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.

ENGL 316-4 Milton

The study of selected works by John Milton, situated in their cultural context. 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.

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. Prerequisite: some writing from outside Britain, and may be organized by various critical issues or approaches. 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.

ENGL 322-4 Studies in the 18th Century British Novel

The study of selected 18th century novels, situated in their cultural context. 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.

ENGL 325-4 Romantic Poetry

The study of selected works by British Romantic poets. May be organized by various critical issues or approaches. 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.

ENGL 327-4 Studies in Romantic Literature

The study of selected works by British Romantic poets. May be organized by various critical issues or approaches. 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.

ENGL 333-4 Studies in the 19th Century British Novel

The study of selected 19th century novels, written after the Romantic era, with an emphasis on genres other than the novel. May be organized by various critical issues or approaches. 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.

ENGL 334-4 Literature of Transition from the Nineteenth to the 20th Century

Addresses changes in society, culture and literature from the late 19th century to the early 20th century, through a selection of texts organized by various critical issues or approaches. 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.

ENGL 338-4 Studies in Modernism

Addresses issues in Modernism. May include Canadian, British, American and other literatures. 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.

ENGL 340-4 20th 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: 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.
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: 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.

ENGL 347-4 American Literature to 1900
The study of selected works of American literature written before 1900. This course may survey a particular era or topic, and may be organized by various critical issues or approaches. Prerequisite: 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.

ENGL 354-4 Canadian Literature to 1920
The study of selected works of Canadian literature written before 1920. 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.

ENGL 357-4 Canadian Literature since 1920
The study of selected works of Canadian literature written after 1920. 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.

ENGL 358-4 Studies in Drama
The literary study of selected dramatic works. May be organized by various eras, issues or critical approaches. 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.

ENGL 360-4 Studies in Critical Approaches to Literature
Addresses issues in American literature. May be organized by various critical issues or approaches. 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.

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: 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.

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: 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.

ENGL 370-4 Studies in Language
The study of linguistic, pragmatic and social theories of language. 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.

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: ENGL 210 or a writing sample approved by the instructor, as well as 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.

ENGL 375-4 History and Principles of Rhetoric
The advanced study of the history and theory of rhetoric. 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. Recommended: ENGL 214. Special Studies courses examine aspects of literary study not normally covered by other upper division courses.

ENGL 376-4 Special Studies A
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.

ENGL 377-4 Special Studies B
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.

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: 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.

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: 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.

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: 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 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. (lecture/seminar) 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. 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 Canada, Britain and the United States. May include a variety of approaches but will organize texts on the basis of their relation to particular societies and their history. The course may focus on the literature of one or several regions. Prerequisite: 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.

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: 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.

ENGL 430-4 Writing and Response in the Research Genres
This course introduces students to current research and theory in composing the academic genres. It includes observation and practice in the Writing Centre. Prerequisite: 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; and/or permission of the instructor.

ENGL 431-4 Theory and Practice of Technical and Professional Literacies
Through course readings and seminar discussion, this course introduces students to current theory and research in technical and professional communication; through a selection of mini courses offered by the Professional Writing Program, this course also offers students opportunities for hands-on learning in areas such as document design and on-line publishing. 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; and/or permission of the instructor.

ENGL 441-4 Directed Studies A
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.
ENGL 442-2 Directed Studies B
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 443-4 Directed Studies C
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 444-2 Directed Studies D
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 445-4 Directed Studies E
Prerequisite: credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 99, and two 200 division English courses, one of which must be ENGL 204 or 205. Admission is by permission of the instructor and the department.

ENGL 446-2 Directed Studies F
Prerequisite: 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. Admission is by permission of the instructor and the department.

ENGL 462-0 Practicum II
Second semester of work experience in the English co-operative education program. Prerequisite: successful completion of ENGL 461 and normally 45 semester hours with CGPA of 3.0; credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 199, and two 200 division English courses, one of which must be ENGL 204 or 205. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester. Admission is by permission of the instructor and the department.

ENGL 463-0 Practicum III
Third semester of work experience in the English co-operative education program. Prerequisite: successful completion of ENGL 462 and normally 60 semester hours with CGPA of 3.0; credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 199, and two 200 division English courses, one of which must be ENGL 204 or 205. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester. Admission is by permission of the instructor and the department.

ENGL 464-0 Practicum IV
Fourth semester of work experience in the English co-operative education program. Prerequisite: successful completion of ENGL 463 and normally 75 hours with CGPA of 3.0; credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 199, and two 200 division English courses, one of which must be ENGL 204 or 205. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester. 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: 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. Open only to students who have been accepted into the honors program. Admission is by permission of the instructor and the department.

Environmental Science Faculty of Science

EVSC 200-3 Introduction to Environmental Science
Introduction to the multi-disciplinary subject of environmental science. The course is presented in two parts. Basic concepts and application of the scientific method is the emphasis 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: ENPL 100

EVSC 401-1 Current Topics in Environmental Science
This seminar course will expose students to a variety of speakers who will discuss a wide range of topics in environmental science. This course is required by all students wishing to graduate with a major in Environmental Science. (2-0-0) Prerequisite: declared major in environmental science; completed third year course requirements of environmental science major.

First Nations Studies Faculty of Arts

FNST 101-3 The Cultures, Languages and Origins of Canada’s First Peoples
An introduction to the culture and origins 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 the culture and ideology in history and historic events involving contact between native and European peoples. The course will also address questions of research methodologies in studying Native/European relations, such as the evaluation of oral history and written ethnohistoric sources. An additional focus will be on gender as it influences perspectives. (lecture/seminar) Prerequisite: FNST 101.

FNST 301-3 Issues in Applied First Nations Studies Research
An examination of research strategies and issues involving contemporary First Nations communities. Besides the study of methodology and ethical issues involving research on native peoples, students will critically examine a number of case studies and carry out a small scale research project under the supervision of the instructor. (lecture/seminar) Prerequisite: FNST 101 and 201. Recommended: SA 255 or equivalent lower division research methods course.

FNST 401-3 Aboriginal Rights and Government Relations
An examination of First Nations and aboriginal peoples’ perspectives on political, social and legal issues involving their rights as first citizens of Canada and North America, and the relationships and political relations with various levels of government. Issues examined include: aboriginal rights and title questions, self government models and concepts, constitutional matters, the impact of federal government policies, including their impact on women’s lives, and native community and First Nations politics. (lecture/seminar) Prerequisite: FNST 101 and 201. Recommended: POL 221.

FNST 402-3 The Discourse of Native Peoples
Style and content of aboriginal people’s discourse about their culture, world view, history and matters affecting their lives. Includes the analysis of selections from native oral literature, autobiography, expository writing, modern poetry and fiction. (lecture/seminar) Prerequisite: FNST 101 and 201.

French Faculty of Arts

FREN 099-3 French for Beginners
This course is for complete beginners. Admission after an interview with the department. The emphasis is on oral communication and the basics of French grammar. (tutorial/laboratory)

FREN 100-3 Introductory French I
This course is designed for students with between one and three years of high school French. The course covers basic French structures, vocabulary and patterns of pronunciation. Communicative skills will be emphasized throughout. (tutorial/laboratory) May not be taken by students with grade 11 or 12 French, French immersion, programme cadre or IB, nor those who have completed any French courses at Simon Fraser University or in another university/ college. Recommended: FREN 100.

FREN 101-3 Introductory French II
Continuation of the work of FREN 100-3. It should be taken, wherever possible, in the semester immediately following FREN 100. (tutorial/laboratory) Prerequisite: grade 11 French or FREN 100, or equivalent. May not be taken by students with credit for FREN 151 and/or subsequent courses.

FREN 151-3 French I
Designed for students with prior knowledge of the language but who need further training in written and oral fluency before proceeding to higher level courses. (tutorial/laboratory) Prerequisite: grade 12 French or FREN 101. May not be taken by students from French immersion, programme cadre or IB, nor those who have taken subsequent language courses (FREN 201-299).

FREN 198-3 French for Reading Knowledge I
For students with little or no background in French who wish to acquire the ability to read periodicals, journals and basic literary and academic texts. May not be taken by students who have completed a French program through grade 12, or by students who have received credit for FREN 151 or its equivalent or higher. (lecture/tutorial) May not be
taken by students with French 12 or with FREN 151 or higher (or their equivalents).

FREN 199-3 Writing French I: Spelling and Grammar
An alternative to FREN 201 for francophone students who need practice in elementary grammar, composition and syntax. Offered as a correspondence course only. Prerequisite: fluency in French. Students will be accepted only after an interview (which may be by telephone) with a faculty member in the Department of French. Students may not get credit for both FREN 201 and 199.

FREN 201-3 Intermediate French I
Further development of the language skills of speaking, understanding and reading. (tutorial/laboratory) Prerequisite: grade 12 French with a grade of A or FREN 151. May not be taken by students with credit for FREN 216 or 199 or subsequent language courses (FREN 202 and up).

FREN 202-3 Intermediate French II
Training in the techniques of self-expression in writing French. (lecture/tutorial) Prerequisite: FREN 199 or 201 or 216. FREN 201 and 202 may be taken concurrently after completion of FREN 151 with a grade of A- or better.

FREN 205-3 French Language: Oral Practice
An intermediate oral course developing French oral communication, pronunciation and aural comprehension aimed at the level of students taking FREN 202. (tutorial/laboratory) Prerequisite: FREN 201 or 202 or 216. May not be taken by students with credit for FREN 300.

FREN 206-3 Intermediate French III
Study in depth of the structure of French and extension of competence in the skills of oral and written expression. (lecture/tutorial) Prerequisite: FREN 202.

FREN 216-3 French for Immersion Program Students
A course designed to answer the specific needs of French immersion program graduates. Emphasis will be placed upon the development of self-monitoring techniques to improve correctness in the use of the oral and written codes of French. (lecture/tutorial) Prerequisite: restricted to students entering Simon Fraser University from high school French immersion programs. Prior permission of course chair is required. May be taken in conjunction with other French language courses but may not be taken as part of the French certificate program. May not be taken by students with credits for FREN 201.

FREN 220-3 French for Business
This course is designed for students and professionals who wish to acquire language and cultural skills for conducting business in francophone countries. (0-3-0) Prerequisite: grade 12 French or equivalent (not intended for native speakers of French).

FREN 230-3 Introduction to French-Canadian Literature
This will serve to introduce the student to French Canadian thought through literature and the arts. The course will be conducted in French. (lecture/tutorial) Prerequisite: any one of FREN 206, 299 or 301.

FREN 240-3 Introduction to French Literature: Modern French Literature
This will serve to introduce the student to French contemporary thought through literature. This course will be conducted in French; the object is to acquire a reading facility and a critical appreciation of modern French literature. (lecture/tutorial) Prerequisite: any one of FREN 206, 299 or 301.

FREN 270-3 Introduction to French Linguistics I
An introduction to the phonetics of French and to the linguistic concepts upon which phonological and morphological descriptions of French are based. (lecture/tutorial) Prerequisite: any one of FREN 202, 206 or 301. Students with credit for FREN 306 may not take this course for further credit.

FREN 299-3 Writing French II: Intermediate Composition
An intermediate composition course to help students with the techniques of writing essays in French, both at the grammar level and at the composition level. (distance education) Prerequisite: FREN 199 with C+ minimum or 202. May be taken concurrently with other French courses at the 200 or 300 level except by students who are taking or have completed FREN 301. Does not count towards the requirements for French minor, major, honors or certificated programs.

FREN 300-3 Advanced French — Conversation
For students who have a good command of oral French, but who wish to improve fluency and increase vocabulary. Discussion of selected topics and contemporary issues. In-class presentations. (tutorial) Prerequisite: any one of FREN 202, 205, 290, 297 or 299.

FREN 301-3 Advanced French — Composition I
Emphasis is placed on written command of French. Detailed study of syntax. (lecture/tutorial) Prerequisite: FREN 206. Students with a grade of A- (3.67) or higher in FREN 202 may request permission of the course chair of FREN 301 to enrol directly in FREN 301 and, if accepted and if they so desire, to thereby register to challenge FREN 206.

FREN 302-3 Advanced French — Composition II
Further practice in written expression by means of composition. (lecture/tutorial) Prerequisite: FREN 301.

FREN 310-3 Linguistics and French Language Learning
This course is intended for students who may be contemplating a career as French language teachers of core French or French immersion. The course studies the contributions of various branches of linguistics to the problems of second language acquisition and to the teaching of French as a second language. Prerequisite: FREN 301 and 370 or 306 (or permission of the course chair). Students who have taken FREN 303 may not take this course for further credit. The course is a required course for the French and education joint minor. For students not following this joint minor, the credits may be used in partial fulfillment of the upper division requirements for honors, majors and minors in French in a bachelor of education program, and for honors and majors in French in a bachelor of arts program. This course counts toward a minor in a bachelor of general studies program.

FREN 311-3 The Acquisition of Vocabulary
This course is intended for students who may be contemplating a career as French language teachers of core French or French Immersion. The course addresses the practical problems of acquiring the specialized vocabularies needed to teach French as a second language and to teach other school subjects in French. It also studies the techniques by which students may be taught to increase their vocabularies. Prerequisite: FREN 206 and 270 or 306 (or permission of the course chair). The course is required for the French and education joint minor. For students not following this joint minor, the credits may be counted as upper division elective credit but may not be counted towards the 15 upper division credits required for a minor in French nor towards the 30/50 upper division credits required for a major/honors in French.

FREN 312-3 Corrective Phonetics
This course is intended for students who may be contemplating a career as French language teachers of core French or French immersion. The course is designed to help them to improve their own pronunciation of French; it also provides them with the knowledge and techniques needed to address the pronunciation problems of students in their language classes. Prerequisite: FREN 206 and 270 or 306. The course is required for the French and education joint minor. For students not following this joint minor, the credits may be counted as upper division elective credit but may not be counted towards the 15 upper division credits required for a minor in French nor towards the 30/50 upper division credits required for a major/honors in French.

FREN 330-3 Francophone World
An interdisciplinary analysis of the socio-cultural reality of French speaking countries. Prerequisite: any of FREN 202, 205, 206, 270 or 299.

FREN 342-4 Literature in Translation from the Francophone World
A study of representative and significant works (from one or more French speaking countries) from literature and cinema originally produced in French in their socio-cultural context. (lecture/tutorial) Prerequisite: knowledge of French is not required; two courses in literature. This course does not count towards the degree requirements for a minor, major or honors in French. With permission of the Department of English, may count towards the requirements of an English major or honors.

FREN 360-3 Intermediate French Literature
Introduction to critical analysis based on the study of texts from the Middle Ages to the 19th century. (lecture/tutorial) Prerequisite: FREN 230 or 240.

FREN 370-3 Introduction to French Linguistics II
An introduction to the fundamental concepts and techniques used in the linguistic analysis of the morphosyntax, lexicology and semantics of French. (lecture/tutorial) Prerequisite: FREN 270. Students with credit for FREN 306 may not take this course for further credit.

FREN 406-3 French Stylistics
Introduction to the application of basic linguistic concepts to the study of French literature. (lecture/tutorial) Prerequisite: FREN 301, 370 or 306, and 360.

FREN 407-4 History of French: Phonology
The study of the evolution of the phonological system of modern French from vulgar Latin. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370.

FREN 408-4 History of French: Morphology and Syntax
The study of the evolution of Modern French morphology and syntax from vulgar Latin. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370.

FREN 411-4 Modern French: Morphology
The analysis of the morphological systems of modern French. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370.

FREN 412-4 Modern French: Syntax
Theoretical approaches to specific grammatical problems. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370.

FREN 413-4 Modern French: Phonology
Analysis of the sound system of modern French. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370. Recommended: LING 130.

FREN 414-3 French Linguistic Theories
Studies in French linguistic theories. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370.

FREN 420-3 French Semantics and Lexicology
Study of diachronic and synchronic organization of semantic and lexical fields. Formation and evolution of French vocabulary. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370.

FREN 421-3 Varieties of French
Studies in French dialects and varieties of French in the French speaking world. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370. Recommended: FREN 407 and/or 408.
General Studies
Faculty of Arts
Division of Interdisciplinary Studies

GS 101-3 Introduction to University Studies
This course introduces students to the academic community, resources, and support networks and services available at Simon Fraser University. Students will participate in activities designed to engage them in more effective and strategic learning. Through course presentations and assignments, students will learn about university life and achieve a knowledge of those academic options and goals of Simon Fraser University. (seminar)

GS 240-3 Introduction to German Literature (in German)
A discussion of selected German literary texts. (seminar) Prerequisite: GERM 202 or consent of instructor.

GS 242-3 Introduction to German Literature (in English Translation)
A discussion of selected German literary texts in English translation. (lecture/tutorial) Students with credit for GERM 240 cannot take this course for further credit.

GS 304-3 Richard Wagner: The Ring of the Nibelung
An interdisciplinary study of Wagner's monumental series of music dramas collectively known as The Ring of Nibelung. The aim of this course is to examine Wagner’s ideas on music, drama, ethics, politics, aesthetics, religion, history, psychology, mythology, and metaphysics as they are reflected in and manifested by The Ring of the Nibelung. (lecture/seminar) Prerequisite: FREN 230 or 240, and FREN 360.

GS 341-3 Selected Topics in German Studies
An advanced course exploring in greater depth a particular area in German studies. (seminar) Prerequisite: consent of the instructor.

GS 350-3 Family Development I: Coupling and Young Families
This course is the first of a sequence of two courses designed to encourage the study of families from an interdisciplinary point of view and as such it provides the foundation for further study of family development. Information from various disciplines is integrated to provide an overview of the initial development of families starting with coupling and concluding with the young family. (seminar) Prerequisite: PSYC 100 and 102.

GS 351-3 Family Development II: Maturing and Extended Families
This is the second of two interdisciplinary courses in family development and is designed as a sequel to Family Development I. In this course, information from various disciplines is integrated to provide a comprehensive knowledge of maturing and extended families. (seminar) Prerequisite: PSYC 100 and 102. Recommended: GS 350.

GS 399-3 Individual Study Project
An intensive study project of the student's own selection. Prerequisite: completion of 75 credit hours of undergraduate work; completion of at least one upper division course in relevant areas; the signature of a faculty member who is willing to supervise the project; permission of the dean to enrol. This course may be used once only for credit towards a degree.

GS 410-3 Selected Topics
The subject matter will vary from semester to semester depending upon the interests of faculty and students. Prerequisite: 45 credit hours.

GS 411-5 Selected Topics
The subject matter will vary from semester to semester depending upon the interests of faculty and students. Prerequisite: 45 credit hours.

GS 498-10 Individual Study Project
An intensive study project of the student's own selection. (directed study) Prerequisite:
• completion of 75 credit hours of undergraduate work;
• completion of at least two upper division courses in a relevant area;
• the signature of two faculty members who are willing to provide supervision and other support necessary to the completion of the project; the supporting faculty should be from at least two different disciplines.
• students must apply to the dean for admission at least two months prior to the beginning of the semester in which they wish to enrol.

Note: Students who have completed an individual study semester course for at least 10 credit hours (e.g. GS 499-15, CMNS 498-16, 499-15) may not take this course for further credit towards a degree in the Faculty of Arts or for the degree bachelor of general studies.

GS 499-15 Individual Study Semester
A full semester spent on an intensive study project of the student’s own selection. Prerequisite:
• completion of 75 credit hours of undergraduate work;
• completion of at least two upper division courses in relevant areas;
• the signature of three faculty members who are willing to provide supervision and other support necessary to the completion of the project. The supporting faculty should be from at least two separate disciplines;
• students must apply to the dean for admission at least two months prior to the beginning of the semester in which they wish to enrol.

Note: Students who have completed an individual study semester course for at least 10 credit hours (e.g. GS 499-10, CMNS 498-16, 499-15) may not take this course for further credit towards a degree in the Faculty of Arts or for the degree bachelor of general studies.

Geography
Faculty of Arts
GEOG 100-3 Human Geography
This course introduces the basic systematic approaches to the study of contemporary human geography including the distribution of population, spatial aspects of economic, cultural and political development, landscape and resource study. (lecture) Students with credit for GEOG 101, 121 or 141 may not take this course for further credit.

GEOG 102-3 World Problems in Geographic Perspective
Current world-scale problems are examined in their regional and global contexts, with emphasis being
placed on the importance of dynamics of the natural environment in human affairs. (lecture/tutorial)

**GEOG 111-3 Physical Geography**
An introduction to landforms, climates, soils and vegetation; their origins, distributions, 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) Students with credit for GEOG 262 may not take this course for further credit.

**GEOG 212-3 Geography of Natural Hazards**
An introduction to the occurrence and origin of natural hazards such as volcanic eruptions, landslides, etc. Interaction between the relevant natural processes and society will be examined, as well as prediction of natural events and the amelioration of the effects of such events within different cultural contexts. (lecture/laboratory)
Prerequisite: GEOG 111 or EASC 101. Students who completed GEOG 312 prior to fall 1988 may not take this course for further credit.

**GEOG 213-3 Geomorphology I**
An examination of landforms, processes, laws, and theories of development; types and distributions. (lecture/laboratory) Prerequisite: GEOG 111 or EASC 101. Students who completed GEOG 313 prior to fall 1988 may not take this course for further credit.

**GEOG 214-3 Climatology**
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. Students who completed GEOG 314 prior to fall 1988 may not take this course for further credit.

**GEOG 215-3 Biogeography**
An examination of the abiotic and biotic factors that control the distribution and development of plant communities, including climatic and geological change. (lecture/laboratory) Prerequisite: GEOG 111. Students who completed GEOG 315 prior to fall 1988 may not take this course for further credit. Students granted credit for GEOG 215 may not be granted credit for BISC 204.

**GEOG 221-3 Economic Geography**
The basic concepts of economic geography, involving consideration of the spatial organization and development of resource based systems. (lecture/tutorial) Prerequisite: GEOG 100. Students with credit for GEOG 121 may not take this course for further credit.

**GEOG 241-3 Social Geography**
Systematic consideration of the spatial and environmental bases of societies, in historical and cultural perspective. (lecture/tutorial) Prerequisite: GEOG 100. Students with credit for GEOG 141 may not take this course for further credit.

**GEOG 250-3 Cartography I**
An introduction to the interpretation of maps and air photographs. (lecture/laboratory) Prerequisite: GEOG 100 or 221 or 241 and 111.

**GEOG 251-3 Methods in Spatial Analysis**
A systematic introduction to the quantitative and theoretical approaches to the study of geography. (lecture/laboratory) Prerequisite: GEOG 100 or 221 or 241 and 111.

**GEOG 253-3 Aerial Photographic Interpretation**
Uses of aerial photography and air photo interpretation in geography. The course is divided into four sections: (1) technical background regarding aerial photography and air 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 and 241 and 111.

**GEOG 261-3 Introduction to Urban Geography**
This course will introduce basic concepts in the study of urban geography by systematically identifying and examining major components of urban structure. (lecture/tutorial) Prerequisite: GEOG 100 or 102 or 30 credit hours. Students who have taken GEOG 361 cannot take this course for further credit.

**GEOG 263-3 Selected Regions**
A study of the geographical character of a major world region. (lecture/tutorial) Prerequisite: at least nine credit hours. This course may not be counted more than once toward a degree.

**GEOG 264-3 Canadian Cities**
This course will provide a systematic introduction to urbanization in Canada. Topics addressed will include Canadian urbanization as compared with other nations, especially the United States, metropolitan centres, resource towns, and the internal structure of cities. (lecture/tutorial) Prerequisite: GEOG 100 or 152 or permission of instructor.

**GEOG 265-3 Geography of British Columbia**
An examination of the physical landscape, the migration process, resource exploitation and the development of the settlement patterns. (lecture/tutorial) Prerequisite: at least nine credit hours.

**GEOG 301-4 Geographic Ideas and Methodology**
A study of contemporary geographical concepts in an historical perspective, the course will examine the traditional approaches to the subject matter of geography, giving particular attention to present day methodological debate and foci of interest. (lecture/seminar) Prerequisite: completion of 30 credit hours, including 15 in geography.

**GEOG 302-0 Geography Practicum I**
This is the first semester of work experience in a co-operative education program available to students who plan to pursue a career in geography or related areas. Prerequisites: completion of the requirements for acceptance into either the Faculty of Arts or Faculty of Science co-operative education program. Students in the BA program should apply to the Faculty of Arts co-operative education program and students in the BSc program should apply to the Faculty of Science co-operative education program. Applications are due by the end of the third week of the preceding semester. (lecture/laboratory) Prerequisite: GEOG 100 or 152 and 18 credit hours.

**GEOG 303-0 Geography Practicum II**
This is the second semester of work experience in the Geography co-operative education program. Prerequisite: GEOG 302 and acceptance by the Faculty of Arts or Faculty of Science co-operative education program. Students should apply to the Faculty of Arts or Faculty of Science co-operative education program. (lecture/laboratory) Prerequisite: GEOG 100 or 152 and 18 credit hours.

**GEOG 311-4 Hydrology I**
Introduction to the hydrologic cycle, with an emphasis on the hydrology of British Columbia; description and analysis of the processes of water movement and storage; effects of climatic variations and land use on the hydrologic cycle. (lecture/laboratory) Prerequisite: GEOG 213 or 214; STAT 101 or 270 or 301 or GEOG 251.

**GEOG 313-4 Geomorphology II**
Intermediate analysis in fluvial, glacial and coastal geomorphology with particular reference to British Columbia. (lecture/laboratory) Prerequisite: GEOG 213 (formerly 313). Students who completed GEOG 313 prior to fall 1989 may take this course for further credit. Students who completed GEOG 413 prior to fall 1988 may not take this course for further credit.

**GEOG 314-4 Climatology I**
An introduction to atmospheric science with emphasis on processes in the boundary layer; examination of the radiation, energy and water balances; description and analysis of heat and mass transfer. (lecture/laboratory) Prerequisite: GEOG 214 (formerly 314) or permission of instructor. Recommended: MATH 151 and 152 or MATH 154 and 155 or MATH 157 and 158. Students who completed GEOG 314 prior to fall 1988 may take this course for further credit.

**GEOG 315-4 Regional Ecosystems**
Physical and biological characteristics of regional ecosystems; historical evolution of biomes, management of biotic resources. (lecture/seminar) Prerequisite: GEOG 215 (formerly 315) or BISC 204. Students who completed GEOG 315 prior to fall 1988 may take this course for further credit.

**GEOG 316-4 Ecosystem Biogeochemistry**
Introduction to the cycling of essential chemical elements through ecosystems. Interactions among biological, hydrological, and geological controls on the structure and function of ecosystems and the spatial-temporal scales of elemental cycling are emphasized. Environmental problems resulting from disturbance to 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 213 or permission of the instructor.

**GEOG 322-4 World Resources**
An analysis of the use and development of natural resources from a geographical, economic and institutional perspective. (lecture/tutorial) Prerequisite: at least 30 credit hours including GEOG 221.

**GEOG 323-4 The Dynamics of Industrial Location and Regional Development**
An examination of the factors affecting industrial location and the geographic organization of production systems within and among firms from the perspectives of national, regional and urban development. (lecture/tutorial) Prerequisite: GEOG 221 (formerly 121).

**GEOG 324-4 Geography of Transportation**
An empirical and theoretical examination of the geographical aspects of transportation systems. (lecture/tutorial) Prerequisite: GEOG 221 (formerly 121) and GEOG 241 (formerly GEOG 141).

**GEOG 325-4 Geography of Service Activities**
Central place theory, marketing and retail location, urban economic base, land use models, and tourism. (lecture/tutorial) Prerequisite: GEOG 221 or 261.

**GEOG 327-4 Geography of Tourism and Outdoor Recreation**
Factors underlying the changing geography of tourism and outdoor recreation. Issues of demand, supply and impact are examined. (lecture/tutorial) Prerequisite: GEOG 221 or 241, or permission of the instructor.

**GEOG 344-4 Geography of Modern Industrial Societies**
The theme of this course is the effect upon modern urban morphology of certain ideas and institutions prevalent in Anglo-Saxon cultures between the late 18th and early 20th centuries. The origin, spread and differentiation of selected man-made landscape features are systematically re-examined. (lecture/seminar) Prerequisite: GEOG 214 (formerly 141). Recommended: GEOG 301 and courses in 19th century European literature and history.

**GEOG 351-4 Cartography II**
Cartographic processes and techniques with an emphasis on thematic cartography; photographic process; the computer as a cartographic tool. (lecture/laboratory) Prerequisite: GEOG 250 or 251.
GEOG 352-4 Methods in Spatial Analysis II
Quantitative techniques for the analysis of spatial data and patterns, including trend surface analysis, spatial interpolation methods, and applications of multivariate statistics in geographic analysis. (lecture/ laboratory) Prerequisite: one of GEOG 251, STAT 101, 102, 203 (formerly 103) or 270; GEOG 250 and 253.

GEOG 353-4 Remote Sensing
Applied remote sensing and image analysis. Topics include air photo interpretation, multispectral and color photography, thermal imagery, multispectral scanners, microwave applications, satellite imagery and SPOT data. The relation of remote sensing information and Geographic Information Systems is discussed. Manual interpretation and computer analysis will be used. (lecture/laboratory) Prerequisite: GEOG 352 or 353. Students who completed GEOG 353 prior to fall 1988 may take this course for further credit. Students who completed GEOG 452 prior to fall 1988 may not take this course for further credit.

GEOG 354-4 Introduction to Geographic Information Systems
This course gives a global overview of GIS. The emphasis is on: the nature and characteristics of spatial data; a review of software and hardware for GIS; data structures and data base models; data capture and sources of data; GIS operations and basic functions; applications of GIS and GIS products. (lecture/laboratory) Prerequisite: GEOG 250 or 253, or permission of instructor. Students who completed GEOG 452 prior to fall 1988 may not take this course for further credit.

GEOG 355-4 Technical Issues in Geographic Information Systems
This course emphasizes the technological side of GIS. The main issues include: 1) data structures; advanced computational topics; error analysis in GIS. (lecture/laboratory) Prerequisite: GEOG 354 or permission of the instructor.

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 with physical environment, focusing on the individual as the unit of analysis, with special emphasis upon designed environments. A series of field studies will be required of each student. (lecture/seminar) Prerequisite: GEOG 241 (formerly 141).

GEOG 375-4 Historical Geography I
Geographical factors in the settlement of Canada and the United States; the role of the frontier; and geographic factors in the changing nature of the perception of resources. (lecture/seminar) Prerequisite: GEOG 241 (formerly 141).

GEOG 381-4 Political Geography
Theoretical approaches to problems of the interactions of political decisions and power structures with territorial organization. (lecture/ tutorial) Prerequisite: GEOG 241 (formerly 141).

GEOG 382-4 Population Geography
A study of the application of theories of population growth and demographic techniques; a consideration of the implications of these on the distribution and evolution of population in selected areas. (lecture/ tutorial) Prerequisite: GEOG 221.

GEOG 383-4 Regional Development and Planning I
Theories and concepts of regional development and planning in the advanced capitalist and third worlds; methods of spatial analysis. (lecture/tutorial) Prerequisite: GEOG 221 (formerly 121) and GEOG 241 (formerly 141). Students with credit for GEOG 443 may not take this course for further credit.

GEOG 385-4 Food Production and the Environment
A critical examination of the current theories and issues in the study of human agriculture into the environment, and its implications for agricultural systems and food production. (lecture/tutorial) Prerequisite: GEOG 221 (formerly 121).

GEOG 386-4 Medical Geography
An introduction to the study of medical geography covering: the determinants of health; distribution and diffusion of disease; and 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
This course introduces the student to concepts and theories relating to the human populations organize in order to maintain themselves in given environments. Major themes will be: 1) processes of adaptation to environmental conditions; 2) the development of a system of relationship which allows a population to act as a unit within the context of prevailing technology and communication; and 3) the evolution of the system according to the changing capacities for growth. Other themes will be the politics of nature, eco-feminism, and the social construction of nature. (lecture/tutorial) Prerequisite: REM 100 and EVSC 200 (formerly ENPL 100 and 200).

GEOG 402-0 Geography Practicum III
This is the third semester of work experience in the Geography co-operative education program. Prerequisite: GEOG 313 and acceptance by the Faculty of Arts or Faculty of Science co-operative education program. Students should apply to a co-op co-ordinator in the Faculty of Arts or Science by the end of the third week of the preceding semester.

GEOG 403-0 Geography Practicum IV
This is the last semester of work experience in the Geography co-operative education program. Prerequisite: GEOG 402 and acceptance by the Faculty of Arts or Faculty of Science co-operative education program. Students should apply to a co-op co-ordinator in the Faculty of Arts or Science by the end of the third week of the preceding semester.

GEOG 404-2 Directed Readings
Designed for upper level geography major and honors students who wish to continue research started in conjunction with an earlier course. Prerequisite: permission to enter directed readings courses requires written consent of both the faculty member willing to supervise the research, and the chair of the department.

GEOG 405-4 Directed Readings
Designed for upper level geography major and honors students who wish to continue research started in conjunction with an earlier course. Prerequisite: permission to enter directed readings courses requires written consent of both the faculty member willing to supervise the research, and the chair of the department.

GEOG 409-0 Geography Practicum V
This is an optional semester of work experience in the geography co-operative education program. Prerequisite: GEOG 403 and acceptance by the Faculty of Arts or Faculty of Science co-operative education program. Students should apply to a co-op co-ordinator in the Faculty of Arts or Science by the end of the third week of the preceding semester.

GEOG 411-4 Hydrology II
An examination of hydrologic processes via experimental and observational studies; measurement and analysis of hydrologic data; application of hydrologic models; recent research developments in selected sub-fields of hydrology. (lecture/laboratory) Prerequisite: one of GEOG 511, 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 resource management is also examined. (lecture/seminar) Prerequisite: GEOG 315. Students who completed GEOG 315 prior to fall 1988 also require permission of the instructor.

GEOG 416-4 Pleistocene Geocology
An examination of the physical geomorphic, pedologic and biotic processes and evidence from human geography of the period will be studied as they affect landscape changes. (lecture/seminar) Prerequisite: one of GEOG 213 (formerly 313), 214 (formerly 314), 215 (formerly 315), 317.

GEOG 417-4 Soil Science II
Advanced treatment of topics in soil science: soil physics, soil chemistry, soil biology, soil classification and/or forest soils. (lecture/laboratory) Prerequisite: GEOG 317.

GEOG 418-4 Land Evaluation
The extensive classification of a landscape based on geology, geomorphology, soils, vegetation, and historic and current land-use, and the assessment of qualitative values as an aid to multiple land-use management. (lecture/seminar) Prerequisite: two of GEOG 213 (formerly 313), 215 (formerly 315) and 317.

GEOG 419-4 Mass Transfer in the Biosphere
An introduction to the processes responsible for mass transfer in the biosphere. Emphasis will be given to the transfer of toxic agents in the environment. (seminar/laboratory) Prerequisite: MATH 151, 154 or 157, CHEM 122, and at least 60 semester hours of credit. Students with credit for EASC 410 may not take GEOG 419 for further credit.

GEOG 420-4 Comparative Cultural Geography
A comparative study of selected world cultures and landscapes in the light of recent theoretical developments in geography. (lecture/seminar) Prerequisite: at least 60 semester hours including eight hours of upper division geography courses.

GEOG 421-4 Geography of Resource Development
Geographical aspects of development and management of natural resources. Particular
attention will be given to contemporary problems in Western Canada. (lecture/seminar) Prerequisite: at least 60 credit hours including eight hours of upper division geography courses.

**GEOG 422-4 Geography of the Third World**
A geographic study of ‘development’ and ‘underdevelopment’ with particular references to selected lesser developed regions. (lecture/seminar) Prerequisite: at least 60 credit hours including GEOG 111, 221 (formerly 121), and 241 (formerly 141).

**GEOG 424-4 Urban Transportation**
An extension of the theoretical and conceptual approach to transportation (GEOG 324), but with application to urban areas. (lecture/seminar) Prerequisite: GEOG 324 and 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 423, or permission of the instructor.

**GEOG 441-4 Geography of Urban Regions**
An evaluation of the nature of urbanization, having specific reference to theories of urban spatial structure and to comparisons of urbanization in Canada and abroad. (lecture/seminar) Prerequisite: at least 60 credit hours including GEOG 362.

**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. Special attention is paid to land-use planning as it relates to major resource sectors. (lecture/seminar) Prerequisite: GEOG 322 or 385.

**GEOG 446-4 Geography of Contemporary Societies**
Examination and analysis of the contemporary landscape as a cultural expression of Anglo-Saxon thought since the 1920’s. The focus will be on North American landscapes, but with reference to convergent phenomena elsewhere in the world. The effect upon the contemporary landscape of certain ideas and institutions prevalent in Anglo-Saxon cultures since World War I. The origin, spread and differentiation of selected humanized landscape features are constructed. (lecture/tutorial) Prerequisite: GEOG 344. Students who completed GEOG 346 prior to fall 1988 may not take this course for further credit. Recommended: courses in the humanities and fine arts.

**GEOG 448-4 Public Policy, Theory and Human Geography**
This course will outline and explore the contributions that a theoretically informed human geography can make to debates on urban policy and the urban landscape. As will be demonstrated, a geographic perspective can provide a number of critical insights into both empirical and theoretical arenas. (lecture/tutorial) Prerequisite: GEOG 301.

**GEOG 449-4 Environmental Processes and Urban Development**
An examination of environmental processes as they influence, and are influenced by, urban development, with attention to application for urban policy and planning. (lecture/tutorial) Prerequisite: GEOG 383.

**GEOG 450-4 Environmental Workshop**
This is an interdisciplinary course whose principle objective is to act as a round table and forum for in-depth analysis and resolution of important environmental issues as they relate to economy, technology, politics and culture. (seminar) Prerequisite: EVSC 200 (formerly ENPL 200), REM 100 (formerly ENPL 100), 311, 356, GEOG 389 and 445.

**GEOG 452-4 Advanced Issues in Geographic Information Systems**
This course explores operational and management issues in GIS. Topics covered are: data exchange standards and large data bases; the use of spatial analysis techniques in the GIS context; applications of GIS in various fields; social impact of GIS; legal aspects; effects on management decisions; implementation of GIS in an institutional setting, including cost and benefit, benchmarking, request for proposals; future directions in GIS. (lecture/laboratory) Prerequisite: GEOG 354 or 355. Students who completed GEOG 452 prior to fall 1988 may take this course for further credit.

**GEOG 453-4 Digital Image Processing**
Computational aspects of remote sensing. Systems consideration; statistical extraction; image enhancement; thematic information extraction; change detection. (lecture/laboratory) Prerequisite: GEOG 353. Students who completed GEOG 453 prior to fall 1988 may take this course for further credit.

**GEOG 460-4 Selected Regions**
A study of the geographical character of a major world region. (lecture/seminar) Prerequisite: at least 60 credit hours including eight hours of upper division geography courses.

**GEOG 462-4 The Geography of the United States**
Selected themes in the geography of the United States, addressing the biophysical environment, culture and landscape, resources and livelihood, population and settlement. (lecture/seminar) Prerequisite: at least 60 credit hours including eight hours of upper division geography courses.

**GEOG 466-4 Latin American Regional Development**
The course introduces students to a geographical analysis of patterns of Latin American development and planning. It is divided into two sections: geographical/historical development of selected countries; and analysis of common Latin American developmental models. A geographical perspective is used which stresses the interconnectedness of spatial and socio-economic structures. (lecture/seminar) Prerequisite: 60 credit hours including eight hours of upper division geography.

**GEOG 469-4 The Canadian North and Middle North**
Special attention will be given to resource appraisal and utilization, spatial organization, and the consideration of future development; comparisons will be made with experience of sub-arctic development in other parts of the world. (lecture/seminar) Prerequisite: at least 60 credit hours including eight hours of upper division geography courses.

**GEOG 470-4 The Geography of Western Canada**
A regional geographic interpretation of British Columbia and the Prairies. The physical environment, population, land tenure, regional resource problems, economic development and the settlement process will be examined to explain the geographic character of Western Canada. (lecture/seminar) Prerequisite: at least 60 credit hours including eight hours of upper division geography courses.

**GEOG 475-4 Historical Geography II**
An examination of the ways in which the study of historical geography has been adapting to new problems, new methodologies, new techniques, and new sources. The course will attempt to deal primarily with the application of historical geography to a North American context with an emphasis on Canada and British Columbia. (lecture/seminar) Prerequisite: GEOG 375.

**GEOG 488-4 Selected Topics**
The topics will vary from semester to semester depending on the interests of faculty and students. (lecture/tutorial) Prerequisite: 75 credit hours including 30 credit hours in geography.

**GEOG 490-4 Selected Topics**
The topics will vary from semester to semester depending on the interests of faculty and students. (lecture/tutorial) Prerequisite: 75 credit hours including 30 credit hours in geography.

**GEOG 491-4 Honors Essay**
All candidates for honors will be required to submit a major paper on a geographical topic to be selected in consultation with the department. Prerequisite: 105 credit hours and consent of supervisor. See a departmental academic advisor for details.

**German Faculty of Arts**
**Division of Interdisciplinary Studies**
For further courses in German studies, see General Studies.

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 must be announced before the commencement of each semester. Consult the registration handbook or inquire at the Interdisciplinary Studies general office for the procedure to be followed.

**GERM 102-4 Introductory German I**
Emphasis on the acquisition of spoken fluency, correct pronunciation, and reading facility. This course will be for all students who have not taken grade 12 German or its equivalent. (lecture/tutorial/laboratory) Prerequisite: GERM 103 or consent of instructor.

**GERM 103-4 Introductory German II**
Continuation of the work of GERM 102-4 (formerly GERM 100-3); it should be taken wherever possible in the semester immediately following GERM 102-4. (lecture/tutorial/laboratory) Prerequisite: GERM 102 (formerly 100), or the consent of instructor.

**GERM 141-3 Introduction to German Civilization**
An introductory course exploring the cultures of German-speaking peoples. (lecture/tutorial) Prerequisite: GERM 201-3 Intermediate German I

**GERM 201-3 Intermediate German I**
Emphasis on oral command, accurate and idiomatic expression; reading of intermediate texts. (lecture/tutorial) Prerequisite: GERM 102 (formerly 100) and 103 (formerly 101) or consent of instructor.

**GERM 202-3 Intermediate German II**
This course continues the work of GERM 201. Considerable emphasis will be placed on reading facility as well as oral and written command of the language. (lecture/tutorial) Prerequisite: GERM 201 or consent of instructor.

**GERM 205-3 German for Business: Wirtschaftsdeutsch**
This course is designed for students and
Undergraduate Courses

prerequisite: GERO 300 and PSYC 357 or SA 420.

Counselling techniques and outcomes appropriate to
clients and their families. Emphasis will be placed on
theory and practice to meet the needs of older adults
in broad range of practice settings. 

GERO 300-3 Advanced German Composition and
Conversation
Practice in comprehension, reading, speaking and
writing, combined with a review of the essential
points of grammar. (Seminar) Prerequisite: GERM 202 or consent of the essential.

Gerontology
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: GERO 200 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) Recommended: STAT 203 (or equivalent)
(formerly 103).

GERO 302-3 Health Promotion and Aging
This course includes an examination of the
development of contemporary understanding and practice of health promotion. Students will be given the opportunity to explore theories and models designed to explain health related behaviors and the determinants of health. Strategies for behavioral change and development of socio-environmental approaches will be discussed in the context of an aging Canadian population. (lecture) Prerequisite: 60 semester hours. Recommended: GERO 300.

GERO 303-3 Seminar in Applied Gerontology
Discussion of current issues in applied gerontology.
Interdisciplinary orientation, drawing upon resource
persons from various academic departments within
the University and practitioners in the community.
Course requirements include a program evaluation or a research paper. (Seminar) Prerequisite: GERO 300, 301 and at least one 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. (lecture/seminar) Recommended: GERO 300.

GERO 402-3 Drug Issues in Gerontology
An overview of issues relating to drugs and the elderly.
Topics will include: an introduction to 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: GERO 300.

GERO 403-3 Counselling with Older Adults
An examination of the ways of adapting counselling
techniques and practice to meet the needs of older adults
and their families. Emphasis will be placed on
counselling techniques and outcomes appropriate to
their families, or in institutional settings. (lecture/seminar) Prerequisite: GERO 300 and PSYC 357 or SA 420.

GERO 404-3 Health and Illness in Later Life
An examination of issues related to health and illness
among older adults, drawing upon theories and
concepts from biological, social and public health sciences. An introduction to assessment and intervention skills useful to persons working with older adults in a broad range of practice settings. (lecture/seminar) Prerequisite: GERO 300

GERO 405-3 Aging in Small Communities and
Rural Areas
An examination of the demographic trends in aging
in small communities and rural areas of Canada, the
geographical and social contexts in which these
are occurring and the experience of rural communities in
assessing needs and providing support services and housing. (lecture/seminar) Prerequisite: 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 the nutritional conditions
and concerns of the aging population. It does so by
exploring the nutrient needs of the elderly as
determined by physiological changes of aging,
metabolic effects of common diseases, and
biochemical interactions of medications. The course
includes a broad investigation of the psychological,
sociological, and physical factors which influence
food choice and ultimately nutritional status in aging.
(lecture/seminar) Prerequisite: 60 semester hours credit
Recommended: GERO 300.

GERO 408-3 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. (lecture/seminar) Prerequisite: 60 semester hours.
Recommended: GERO 300.

GERO 410-3 Special Topics in Gerontology I
Selected psychological, sociological, economic,
biological and practical aspects of the aging of
individuals and populations. (lecture/seminar)
Prerequisite: 60 semester hours credit.
Recommended: GERO 300.

GERO 411-3 Special Topics in Gerontology II
Selected psychological, sociological, economic,
biological and practical aspects of the aging of
individuals and populations. (lecture/seminar)
Prerequisite: 60 semester hours credit.
Recommended: GERO 300.

GERO 412-3 Special Topics in Gerontology III
Selected psychological, sociological, economic,
biological and practical aspects of the aging of
individuals and populations. (lecture/seminar)
Prerequisite: 60 semester hours credit.
Recommended: GERO 300.

History
Faculty of Arts
Note: In the courses which follow, where it is shown
under prerequisites that a course is ‘recommended,’
such a course is not mandatory, but is recommended
preparation for entry.

Lower Division Courses
100 division courses introduce students to the main
areas of the department’s offerings — Canadian,
American, Asian, and Latin American history,
European history, and African and Middle Eastern
history.

HIST 101-3 Canada to Confederation
A survey of Canadian history to 1867. (lecture/tutorial)

HIST 102-3 Canada Since Confederation
A survey of Canadian history since 1867. (lecture/tutorial)

HIST 104-3 History of the Americas to 1763
An examination of the pre-European Indian cultures;
the explorations, conquest and colonization of
North and South America by the French, English,
Spanish and Portuguese. Stress will be placed on
the comparative nature of these new world societies.
(lecture/tutorial)

HIST 105-3 Western Civilization from the
Ancient World to the Reformation Era
An introduction to the Greek and Roman origins of
Western Civilization, and its development to the 16th
century. (lecture/tutorial)

HIST 106-3 Western Civilization from
the Reformation Era to the 20th Century
A sequel to HIST 105 covering the expansion and
modernization of the European world. (lecture/tutorial)

HIST 146-3 Africa in Recent History
Colonialism, independence and nation building.
(lecture/tutorial)

HIST 151-3 The Middle Eastern
An introductory survey of the changing societies of
the Middle East since 1800. Emphasis will be placed
on familiarizing students with the basic aspects of
Islamic society, the influence of European
imperialism, the modernization of traditional
societies, the origins of the Arab-Israeli conflict, and
the social and political ferment in the period since
the Second World War. (lecture/tutorial)

HIST 201-3 The History of Western
Canada
A history of the prairies and British Columbia dealing
with the aboriginal cultures, the fur trade, the
evolution of transportation and links with metropolitan
areas, settlement and economic development,
political evolution, evolving rural and urban systems,
and intellectual and cultural identities. (lecture/tutorial)

HIST 204-3 The Social History of Canada
A survey of major themes in Canadian social history.
from the arrival of Europeans to the present day.
Particular attention will be paid to the effects of
gender, race and class on the experience of
Canadians over time. (lecture/tutorial)
Recommended: HIST 101 and 102.

HIST 208-3 Latin America: The Colonial
Period
A study of the process and institutions of Spanish
colonial administration with emphasis on the clash of
European and American cultures. (lecture/tutorial)
Recommended: HIST 104.

HIST 209-3 Latin America: The National
Period
A survey of Latin American history from
Independence (1808-24) to the present; post-
Independence political collapse and reconstruction;
Latin America in the world trade system and the
changing conditions of economic dependency;
nationalist reform (Mexico) and socialist revolution
(Cuba), liberalism, populism, and the rise of
modernizing military. Treatment by topics and broad
historical period rather than by 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 216-3 The Ancient World
Aspects of the ancient history of the Near East, Greece and Rome. (lecture/tutorial) Recommended: HIST 105 and 106.

HIST 219-3 The Early Middle Ages
An examination of Eastern and Western Christendom from the late antiquity to the Renaissance of the 12th century emphasizing religious developments, political and social changes. (lecture/tutorial)

HIST 220-3 Europe from the 12th to the Mid-16th Century
This course will examine European development from the high middle ages to the end of the Reformation. Considerable attention will be given to the changing character of medieval civilization, the Italian Renaissance and the Reformation. (lecture/tutorial)

HIST 223-3 Europe from the Mid-16th Century to the French Revolution
A survey of early modern European history which will examine, among other topics, the wars of religion, the 17th century revolutions, 16th and 17th century economic development, the scientific revolution, the enlightenment and the political, social and cultural character of the old regime. (lecture/tutorial)

HIST 224-3 Europe from the French Revolution to the First World War
A survey of European history emphasizing the French Revolution, and Napoleon Eugene 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 230-3 The Expansion of Europe
The course will deal with the expansion of Europe with European attitudes to non-Europeans, and with the principles of colonial administration. (lecture/tutorial)

HIST 231-3 The Origins of Modern Africa: Conquest, Resistance and Resurgence
Continuity and change in sub-Saharan Africa from the era of the slave trade until World War II. (lecture/tutorial)

HIST 249-3 The Origins of Islam and the Emergence of Islamic Civilization
This course offers a broad survey of the development of classical Islamic civilization. It begins with an examination of the origins of Islam in seventh century Arabia and concludes with the break-up of the Abbasid Caliphate of Baghdad in the 13th century. Emphasis will be placed on gaining an understanding of the doctrines of Islam, the significance of the rise and fall of the early Arab-Islamic empires, and the role of Islam in world history. (lecture/tutorial)

HIST 251-3 The Western Imperial Presence in the Middle East and North Africa
A general history of British and French colonialism and imperialism in the Middle East with an examination of the different patterns of political, economic, military, educational, and administrative control established by these two powers, particularly in the period of European supremacy after World War I. An examination, also, of imperial rivalries and the process of decolonization culminating in the Suez crisis of 1956 and the involvement of the superpowers. (lecture/tutorial) Recommended: HIST 151.

HIST 252-3 Islamic India
A survey of the cultural patterns, social and political forces, and historical contexts that have shaped the Islamic period of Indian history. Special attention will be directed toward the Mughal empire and its decline. (lecture/tutorial)

HIST 254-3 China to 1800
This course offers a broad survey of the history of China from antiquity to the eve of its modern transformations at the turn of the nineteenth century. It aims to challenge the perception of an unchanging China and to encourage students to develop a critical understanding of the forces integrating and dividing this geo-cultural unit. (lecture/tutorial)

HIST 255-3 The Emergence of Modern China
The course offers a broad survey of the history of China from the early nineteenth century to the present. Its main objectives are to provide students with vocabularies and tools to understand and interpret the political, cultural, social and economic transformations in modern China and to initiate them in the art and techniques of historical analysis. The course aims to challenge students’ perception of modernity and to encourage them to develop a critical understanding of some of the central themes in the history of the modern world. (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.

Upper Division Courses
300 division courses introduce students to a variety of themes in the Department, help to prepare them for advanced work in 400 division seminars. 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 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 to the broad systems and patterns in which history has been conceived. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 301-4 Heritage Preservation
This course will deal with the historical, social and political aspects of architecture and conservation practices, as well as the integration of historical sites, structures and areas. Both the nature of physical structures, and techniques for their conservation, and the cultural setting of buildings will be analysed, with particular reference to British Columbia. The course will employ on-site as well as classroom materials. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 302-4 Archives Methods and Use
The course will introduce the student to the administration and uses of archives in modern society. It offers an introduction in the use of archival materials, examines current uses of archives by scholars and the community at large, and reflects on the possible future social role of archives. Specific topics will include the history of Canadian archives, archive arrangement and description, records management, information retrieval, acquisition, care of special media, reference service, physical facilities, legal and ethical consideration and questions of professional status and role. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 303-4 Museums Methods and Use
The course will introduce students to the social functions and the techniques of museum work. Specific topics for discussion will include the history and purposes of museums collections, collection cataloguing and management, conservation techniques, gallery design, educational programming, the organization, management, design and funding of museums and their relationships to museums organizations and governments, the roles and functions of museum professionals. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 305-2 Honors Tutorial
Open only to honors students, this tutorial will be taken in conjunction with HIST 300. Readings in the philosophy of history and historiography will be discussed. (tutorial) Prerequisite: admission to the honors program in history.

HIST 310-4 Women and the Family in Modern Europe
An introduction to the history of women and the family in Western Europe (mainly Britain and France) from about 1700 to the end of the British struggle for women’s suffrage. Readings will include recent studies as well as primary sources. Attention will be given to methodological problems and conflicting interpretations. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 311-4 Education and Childhood in European History
A survey of changing perceptions of school and childhood in Europe since the 17th century. Some main themes are: child labor; education for gentlemen; technology and education; social mobility through education; and mass culture, the family, and the school. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 312-4 Poverty, Crime, and Madness: Society and the Outcast
An examination of changing attitudes toward poverty, vagrancy, insanity, crime, and disease in Europe since the 16th century. The influence of religion, philanthropy, medicine, and the social sciences in defining outcast groups and in formulating policies for dealing with them. Conflicting interpretations of the origins and functions of the welfare state. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 314-4 England in the Later Middle Ages
An examination of the principal themes in English history from the 13th century community of the realm to the emergence of the nation-state in the mid 16th century. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 315-4 English Society from the Reformation to the Mid 18th Century
A general study of English society from about 1530 to about 1750. Particular stress will be placed on social, constitutional, and legal developments. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

HIST 316-4 English Society since the Mid 18th Century
A study of English society, culture and politics from
the accession of George III to the present. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

**HIST 318-4 Early Modern France**
An examination of the development of France from the religious wars of the sixteenth century through the French Revolution. Particular attention will also be given to the Bourbon monarchy and to the enlightenment. (lecture/tutorial) Prerequisite: nine hours of lower division history 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)

**HIST 322-4 Atlantic Migration**
Topics in the history of European migrations with attention given to the contexts from which the migrants came, why they migrated, and how they adjusted. Examples may be taken primarily from the United States, Canada or Latin America, but reference will be made to all three. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

**HIST 324-4 Slavery in the Americas**
An examination of slavery in the United States, Latin America, and Caribbean with reference to plantation systems, economic conditions, and cultural factors. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

**HIST 326-4 The History of Native People in Canada**
An examination of native history and the evolution of native policy in Canada with emphasis on a particular region or native group. (lecture/tutorial) Prerequisites: nine hours of lower division history credit. Recommended: HIST 101 or 102

**HIST 327-4 Canadian Labour and Working Class History**
An examination of the history of labour, primarily in English Canada, during the 19th and 20th centuries. The evolution of trade unions and labour-political movements will be examined together with the impact of industrialization, the rise of mass production, changing patterns of immigration and other contexts of working-class culture and material life. Special attention will be paid to British Columbia as a case study. Historically the course examines ‘working class history’ as a particular way of studying the past. What is the concept of ‘the working class’? (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: HIST 101, 102 and 204

**HIST 328-4 The Province of Quebec from Confederation**
The economic, social, political and cultural history of Quebec. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: HIST 101 or 102.

**HIST 329-4 Canadian Family History**
A detailed examination of the changing Canadian family, and its relationship to the state, since the eighteenth century. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

**HIST 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: nine hours of lower division history credit.

**HIST 332-4 Germany Since 1815**
An examination of the principal themes in German political, social, economics and intellectual history from the defeat of Napoleon in 1815 to the reunification in 1990. (lecture/tutorial)

**HIST 334-4 Russia to 1900**
An in-depth study of selected themes in Muscovite and Imperial Russian history. These will include relations between state and society, and between Russians and non-Russians, as well as economic and social modernization. (lecture/tutorial) Recommended: HIST 105 and 106

**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: nine hours of lower division history credit.

**HIST 336-4 Absolutism and Enlightenment in Europe**
An examination of the economic, political, social and intellectual developments in 17th and 18th century continental Europe, with emphasis either on the period of Absolutism or on the Enlightenment. Students will read excerpts from important contemporary sources, such as Locke, Voltaire, Rousseau, and Kant. (lecture/tutorial) Prerequisite: nine 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 to 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 Chancelleries. (lecture/tutorial) Prerequisite: nine 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: nine 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 which the political institutions of many Commonwealth nations are based. (distance education) Prerequisite: nine hours of lower division history credit.

**HIST 340-4 United States Foreign Policy**
The development and aim of US foreign policy, with special emphasis on the post 1890 period. (lecture/tutorial) Prerequisite: nine 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: nine hours of lower division history credit. Students with credit for HIST 449 under the title ‘United States Foreign Policy,’ may not take HIST 340 for further credit. Recommended: HIST 212 or 213

**HIST 344-4 East Africa**
A regional study from the Arab and European penetration in the 19th century to the emergence of Kenya, Uganda, and Tanzania as independent states with emphasis on the patterns of economic, political, social and religious change. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

**HIST 346-4 Central Africa**
A regional study from the African, Arab and European inceptions in the 19th century to the emergence of Zambia, Malawi and Zimbabwe with emphasis on the patterns of economic, political, social and religious change. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

**HIST 348-4 A History of 20th Century South Africa**
An examination of the economic, social and political history of 20th century South Africa. Particular attention will be paid to the factors which led to the rise of apartheid. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: at least one of HIST 146, 231.

**HIST 350-4 Continuity and Change in the Ottoman Empire and Turkey from 1453 to 1938**
A study of Ottoman society and the impact of Ottoman rule in the Middle East from the conquest of Constantinople to the death of Ataturk, the founder of the Turkish Republic. Emphasis will be on the conflict between preservation and reform in the nineteenth century and on the significance of the Ottoman legacy for twentieth century Turkey and the Arab world. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: one of HIST 151, 249, 251.

**HIST 352-4 Religion and Politics in Modern Iran**
The intellectual and social history of greater Iran from the Safavids to the twentieth century. Emphasis will be on the relationship between religion and politics. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: one of HIST 151, 249, 241.

**HIST 354-4 Imperialism and Modernization in Asia and the Middle East**
A comparative discussion of European intervention, over the last two centuries, in the socio-economic, intellectual, and political life of selected traditional societies in Asia and the Middle East. This course will study the interaction of these societies with the West, a common denominator in their experiences, while also comparing the ways in which imperialism furthered, hindered or distorted the course of their modernization. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: one of HIST 151, 249, 251.

**HIST 355-4 The Arab Middle East in the Twentieth Century**
An examination of this century’s major themes in the history of Syria, Lebanon, Iraq, Jordan and Saudi Arabia, as well as other states of the Arabian peninsula. Topics to be investigated include the origins of Arab national and Islamic reformism; the origins and development of the Lebanese qestion; 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 Aristotle/Ptolemaic cosmology, alchemy, physics and the human sciences. The rejection of medieval ideas during the scientific revolution will be studied through the work of Copernicus, Vesalius, Paracelsus, Brahe, Kepler, Galileo, Harvey and Newton. (lecture/tutorial) Prerequisite: nine hours of lower division history or science credit.

**HIST 361-4 The History of Science: The 18th Century to the Present**
Topics in the history of science and technology to be selected from the 18th/19th century chemistry, the history of the idea of evolution and of Darwinian science, physics to 1914, or 19th century industrial science. (lecture/tutorial) Prerequisite: nine hours of lower division history or science credit.

**HIST 370-0 Practicum I**
This is the first semester of work experience in cooperative education. It is meant to be exploratory in nature. Prerequisite: normally 60 semester hours with a minimum CGPA of 2.75. Students should
apply to the co-op co-ordinator one semester in advance.  

**HIST 375-0 Practicum II**

This is the second semester of the co-operative education program. Building on the experience of the first employment semester, this semester will provide a work experience that integrates and builds on the research and writing skills associated with the discipline of history. Prerequisite: normally 75 semester hours (including HIST 370) with a minimum CGPA of 2.75. Students should apply to the co-op co-ordinator one semester in advance.

**HIST 379-4 The Transformation of American Culture 1830-1914**

In 1830 most Americans lived on farms or in small towns, worked on the land, and dreamt of salvation. By 1900 cities, industry, the railroad, electricity, consumerism had transformed material lives. Ideals and fears had also shifted. This course discusses elements of this change, particularly in popular ideology, everyday life, and literary, political and artistic movements. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 212 or 213

**HIST 380-4 Industrial Culture in Modern America**

This course explores changes and developments in modern America. Special attention will be paid to transitions in the organization of work, technology, business and labor relations in the everyday lives of working men and women. (lecture/ tutorial) Prerequisite: nine hours of lower division history credit. **HIST 383-4 The American Dream in the Twentieth Century**

The study of the abiding American belief that anyone who really tries can make it in America. Special attention will be given to the function of this myth, and to the shifting attitudes of 20th century social commentators (including novelists and playwrights) toward it. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Students with credit for HIST 449 under the same title may not take HIST 383 for further credit. Recommended: HIST 212 or 213

**HIST 385-4 Canadian and BC Art**

The history of art in Canada and British Columbia examined within the contexts of external influences and of social and intellectual history. The emphasis given to national or to regional art may vary from semester to semester. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. **HIST 390-4 Studies in History I**

Special topics. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

**HIST 391-4 Studies in History II**

Special topics. (lecture/tutorial) Prerequisite: nine hours of lower division history credit.

**HIST 400-4 Seminar in Historical Methods**

A study of methodology, including such subjects as principles of historical criticism, annotation and transcription of source material, generalization, and the techniques of history and the social sciences. Examples will be drawn from all areas in which the department teaches. (seminar) Prerequisite: nine hours of lower division history credit.

**HIST 402-4 Renaissance Italy**

An assessment of the principal themes in the history of the Italian Renaissance, and of the role of Renaissance Italy in shaping the character of Early Modern Europe. In certain semesters the experience of one or more Italian cities will serve to elucidate these themes. (seminar) Prerequisite: nine hours of lower division history Recommended: HIST 220

**HIST 403-4 The European Reformation**

An advanced examination of the complex history and patterns of the Religious Reformation in sixteenth century Europe. Emphasis will be placed on the religious thought of the period, and on its social and political context. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 220

**HIST 404-4 Religion, Society and Politics in England 1603-1660**

This research seminar will examine English society and politics during the first half of the seventeenth century. Within the context of the crises of the three kingdoms and the resultant civil wars, this seminar will address the issues of religious conflict, radical thought and the social depth of politics. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 315

**HIST 405-4 Early Modern English Society**

This research seminar will examine select themes in the social history of early modern England. Foundational subjects will be the social order, agriculture, industry, demography, family formation, religion and poverty. Optional themes include: crime and the law, literacy and education, women, urban life, perception and uses of the past, parish communities, government regulation of economic and social life and London. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 224 and 225

**HIST 406-4 The Industrialization of Europe**

An examination of the impact of industrialization on political structure, ideological formations and culture in the major European states from 1750 to 1900. Attention will also be paid to those areas where industrialization did not take place. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 224 and 225

**HIST 407-4 Popular Culture in Great Britain and Europe**

This course will study culture in Great Britain and Europe since 1500. Themes may include the sixteenth century separation between popular and elite culture, Carnival, the witch craze, popular ballads, the institution of 'rational recreation' during the Industrial Revolution, the late Victorian Music hall, the cultural emancipation of women, and the effects on working class culture of economic depression and world war. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 105 or 106

**HIST 408-4 Liberty and Authority in 19th Century Thought**

An examination of political philosophies in their social and economic context. The experience of Britain as well as that of continental Europe will be included. Students will be required to read from contemporary sources, in translation where necessary. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 224 and 225

**HIST 410-4 History of Science, Technology and Everyday Life 1870-1950**

An examination of the ways in which, during the period 1870-1950, the routine experiences of life changed as a result of innovations in science and technology. Areas for study will be selected from the following: medicine, pharmaceuticals, sanitary reform, electrification, transport, materials, communications, psychology, biometrics and food production. The focus will be largely, though not exclusively, on the British and North American experience. (seminar) Prerequisite: nine hours of lower division history or Science credit. Recommended: HIST 360 or 361

**HIST 411-4 Class and Gender in Modern Europe**

This seminar will examine theories of class and gender as they apply to modern European social, economic and political history. In certain semesters the emphasis may shift from class analysis to gender relations and women's history; but the interrelationship of class and gender will always be considered. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 224 and 225.

**HIST 412-4 Marxism and the Writing of History**

This course aims to provide a basic understanding of Marx's theory of history and to introduce students to some of the important ideas used by Marxists in the writing of history. Readings for the course will include some of Marx' original work, the writings of historians who have been influenced by Marx as well as selected writings from some of Marx's critics. (seminar) Prerequisite: nine hours of lower division history credit.

**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 seminars additional attention may be given to the Soviet Union. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 225

**HIST 415-4 Victorian Britain**

A study of major developments and controversies - social, cultural, political, religious, economic - during the period of the rise of the British empire and class society. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: one or more of HIST 224, 229, 315, 316.

**HIST 416-4 The French Revolution**

An analysis of the origins of the Revolution, of its changing nature, and of its impact on society. The Revolution will be examined in its European context. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 223, 224, 229

**HIST 417-4 Modern French Social History**

An examination of a principal aspect of, or period in, the history of French society since the Revolution. For example, attention may be given to the 19th century French Revolution, Tradition or to society and culture in the Third Republics, or to social thought from the French Revolution to L'Action Française. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 224 or 225, 229

**HIST 418-4 Modern Spain and the Civil War**

A survey of 20th century Spanish history with a special emphasis on the impact of the rise of the Second Republic and the Civil War. International aspects will be considered but not stressed. (seminar) Prerequisite: nine hours of lower division history credit.

**HIST 419-4 Modernization and Reform in Russia 1860-1930**

A detailed examination of the impact of modernization in late Imperial and early Soviet Russia. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 227 and either 224 or 225

**HIST 420-4 The History of Russian Foreign Policy from Catherine the Great to Stalin**

A detailed study of the conduct of Russian foreign policy from the late 18th century to the middle of the 20th century. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 227

**HIST 423-4 Problems in the Diplomatic and Political History of Canada**

Selected problems in the history of the Canadian constitution, Dominion-Provincial relations, Canadian politics, the Canadian military, and Canadian external affairs. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 101, 102

**HIST 424-4 Problems in the Cultural History of Canada**

Selected problems in Canadian ideas and attitudes on such topics as the arts, religion, education, minority and native cultures, nationalism, and
The United States emerged as a modern industrial nation in the two decades before it entered World War I. This course will explore the implications of that development, focusing on such topics as the ‘city boss,’ the ‘new immigrants,’ the social justice movement, and the rise of organized labor. (seminar) Prerequisite: nine hours of lower division history credit. Students with credit for HIST 448 under the same topic may not take HIST 452 for further credit. Recommended: HIST 212 or 213

HIST 453-4 The US Between the Wars
An examination of how the US met the problems of prosperity in the 1920s and privation in the 1930s. Topics covered will include the emergence of a consumer society, prohibition, anti-evolutionism, economic collapse, the origins of the welfare state, and the rise of industrial unions. (seminar) Prerequisite: nine hours of lower division history credit. 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 behavior, and how these norms have been regulated over time. We shall also explore how gender and sexual relations have created and reflected power relations between men and women. Special emphasis will be placed on the 19th and 20th centuries. (seminar) Prerequisite: nine hours of lower division history credit.

HIST 458-4 Problems in Latin American Regional History
Advanced concepts and methodology applied to the study of one or more Latin American regions. Examples are: pre-Columbian and colonial Middle America; revolution and counter-revolution in 19th and 20th century Brazil from Slavery to Military Dictatorship to the La Plata countries. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: one of HIST 104, 208, 209, LAS 200.

HIST 465-4 The Emergence of the Israelis and Palestinians in Historical Perspective
A discussion of the modern history of nation-building in the context of the Arab-Israeli conflict. The topics discussed include Zionism, the British Mandate in Palestine, the creation of the state of Israel, the rise of modern Palestinian nationalism, and the role of the Palestinian-Israeli dispute in regional and international affairs. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: one of HIST 151, 249, 251, 350, 355, 354 or permission of the department.

HIST 467-4 Change and Revolution in Modern Egypt
An interpretive discussion of the course of modern Egyptian history. This may range from the advent to power of Muhammad ‘Abd al-Nasser in recent times, or may focus on specific periods of revolutionary change. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: 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: nine hours of lower division history credit. Recommended: one of HIST 249 or 352.

HIST 470-0 Practicum III
This is the third semester of the co-operative education program. The work experience will be focused in a specialized area of the student’s choice. Prerequisite: normally 90 semester hours (including HIST 370 and 375) with a minimum CGPA of 2.75. Students should apply to the co-op coordinator 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 473-4 The Making of South African Society
An examination of the way in which South African society evolved before the union of 1910. Particular attention will be paid to the problem of race relations in the Four Pre Union South African states. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: HIST 146, 231. HIST 348

HIST 474-0 Modern Chinese Identities
This seminar offers an opportunity for upper level undergraduates to explore in-depth the history and constructed-ness of identities, especially in relation to the vast and diverse population known as ‘Chinese.’ Topic to be discussed include Orientalism, nationalism, race, ethnicity and gender. The course aims to encourage students to develop a critical understanding of the political, social and cultural assumptions that are often behind the creation and perpetuation of identities. Attention will also be given to the history of Chinese diaspora (particularly in North America) and its significance to the project of reinterpreting ‘Chinese-ness’ in the modern world. (seminar)

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 judgment. 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 coordinator one semester in advance. Students entering 400 division seminars should have an appropriate background in 100 and 200 division and/or 300 division History. Normally, students should have completed 45 credit hours (or the equivalent) prior to enrollment in any upper division History course.

HIST 481-4 British India
An examination of the British community in India set against the background of British attitudes to India since the late 18th century. (seminar) Prerequisite: nine hours of lower division history credit.

HIST 482-4 Emergent African Nationalism
An examination of myths and realities in the emergence of mass movements, principally in Kenya and mainland Tanzania between World War II and Independence. (seminar) Prerequisite: nine hours of lower division history credit.

HIST 483-4 The Struggle for Identity in Sub-Saharan Africa
Selected topics in the history of an African state. (seminar) Prerequisite: nine hours of lower division history credit.

HIST 484-4 History of Women in North America
An examination of women at home, women in the labor force, and women and politics in the public sphere from 1830 to the present. (seminar) Prerequisite: nine hours of lower division history credit.
HIST 485-4 Studies in History I
Special topics. (seminar) Prerequisite: nine hours of lower division history credit.

HIST 486-4 Studies in History II
Special topics. (seminar) Prerequisite: nine hours of lower division history credit.

HIST 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: nine hours of lower division history credit. Recommended: at least three upper division courses in History

HIST 490-4 Studies in History
Allows students to pursue in greater depth a particular historical problem. It will be offered either as an individual reading course or as small seminars, depending upon student and faculty interest. Admission only by consent of instructor. (seminar) Prerequisite: nine hours of lower division history credit. Recommended: at least three upper division courses in History

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: nine 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 Faculty of Arts

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. Students who have taken GRE 100 cannot take this course for further credit. (tutorial)

HUM 152-3 Ancient Greek II
The continuation of Ancient Greek I. Prerequisite: HUM 151, or permission of the instructor. Students who have taken GRE 100 cannot take this course for further credit. (tutorial)

HUM 161-3 Latin I
An introduction to the Latin language. Students who have taken LATN 100 cannot take this course for further credit. (tutorial)

HUM 162-3 Latin II
The continuation of Latin I. (tutorial) Prerequisite: HUM 161 or permission of the instructor. Students who have taken LATN 100 cannot take this course for further credit. (tutorial)

HUM 201-3 Great Texts in the Humanities I
This course is 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
This course is 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 106 or PHIL 151 or 30 credit hours.

HUM 203-3 Great Texts in the Humanities III
This course is an introduction to classic texts which have endured as RCs of 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 On the Seriousness of the Future
An exploration of the central controversies concerning the structure and development of western thought. (lecture/tutorial) Students who have taken GS 227 cannot take this course for further credit.

HUM 230-3 Introduction to Religious Studies
The examination of religion as expressed in the religious and humanistic traditions available through the investigation of primary textual sources. A critical and appreciative approach to religious phenomena will be emphasized through the theological, literary, historical, philosophical and behavioral backgrounds that influence our understanding of religion. (lecture/tutorial)

HUM 302-4 The Golden Age of Greece: An Integrated Society
The 5th century BC in Athens remains a period unique in the record of human achievement. During the space of less than a century, virtually all the major humanistic fields were either initiated or else received significant new impetus. This course seeks to integrate the remarkable achievements of this 'golden age' into one coherent examination of its elements, using slides or photographs for the artistic and architectural material and translated original texts as the basis of discussion. (seminar) Prerequisite: 45 credit hours.

HUM 303-4 The Latin Humanist Tradition
Study of the major writings of Latin authors such as Plautus, Virgil, Seneca, Cicero, Augustine, and John of Salisbury. (lecture/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 as lived in early medieval Europe under Charlemagne and his family. (seminar) Prerequisite: 45 credit hours.

HUM 311-4 Humanists and Humanism in the Italian Renaissance
A study of the major writings, cultural milieu, and influence of the humanist movement of the Italian Renaissance. (seminar) Prerequisite: 45 credit hours.

HUM 312-4 Renaissance Studies
A detailed interdisciplinary analysis of a selected topic, issue, or personality from the Italian and/or Northern Renaissance. (seminar) Prerequisite: 45 credit hours.

HUM 320-4 The Humanities and Philosophy
How does the study of the humanities, with its emphasis on expression, belief, and tradition, present the central concepts of western civilization in a way which cannot be understood simply as history or sociology? If different cultures, or different historical periods within a culture produce different interpretations of human value and different images of humanity, how are they to be reconciled and related to one another? These questions will be discussed through the integrated study of history, literature, arts and philosophy. (seminar) Prerequisite: 45 credit hours. Students who have taken this course as HUM 306 cannot take this course for further credit.

HUM 321-4 The Humanities and Critical Thinking
The humanities have traditionally been associated with 'the best that has been thought and said throughout the history of civilization. But from its beginnings western civilization has also been characterized by the restless criticism of its own ideals. This course will compare and contrast diverse critical traditions within western culture, the attempts of great artists and thinkers to break with tradition, and the subsequent creation of new ideas and forms of experience and expression. (seminar) Prerequisite: 45 credit hours. Students who have taken this course as HUM 308 cannot take this course for further credit.

HUM 325-4 Humanity and the Natural World
Concern for a seemingly deteriorating natural environment has made the interaction of humans with the other-than-human natural world a central topic of humanistic, scientific, political, and ideological discourse. Using classic and contemporary sources, this course examines aspects of this discourse, including: human communities and nature; individual humans immersed in nature; and nature and human habitat. (seminar) Prerequisite: 45 credit hours.

HUM 327-4 The Study of the Future
An exploration of some of the questions, issues, and problems that arise when we attempt to understand, to predict, or to control various aspects of the future. (lecture/tutorial) Prerequisite: 45 credit hours. Students who have taken this course as GS 427 cannot take this course for further credit.

HUM 330-4 Religion in Context
An in-depth investigation of a specific case of religious history and tradition. Religion will be studied through the cultural and historical contexts that pervade and structure religious meaning and expression. (seminar) Prerequisite: 45 credit hours. Students who have taken this course as HUM 304 cannot take this course for further credit.

HUM 340-4 Great Cities in Their Time
This course will explore the cultural and intellectual accomplishments of great cities that achieved prominence in their own time and had a substantial impact and influence on human civilization. We shall explore the political, social, religious, and cultural factors that help to explain a city's significance and will closely investigate the achievements of its citizens. (seminar) Prerequisite: 45 credit hours.

HUM 375-4 The Woodsworth Seminar
A special topic in the humanities to be offered by the Woodsworth chair. (seminar) Prerequisite: 45 credit hours.

HUM 376-4 The Hellenic Studies Seminar
A special topic in the humanities normally to be offered by the holder of the Hellenic Congress of BC chair in hellenistic studies (seminar) Prerequisite: 45 credit hours.

HUM 381-4 Selected Topics in the Humanities I
(seminar) Prerequisite: 45 credit hours.

HUM 382-4 Selected Topics in the Humanities II
(seminar) Prerequisite: 45 credit hours.

HUM 383-4 Selected Topics in the Humanities III
(seminar) Prerequisite: 45 credit hours.

HUM 390-4 Directed Studies in Humanities
Prerequisite: two of any 300 level humanities courses or permission of the co-ordinator plus permission of instructor.

HUM 400-5 Humanities Study Project
A substantial research and writing project culminating in the completion of an essay on a humanities topic. Prerequisite: completion of 75 semester hours of...
Kinesiology

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, cardio-respiratory system, kidney and gastrointestinal system. (distance education) Kinanthropology majors and honors students may not receive credit for KIN 105. Students with credit for KIN 100 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.

KIN 140-3 Contemporary Health Issues
Explores health from a holistic perspective, in which health is viewed as physical, psychological, and social well-being. Considers genetics, environment, personal health behaviors (such as diet, exercise, stress management, and drug use), socioeconomic status, health care delivery systems, and aging with the intent to improve students’ abilities to evaluate health information. (lecture/tutorial)

KIN 141-3 Introduction to Sport Science
A broad overview of factors contributing to athletic performance. The role of the scientist in developing technologies, training environments and methods contributing to elite performance will be studied. (lecture/tutorial/Tutorial) Recommended: BC grade 12 sciences.

KIN 142-3 Introduction to Kinesiology
Basic prerequisites for the assessment of the status and performance of the individual according to the principles of anthropometry, functional anatomy, biomechanics, exercise physiology, and motor learning. (lecture/laboratory) Recommended: grade 11 biology, chemistry and physics.

KIN 143-3 Exercise Management
Introduces the student to the areas of exercise management and exercise physiology. The importance of individual variation and personal exercise prescription is emphasized. (lecture/laboratory) Recommended: medical clearance from a personal physician.

KIN 201-3 Basic Biomechanics
This course will cover the area of biomechanics to human movement. It will provide students with a basic understanding of how forces act on body segments and how movements are produced. The subject matter of this course is relevant to quantifying all forms of physical activity, from activities of daily living, physically challenged movement patterns, to elite athletic performance. It also has applications in medical settings, including rehabilitation and sports medicine. (lecture/tutorial) Prerequisite: MATH 152 or 155, PHYS 101 or 120, KIN 142. Students with credit for KIN 401 may not take KIN 201 for further credit.

KIN 203-3 Computer Applications in Kinesiology
An introductory course on the various applications of computers to the study of Kinesiology. Topics to be covered include operating systems and programming languages, computer simulations, computer aided instruction, data capture and analysis and real-time control. (lecture/laboratory) Prerequisite: KIN 142 and an intended or approved kinesiology major.

KIN 205-3 Introduction to Human Physiology
An introductory survey of human physiology with an emphasis on mechanisms of regulation and integration. Anatomy of structures will be detailed only when it is critical to a functional understanding. Although this is 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: BICH 100 (or BSCI 201), CHEM 102, and PHYS 101 (or 120). Students with credit for KIN 100 may not receive credit for KIN 205.

KIN 207-3 Information Processing in Human Motor Systems
Students are introduced to human motor systems from psychological, physiological and computational approaches. Although a behavioral (information processing) approach to understanding voluntary goal-directed movement is stressed, research from a variety of distinct areas is integrated in an attempt to provide a coherent picture of our understanding of human motor systems. (lecture/tutorial) Prerequisite: KIN 142 or permission of instructor.

KIN 212-3 Food and Society
This course deals with the cultural, social, agricultural and economic factors which influence food selection and nutrition. Students will explore traditional diets of various ethnic groups, and diet modification as immigrants adjust to life in a new country or to an urban setting. The course will also examine the domestic, national and global food security, hunger in the developing and developed world, and sustainable methods of meeting the increasing world food demand. Prerequisite: KIN 110, 111.

KIN 221-3 Special Topics in Kinesiology
Selected topics in areas not currently offered within the undergraduate course offerings in the School of Kinesiology. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 241-3 Sports Injuries — Prevention and Rehabilitation
Includes delineation of the role of the sports therapist and will study the structural and functional characteristics of the body with regard to the prevention of injury in sports and an 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 studying motion of body segments in athletes, normal populations and special populations will be included. Experiments will measure force production in whole body activities such as walking and jumping. Experiments will also look at the nature of muscular force generation and the mechanical properties of the musculoskeletal system. Prerequisite: PHYS 130 or 131, KIN 201. Students with credit for KIN 401 may not take KIN 301 for further credit.

KIN 303-3 Kinanthropometry
A study of human size, shape, proportion,
ability to apply this knowledge to daily activities. (lecture/laboratory) Prerequisite: KIN 142, 205 (formerly KIN 100) and at least 60 hours undergraduate course credit. Students with credit for KIN 325 may not take KIN 326 for further credit.

KIN 336-3 Microscopic Anatomy (Histology) Light and electron microscopic study of mammalian tissues and organs with emphasis on human systems. (lecture/laboratory) Prerequisite: KIN 326 or permission of the instructor.

KIN 343-3 Active Health: Assessment and Promotion An extension of KIN 143. Exercise Management, designed to provide students with an opportunity to appreciate principles of exercise leadership, assess individual fitness needs, design programs and monitor effects of prescribed exercise. The course includes a 34 hour practicum. (lecture/laboratory) Prerequisite: KIN 105 or 205 (formerly KIN 100), 142 and 143.

KIN 351-0 Practicum I The first semester of work experience. It is available only to kinesiology co-operative education students. Prerequisite: students must apply to the kinesiology co-op coordinator at least one semester in advance. A student may not register for KIN 499 and 351 concurrently.

KIN 352-0 Practicum II The second semester of work experience. It is available only to kinesiology co-operative education students. Prerequisite: students must apply to the kinesiology co-op coordinator at least one semester in advance. They will normally be required to have completed KIN 251. A student may not register for KIN 499 and 352 concurrently.

KIN 367-3 Psychology of Motor Skill Acquisition An examination of phases of skill acquisition, transfer of training, training principles, retention of motor skills, and the influence of motivation, personality and social factors on the acquisition of skill. (lecture/tutorial/laboratory) Prerequisite: at least 60 hours of undergraduate course credit.

KIN 370-3 Biomechanical Analysis of Sport This course applies biomechanical principles to the qualitative analysis of human movement. Students will learn to assess human movement in all sporting and fitness activities (including aquatic activities). The course will also cover the mechanical interaction between athletes, their environment and the environment. This course is aimed at students with an interest in teaching and coaching sports, Kinesiology minors, health and fitness studies certificate students and Faculty of Education students in the minor in elementary school physical education program. (lecture/tutorial) Prerequisite: KIN 105 (formerly KIN 100), 142, and 143. Kinesiology majors cannot obtain credit for both KIN 201 and 370.

KIN 375-3 Human Growth and Development The fundamentals of physiological growth and development from conception to maturity. Topics included form a solid foundation for those interested in designing appropriate activity programs for children of all ages. (lecture/tutorial) Prerequisite: KIN 105 or 205 (formerly KIN 100), 142 and 143.

KIN 380-3 Occupational Biomechanics This course will teach the principles of biomechanical analysis and their application in the workplace. Topics will include techniques for measurement and analysis of movement; analysis of forces and accelerations in three dimensions; work and power; simple biomechanical and biomechanical models; standards for lifting and carrying, their application and limitations. Prerequisite: KIN 201, 205 and 326 which 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, PHYS 130 or 131, KIN 201, 205, 280. Students with credit for KIN 480 may not take KIN 382 for further credit.

KIN 383-3 Human-Machine and Human-Computer Interaction Human information processing and motor control factors are considered as relevant to effective, usable human-machine interfaces. A user-centred approach deals with task analysis, context of use, information processing demands, the interface, and the design, assessment and usability of tools, machines and computers. (lecture/tutorial) Prerequisite: at least 60 credit hours and KIN 280 or by permission of instructor. KIN 203 or relevant computing background required.

KIN 402-3 Mechanical Properties of Tissues A study of the mechanical behavior of tissues of the body and relation of this behavior to their structure and function. The course is designed to fill the gap between basic anatomical and mechanical structure and physiological function, with a view to assessing the effects of unusual conditions (including exercise) upon behavior to tissues. (lecture/tutorial) Prerequisite: KIN 301.

KIN 407-3 Human Physiology Laboratory Experiments dealing with the nervous, muscular, cardiovascular, respiratory, and renal systems are covered. (laboratory) Prerequisite: PHYS 130 (or KIN 310). KIN 305 and 306, one of which must already have been completed and the other can be taken concurrently.

KIN 412-3 Molecular and Cellular Cardiology This course entails a detailed analysis of the molecular and cellular basis of cardiac function. The material will be derived from relevant disciplines including: anatomy (histology and ultrastructure), biomechanics, physiology, electrophysiology, biochemistry and molecular biology. A particular emphasis will be placed on the mechanisms by which the heart responds to stresses such as ischemia and exercise. (lecture/tutorial) Prerequisite: KIN 305.

KIN 415-3 Neural Control of Movement An in depth treatment of neuropsychology. 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, and the vestibular system and the visual system. (lecture/tutorial) Prerequisite: KIN 306 or BISC 305 or PSYC 381.

KIN 416-3 Control of Limb Mechanics Control of the human musculoskeletal system examined from the perspective of mechanical impedance. Mechanics of individual muscles, single joints spanned by multiple muscles and multi-joint limb segments are discussed in the context of physical interaction with the environment. Prerequisite: KIN 201 and 306.

KIN 418-4 Electrophysiological Techniques Lab This laboratory course allows students to explore basic biophysical and electrophysiological properties of excitable tissues in a realistic research environment and to develop practical laboratory skills for the neurosciences. Prerequisite: KIN 306. Recommended: KIN 415.

KIN 420-3 Selected Topics in Kinesiology I Seminar topics in areas as not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from semester to semester, depending on faculty availability and student interest. Prerequisite: to be announced in the Course Timetable and Exam Schedule.
KIN 421-3 Selected Topics in Kinesiology II
Seminar topics in areas as not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course explore human neuromuscular control, depending on faculty availability and student interest. Prerequisites: to be announced in the Course Timetable and Exam Schedule.

KIN 422-3 Selected Topics in Kinesiology III
Seminar topics in areas as not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from semester to semester, depending on faculty availability and student interest. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 423-3 Selected Topics in Kinesiology IV
Selected topics in areas 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 given in neuroanatomy with additional emphasis on muscular system 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 techniques applied to adaptations to muscle activity and variations in food intake. (lecture/tutorial) Prerequisite: BICH 221 (or BICH 222), KIN 105 or 205 (formerly KIN 100), 142 and 90 credit hours.

KIN 461-3 Physiological Aspects of Aging
Designed for those who require a serious but fairly broad discussion of physiological aspects of aging. The overall emphasis is on humans and other mammalian species and the varieties of aging changes they manifest. (lecture/tutorial) Prerequisite: KIN 105 or 205 (formerly KIN 100), 142 and 90 credit hours.

KIN 485-4 Human Factors in the Underwater Environment
The physiological effects of pressure on the human body and interfacing of humans and machine underwater are considered. Topics include the history of diving, decompression theory, decompression disorders, pulmonary function, underwater work, breathing apparatus, narcosis, saturation diving, high pressure nervous syndrome, and atmospheric diving suits. (lecture/ 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 a 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 essence of industrial design is to arrange system components so as to minimize production inefficiencies and quality control and safety compromises.

KIN 496-3 Directed Study I
The fourth semester of work experience. It is available only to kinesiology co-operative education students. Prerequisites: students must apply to the kinesiology co-op co-ordinator at least one semester in advance. They will normally be required to have completed KIN 451. A student may not register for KIN 499 and 452 concurrently.

KIN 497-3 Directed Study II
Directed study and research selected in consultation with the supervising instructor. A short proposal of the project approved by the course supervisor must be submitted for approval to the director before the first registration period for the semester in which the student plans to register. 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.

KIN 499-12 Kinesiology Undergraduate Honors Thesis
A thesis based on research previously proposed in KIN 497. Formal approval of the research topic is given by obtaining a minimum grade of B in KIN 497. Regulations regarding the locale of the work, supervision and other arrangements, follow those for KIN 497. The work need not be conducted at Simon Fraser University and may be completed external to SFU. Supervision of KIN 497 will be conducted by a suitable faculty member, but may be co-supervised by an industrial/community partner. Supervisor(s) must be approved by the undergraduate program committee. The plan of activities for each KIN 497 should be submitted to the chair of the undergraduate program committee for approval one month prior to the semester in which the course will be taken. Prerequisite: only students in the honors program may register for KIN 497; 90 credit hours, STAT 301, and permission of the chair of the undergraduate program committee.

KIN 499-3 Kinesiology Undergraduate Honors Thesis Proposal
Supervised directed study and research leading to the development of a formal undergraduate thesis proposal for work to be conducted in KIN 497. The activity in KIN 497 may be augmented by other course work and a pilot study. In cases where an industrial/community partner is involved in the development of a project, the work need not be conducted at Simon Fraser University and may be completed external to SFU. Supervision of KIN 497 will be conducted by a suitable faculty member, but may be co-supervised by an industrial/community partner. Supervisor(s) must be approved by the undergraduate program committee. The plan of activities for each KIN 497 should be submitted to the chair of the undergraduate program committee for approval one month prior to the semester in which the course will be taken. Prerequisite: only students in the honors program may register for KIN 497; 90 credit hours, STAT 301, and permission of the chair of the undergraduate program committee.
LANG 100-149 1,2,3,4,5 Introduction to a World Language
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
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) This is a required course for LAS majors, joint majors and minors. Open to all students. Recommended: LAS 140

LAS 300-3 Latin American Literature
A study in English of significant contributions to Latin American literature. (lecture/tutorial)

LAS 309-3 Special Topics: Regional Studies
An interdisciplinary study of a specific Latin American region, e.g., Central America, the Andes, the Southern Cone, Amazonia, etc. One region will be examined from a multidisciplinary perspective: history, literature, politics, economy, etc. (seminar) Prerequisite: LAS 200.

LAS 311-3 Special Topics: Latin American International Relations
A multidisciplinary study of bilateral issues between Latin America and a specific country or region, e.g., US and Latin America, the Pacific Rim. Historical, economic, and ideological perspectives as well as topics related to business, foreign aid, and immigration will be emphasized. (lecture/tutorial) Prerequisite: LAS 200.

LAS 312-3 Special Topics: Latin American Cultural Topics
A cross-disciplinary focus on specific elements of contemporary Latin American and Iberian culture. Topics such as indigenous, Afro-Latin culture, religion, literature, and folklore will be studied. (lecture/tutorial) Prerequisite: LAS 140 or 200.

LAS 318-3 Political Economy of Latin American Development
This is a survey course which introduces students to the various theoretical approaches which have been used since the 1950’s to understand the political economy of Latin American development. It deals with some of the classic theories of modernization, dependency, world systems, and modes of production analysis. The course is devoted to the most contemporary issues of Latin American development, such as the agrarian question, women and development, problems of urbanization and the informal sector. (lecture/ seminar) Prerequisite: LAS 200 and either ECON 102 or 105 or permission of the instructor.

LAS 320-3 Canada and Latin America
An analysis of Canada’s multi-faceted relations with Latin America. Topics include: the history of Canada’s foreign policy towards Latin America, trade and investment, official development assistance and the role of non-governmental organizations, human rights, immigration and refugee policy, and participation in multilateral institutions (e.g. the OAS). (lecture/seminar) Prerequisite: LAS 200 or permission of instructor.

LAS 323-3 Women in Latin American Literature and Society
This course will examine how women writers and artists from Latin America have represented themselves as gendered social, historical and philosophical subjects. (lecture/tutorial) Prerequisite: LAS 200.

LAS 402-5 Field Study II
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 cooperation with the host country. (seminar/field study) Prerequisite: LAS 200

LAS 403-3 Special Topics: Latin American Economy and Society
This seminar will be taught co-operatively by LAS associated faculty or by a visiting professor. A topic will be chosen which can be examined profitably from a multidisciplinary perspective. (seminar) Prerequisite: LAS 200.

LAS 404-3 Special Topics: Field School I
This course will be part of the LAS field school in Latin America. The selected region will be examined on site from a multidisciplinary perspective. (seminar) Prerequisite: LAS 200 or permission of the department.

LAS 405-3 Special Topics: Field School II
This course will be part of the LAS field school in Latin America. A topic will be chosen which can be examined profitably from a multidisciplinary perspective (seminar) Prerequisite: LAS 200 or permission of the department.

LAS 410-4 Andean History and Culture
An interdisciplinary study of the history and culture of the Andean region from the Inka period to the present. The first half of the course examines the Andean response to colonialism and the nation-state; the second half focuses on issues and problems that Andean peoples confront today. (seminar) Prerequisite: LAS 140 and 200 or permission of the instructor.

LAS 498-5 Independent Study Project
Independent reading and research on a cross-disciplinary project under the supervision of a faculty member. A term paper will be required. Prerequisite: 90 credit hours, including LAS 200, and permission of the department.

Liberal Arts
Faculty of Arts

LBRL 101-0 Practicum I
First semester of work experience in the Liberal Arts co-operative education program. Prerequisite: at least 30 semester hours with a minimum CGPA of 3.0, including ENGL 099 and PHIL 001. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

LBRL 201-0 Practicum II
Second semester of work experience in the Liberal Arts co-operative education program. Prerequisite: successful completion of Liberal Arts 101 and at least 45 semester hours with a minimum CGPA of 3.0. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

LBRL 301-0 Practicum III
Third semester of work experience in the Liberal Arts co-operative education program. Prerequisite: successful completion of LBRL 201 and at least 60 semester hours with a minimum CGPA of 3.0. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

LBRL 401-0 Practicum IV
Fourth semester of work experience in the Liberal Arts co-operative education program. Prerequisite: successful completion of Liberal Arts 301 and at least 75 semester hours with a minimum CGPA of 3.0. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

LBRL 402-0 Practicum V
Optional fifth semester of work experience in the Liberal Arts co-operative education program. Prerequisite: successful completion of LBRL 401 and at least 90 semester hours with a minimum CGPA of 3.0. Students should apply to the Faculty of Arts co-op co-ordinators by the end of the third week of the semester preceding the employment semester.

Linguistics
Faculty of Arts

LING 100-3 Communication and Language
A non-theoretical approach to the study of language using examples from a variety of languages. (lecture)

LING 110-3 The Wonder of Words
Study of the structure of words, the change of meaning of words, the change in form of words. Examples from English, French and other languages. A general interest course open to all students. (lecture)

LING 130-3 Practical Phonetics
Practical training in the description of sounds used in language. (seminar)

LING 200-3 Introduction to the Description of English Grammar
A practical overview of English grammar based on linguistic principles, for the description of English grammar. Includes 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. (3.0-0-0)
LING 202-3 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 220.

LING 222-3 Introduction to Syntax
The principles of syntactic analysis. (lecture)
Prerequisite: LING 220.

LING 231-3 Introduction to a First Nations Language I
An introductory course in the structure of a native language of the Americas, including phonetics, vocabulary, word formation, and grammatical constructions. The course will be based on a designated language to be named each time it is taught, and will usually be chosen from the Northwest Coast area. (tutorial) Prerequisite: LING 130. Students who have taken LING 431 in semester 90 may not take this course for further credit.

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) This course may not be taken for credit toward a major, minor or honors program in Linguistics.

LING 321-3 Phonology
An overview of theoretical principles in phonology. (lecture/tutorial) Prerequisite: LING 221 or 310.

LING 322-3 Syntax
The study of sentence structure in language through a survey of constructions found in natural language data together with a consideration of syntactic theory. (lecture/tutorial) Prerequisite: LING 222 or 310.

LING 323-3 Morphology
Word structure in natural languages and its relationship to phonological and syntactic levels of grammar. (lecture) Prerequisite: LING 221, 222; or 310.

LING 324-3 Semantics
The basics of word meaning, including: sense and reference, componential analysis, color and kinship terminology, semantic universals, synonymy and antonymy, one and two term predicates, lexical decomposition, presupposition, and selection restrictions. (lecture/tutorial) Prerequisite: LING 222 or 310.

LING 330-3 Phonetics
A survey of methods of speech sound description and transcription. (lecture/tutorial) Prerequisite: LING 221 or 310.

LING 331-3 Description and Analysis of a First Nations Language I
An intermediate course in the structure of a native language of the Americas, including writing systems, texts and examination of the general linguistic properties of the language and the language family in which it is situated. The course will be based on a designated language to be named each time it is taught, and will usually be chosen from the Northwest Coast area. (tutorial) Prerequisite: LING 232 or equivalent credit in the same language.

LING 332-3 Description and Analysis of a First Nations Language II
A continuation of the intermediate course in a native language of the Americas, including writing systems, texts, and examination of the general linguistic properties of the language and the language family in which it is situated. The course will be based on a designated language to be named each time it is taught, and will usually be chosen from the Northwest Coast area. (tutorial) Prerequisite: LING 331 or equivalent credit in the same language.

LING 350-3 First Language Acquisition
Introduction to the study of language acquisition from the point of view of linguistic structure. (lecture/tutorial) Prerequisite: LING 130, 220. Students who have taken LING 250 may not take this course for further credit.

LING 360-3 Linguistics and Language Teaching
Theoretical and practical aspects of second language learning. (lecture/tutorial) Prerequisite: LING 130, 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 362. This course is graded on a pass/fail basis.

LING 400-3 Formal Linguistics
Formal systems and their relation to linguistic methods and theory. Topics include the mathematical properties of natural languages, and rigorously defined frameworks for linguistic analysis and their formal properties. (lecture/tutorial) Prerequisite: LING 322. Recommended: PHIL 210.

LING 401-3 Advanced Phonetics
Advanced training in speech sound description and analysis in the impressionistic and instrumental modes. (lecture/tutorial/laboratory) Prerequisite: LING 330.

LING 403-3 Advanced Phonology
Detailed study of the formulation of phonological theories and their testing with natural language data. (lecture/tutorial) Prerequisite: LING 321.

LING 405-3 Advanced Syntax
In-depth investigation of theoretical frameworks for syntactic description of natural languages. (lecture/tutorial) Prerequisite: LING 322.

LING 406-3 Advanced Semantics
This course will examine aspects of sentence meaning, including: truth conditions and their derivation from lexical and syntactic information; meaning-changing transformations; quantifier interchange; specificity and its relation to quantifier scope; opaque contexts; the role of meaning postulates; pragmatic aspects of meaning; performative sentences. (lecture) Prerequisite: LING 322, 324. Recommended: PHIL 210.

LING 407-3 Historical Linguistics
The development of languages and language families through time; genetic grouping, the comparative method, reconstruction, etymology, universals and language change. (lecture) Prerequisite: LING 321, 322 and 323.

LING 408-3 Field Linguistics
The investigation and description of an unfamiliar language. (lecture/seminar) Prerequisite: LING 221 and 222; or 310.

LING 409-3 Sociolinguistics
A systematic approach to the study of linguistic variation in different areal, social, and cultural settings. (lecture) Prerequisite: LING 220 or 310, 260.

LING 423-3 Advanced Morphology
Principles of morphological theory and a survey of current research on word structure. (lecture/tutorial) Prerequisite: LING 321, 322, 323.

LING 430-3 Native American Languages
Structural and genetic characteristics of Native languages of America, with special emphasis on languages of the Northwest. Detailed examination of one language or language family. (seminar) Prerequisite: LING 221 and 222; or 310.

LING 431-3 Language Structures I
Detailed examination of the structure of a selected language. (seminar) Prerequisite: LING 221 and 222; or 310.

LING 432-3 Language Structures II
Detailed examination of the structure of a selected language. (seminar) Prerequisite: LING 221 and 222; or 310.

LING 441-3 Linguistic Universals and Typology
A survey of the main language types found in the world with reference to their structural properties; the categorization of language types as a consequence of linguistic universals. (lecture) Prerequisite: LING 221 and 222; or 310.

LING 480-3 Topics in Linguistics I
Investigation of a selected area of linguistic research. (seminar) Prerequisite: 12 credit hours of upper division linguistics courses.

LING 481-3 Topics in Linguistics II
Investigation of a selected area of linguistic research. (seminar) Prerequisite: 12 credit hours of upper division linguistics courses. Note: may be taken without LING 480.

LING 490-3 Honors Essay
Topic of a specific nature to be agreed upon by the student and a particular faculty member. (seminar) Prerequisite: a minimum of 35 hours of upper division linguistics courses counting toward the honors degree.

Management and Systems Science
Faculty of Science
See also courses listed under Economics (ECON), Business Administration (BUS), Computing Science (CMPT) and Mathematics (MATH) and Statistics (STAT).

MSSC 480-481 Undergraduate Seminar in Management and Systems Science
A seminar for students undertaking a major or an honors program in management and systems science. (seminar) Prerequisites: completion of all required lower division courses and at least 15 upper division credits required in the program.

Marine Science
Faculty of Science
See also courses listed under Biological Sciences (BISC).

Note: These courses are generally offered at the Bamfield Marine Station, Vancouver Island, during the summer and fall. See also courses listed under Biological Sciences (BISC) for additional courses taught at this facility.
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.

**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: admission by the director, Bamfield Marine Station.

**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.

**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 different groups. Laboratory 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 classical experiments will be performed. Efforts will also be made to study various pelagic larvae. Prerequisite: BISC 306 or 316.

**MASC 412-6 Biology of Fishes**
Classification, physiology, ecology, behavior and zoogeography of fishes with particular emphasis on those in the marine environment of the British Columbia coast. Local collections from a variety of habitats will be used for experimental studies. Prerequisite: BISC 316.

**MASC 413-3 Biology of Marine Molluscs**
An advanced course of selective topics emphasizing functional morphology, ecology and evolution of this diverse phylum. Field trips will be undertaken to survey the representative molluscs of the Bamfield region. Students will be expected to complete an independent field or laboratory study of selected molluscs.

**MASC 415-3 Structure and Function in Animals**
The course will focus on the structure of marine animals and their adaptations to the marine environment. Neurobiology, developmental biology, functional morphology and other topics will be covered. Prerequisite: admission by the director, Bamfield Marine Station.

**MASC 425-3 Ecological Adaptations of Seaweeds**
The course will explore morphological physiological, genetic and reproductive adaptations of seaweeds to their natural and man-altered environments. Prerequisite; admission by the director, Bamfield Marine Station.

**MASC 430-6 Marine Ecology**
An analytical approach to biotic associations in the marine environment. Opportunities will be provided 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 subtidal and benthic environments by diving and dredging are envisaged. Prerequisite: BISC 306 or 326.

**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: admission by the director, Bamfield Marine Station.

**MASC 440-3 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 and methods of studying marine birds in the field will be stressed during field trips to the Barkley Sound region. Seabird identification, classification, morphology, plumages and molt will be examined in the laboratory.

**MASC 445-3 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.

**MASC 446-3 Comparative Ethology**
A comparative study of marine animals (vertebrate and invertebrate) emphasizing behavioral description, underlying physiological mechanisms, the biological significance of behavior and behavioral evolution. The course will include independent laboratory and field studies.

**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: admission by the director, Bamfield Marine Station.

**Mathematics and Computing Science**

**Faculties of Applied Sciences**

**MATH 100,110,190 TLX 9505 Dr. M. Dubiel Calculus and Linear Algebra Workshop MATH 151,152,232 AQ 4110 Mrs. T. Berggren Applied Calculus Workshop MATH 154,155,157,158 TLX 9503 Dr. J.C. Arya Workshop for Computer Aided Tutoring MATH 171, 172 TLX 9514 Dr. J. Hebron**

Downtown sections of these courses are not scheduled through the 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.

**Basic Mathematics Workshop**
MATH 100,110,190 TLX 9505 Dr. M. Dubiel Calculus and Linear Algebra Workshop MATH 151,152,232 AQ 4110 Mrs. T. Berggren Applied Calculus Workshop MATH 154,155,157,158 TLX 9503 Dr. J.C. Arya Workshop for Computer Aided Tutoring MATH 171, 172 TLX 9514 Dr. J. Hebron**

**Beginning Level Requirements in Mathematics**
Students considering registering in a mathematics course who do not have BC mathematics 11 (or equivalent) with at least a grade of C must see the co-ordinator of the basic math workshop. These students may take the non-credit course, basic algebra, offered through the Department of Mathematics and Statistics, if they wish.

**The prerequisites for the first mathematics courses are as follows.**

**MATH 100,110,113,190 BC mathematics 11 (or equivalent) with a grade of at least C or permission of the department or the non-credit course, basic algebra**

**MATH 157 BC mathematics 12 (or equivalent) with a grade of at least B; or MATH 110 with a grade of at least C-; or (with permission of the department) MATH 100 with a grade of at least C-**

**MATH 151,154 BC mathematics 12 (or equivalent) with a grade of at least B or MATH 100 with a grade of at least C-**

**MAC 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 300-3 Introduction to Formal Languages and Automata with Applications**
Languages, grammars, automata and their applications. Turing machines. Computability and undecidability. Complexity theory. (lecture/tutorial) Prerequisite: MACM 201.

**MACM 316-3 Numerical Analysis I**
A presentation of the problems commonly arising in numerical analysis and 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.

**Mathematics**

**Faculty of Science**

**Undergraduate Courses 241**
Students who are unsure of their level of preparation are strongly encouraged to take the free math assessment test at the basic math workshop, TLX 9565, the Evening Resource Centre (if the workshop is closed) or SFU at Harbour Centre.

Minimum Grade Requirement in Prerequisites for Later MATH Courses

Students enrolled in courses offered by the Department of Mathematics and Statistics must have obtained grades of C- or better in prerequisite courses.

Some experience with a high level programming language is recommended by the beginning of the second year.

Courses marked with an asterisk (*) are intended to be particularly accessible to students who are not specializing in mathematics.

No student may take, for further credit, any course offered by the Department of Mathematics and Statistics which is a prerequisite for a course the student has already completed with a grade of C- or higher, without permission of the department.

**MATH 100-3 Precalculus**
Algebraic, exponential, logarithmic and trigonometric functions and their graphs. Conic sections, applications. (3-0-1) Prerequisite: see above table. This course may not be taken for credit by students who already have credit for any mathematics course for which this course (or BC mathematics 12) is a prerequisite. Students may not count more than one of MATH 100 or 110 for credit. MATH 100 may not be counted towards the mathematics minor, major or honors degree requirements.

**MATH 110-3 Introductory Mathematics for the Social and Management Sciences**
Linear and quadratic functions, sequences and sums, compound interest, exponential and logarithmic functions, counting techniques, probability. (3-0-1) Prerequisite: see above table. This course may not be taken for credit by students who already have credit for any mathematics course for which this course (or BC mathematics 12) is a prerequisite. Students may not count more than one of MATH 100 or 110 for credit. MATH 100 may not be counted towards the mathematics minor, major or honors degree requirements.

**MATH 113-3 Euclidean Geometry**
Plane Euclidean geometry, congruence and similarity. Theory of parallels, Polygonal areas. Pythagorean theorem. Geometrical constructions. (3-1-0) Prerequisite: see above table.

**MATH 144-3 Introduction to Pure Mathematics**
An introduction to proofs and techniques of proofs such as mathematical induction. The fundamental notions of modern pure mathematics such as logic, sets, functions and relations. (3-1-0) Prerequisite: see above table.

**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: see above table. Students with credit for either MATH 151 or 157 may not take MATH 154 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; or MATH 157 with a grade of A or B. Students with credit for MATH 155 or 158 may not take MATH 152 for further credit.

**MATH 153-3 Calculus I for the Biological Sciences**
This course is designed for students specializing in the biological and medical sciences. Topics include: limits, growth rate and the derivative; logarithmic, exponential and trigonometric functions and their applications in population study; optimization and approximation methods. (3-0-1) Prerequisite: see above table. Students with credit for either MATH 151 or 157 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 II**
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; functions of several variables. (3-0-1) Prerequisite: see above table. 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 must have obtained grades of C- or better in prerequisite courses. Students with credit for MATH 152 or 155 may not take MATH 158 for further credit.

**MATH 160-0 Honors Supplement for Calculus I**
The class meets one hour each week. Students will spend most of the time working on challenging problems relating to the material of MATH 151, Calculus I but will also have the opportunity to investigate many different areas of mathematics. (0-1-0) Prerequisite: a grade of A or better in mathematics 12 (or equivalent) or a grade of A or better in MATH 151 or permission of the department. This course will be graded on a pass/no entry basis.

**MATH 162-0 Honors Supplement for Calculus II**
The class meets one hour each week. Students will spend most of the time working on challenging problems relating to the material of MATH 152, Calculus II, but will also have the opportunity to investigate many different areas of mathematics. (0-1-0) Prerequisite: a grade of A or better in MATH 151 or its equivalent and a grade of pass in MATH 161 or permission of the instructor. This course will be graded on a pass/no entry basis.

**MATH 171-1 Computer Explorations in Calculus I**
This supplement to MATH 151/154/157 gives students the opportunity to explore and investigate the underlying principles of differential calculus using leading edge computer software currently used in mathematical and scientific research and industry. Previous experience with computers would be beneficial, but it is not required. Prerequisite: MATH 151, 154 or 157. Students must have obtained grades of C- or better in prerequisite courses. 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: This course may not be counted toward the Mathematics minor, major or honors degree requirements. Candidates for degrees in the Faculty of Science may not use this course for the satisfaction of degree requirements. Students who have taken, have received transfer credit for, or are currently taking MATH 151, 154 or 157 may not take MATH 190 for credit without permission from the Department of Mathematics and Statistics.

**MATH 198-3 Selected Topics in Mathematics**
Topics in areas of mathematics and statistics not covered in the regular undergraduate curriculum of the department. (3-1-0) Prerequisite: dependent on the topic covered.

**MATH 232-3 Elementary Linear Algebra**
Matrices, vector spaces, linear equations and determinants. Real vector spaces and linear transformations. Inner products and orthogonality. Eigenvalues and eigenvectors. (3-0-1) Prerequisite: MATH 151 or 154 or 157.

**MATH 242-3 Introduction to Analysis**
Mathematical induction. Limits of real sequences and real functions. Continuity and its consequences. The mean value theorem. The fundamental theorem of calculus. Series. (3-1-0) Prerequisite: MATH 152 or 155.

**MATH 251-3 Calculus III**
Vectors, solid analytic geometry, differential calculus of several variables, multiple integrals, cylindrical and spherical coordinates, line integrals. (3-1-0) Prerequisite: MATH 152 or 155; or MATH 158 with a grade of A or B. Recommended: MATH 232 should be completed before this course is attempted.

**MATH 252-3 Vector Calculus**
Vector functions of a single variable, space curves, scalar and vector fields, conservative fields, surface and volume integrals, and theorems of Gauss, Green and Stokes. (3-1-0) Prerequisite: MATH 232 and 251. Students with credit for MATH 312 may not take MATH 252 for further credit.

**MATH 262-3 Applied Mathematics — Statics**
Vectors. Reduction of force systems, equilibrium systems of forces. Plane statics, free body diagram, trusses, frames, friction. Statics in space. Beams and cables. Centroids. Second moments of areas. (3-1-0) Prerequisite: MATH 152 (preferably) or 155 must precede or be taken concurrently; and PHYS 120.

**MATH 263-3 Applied Mathematics — Rigid Body Dynamics**
Newton’s laws. Moments of inertia. Principles of dynamics; work and energy. Kinematics and kinetics of rigid bodies, plane motion, rigid bodies. (Dynamics of rigid bodies is the topic for this course.) (3-1-0) Prerequisite: MATH 262; MATH 251 (or 253) must precede or be taken concurrently. MATH 262 may be waived with the permission of the department. Students may not count more than one of MATH 263 or PHYS 212 for credit.

**MATH 291-2, 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. (2-0-1), (3-1-0) Prerequisites will be specified according to the particular topic(s) offered. Each course may not count more than once toward degree requirements.
MATH 308-3 Linear Programming
Theory and applications of linear programming, geometric and computational considerations, networks, applications of duality. (3-1-0) Prerequisite: MATH 232. Recommended: MATH 243 or MACM 201.

MATH 309-3 Continuous Optimization
Theoretical and computational methods for investigating the minimum of a function of several real variables with and without inequality constraints. Applications to operations research, model fitting, and economic theory. (3-1-0) Prerequisite: MATH 232 and 251. Recommended: MATH 308.

MATH 310-3 Introduction to Ordinary Differential Equations
First-order differential equations, second- and higher-order linear equations, series solutions, introduction to Laplace transform, systems and numerical methods, applications in the physical, biological and social sciences. (3-1-0) Prerequisite: MATH 152 or 155; or MATH 158 with a grade of A or B. Recommended: MATH 232 should be completed before this course is attempted.

MATH 313-3 Differential Geometry
Curvature and torsion for space curves, Frenet formulae, tangents and normals to surfaces, curvatures of a surface, special points and curves on surfaces, calculus on surfaces. (3-1-0) Prerequisite: MATH 252.

MATH 314-3 Boundary Value Problems
Separation of variables for the conduction equation, the wave equations and Laplace’s equation, Sturm-Liouville problems. Separation in polar co-ordinates. Laplace transforms. (3-1-0) Prerequisite: MATH 252 (or 253) and 310.

MATH 320-3 Advanced Calculus of One Variable
Sequences and series of functions; uniform convergence; consequences of uniform convergence; improper integrals; additional applications of convergence. (3-1-0) Prerequisite: MATH 242 and 251.

MATH 322-3 Complex Variables
Functions of a complex variable, differentiability, contour integrals, Cauchy’s theorem, Taylor and Laurent expansions, method of residues. (3-0-0) Prerequisite: MATH 251. Students with credit for MATH 420 may not take MATH 322 for further credit.

MATH 323-3 Introduction to Applied Algebraic Systems
An introduction to groups, rings and fields with applications to cryptography, codes and counting techniques based on permutation groups. (3-1-0) Prerequisite: MATH 232.

MATH 336-0 Job Practicum I
This is the first semester of work experience in a co-operative education program available to mathematics students. Interested students should contact departmental advisors as early in their careers as possible, for proper counselling. (0-0-0) Prerequisite: students must apply to and receive permission from the Department of Mathematics and Statistics at least one semester in advance. They will normally be required to have completed 45 semester hours of credit with a GPA of 2.5. This course will be graded on a pass/withdraw basis. A course fee is required.

MATH 337-0 Job Practicum II
This is the second semester of work experience in a co-operative education program available to mathematics students. (0-0-0) Prerequisites: 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 361-3 Mechanics of Deformable Media
Analysis of deformation and stress and an introduction to constitutive equations for different materials. Solution of boundary value problems for elastic solids and viscous fluids. (3-1-0) Prerequisite: MATH 252 (or 253) and MATH 262 (or PHYS 120 with permission of the department).

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 mathematics studied in high school and the first two years of university. (3-1-0) Prerequisite: MATH 151, 232 and one of 152 or 153. Students who have taken MATH 180 may not take MATH 380 for additional credit.

MATH 398-3 Selected Topics in Mathematics
Topics in areas of mathematics and statistics not covered in the regular undergraduate curriculum of the department. (3-1-0) Prerequisite: dependent on the topic covered.

MATH 408-3 Discrete Optimization
Modelling techniques, integer programming, network flows, dynamic programming, and combinatorial max-min relations. Computational aspect of the preceding. (3-1-0) Prerequisite: MATH 308 and 343. (MATH 345 may be taken concurrently.)

MATH 415-3 Ordinary 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) Recommended: MATH 310; 314 and 322.

MATH 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.

MATH 419-3 Partial Differential Equations
First-order equations, the wave equations, characteristics, Riemann’s method, Laplace’s equation, Green’s and Neumann’s functions, Poisson’s formula. (3-0-0) Prerequisite: MATH 314 (or PHYS 384) or permission of the department. Recommended: MATH 313

MATH 419-3 Linear Analysis
Convergence in function spaces, Fourier series and their convergence, Legendre polynomials, Hermite and Laguerre polynomials. (3-0-0) Prerequisite: MATH 232, 251 and 310. Recommended: MATH 314 and 320.

MATH 424-3 Applications of Complex Analysis
Conformal mapping, application to boundary value problems, Schwarz-Christoffel transformation, integral formulae, 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) Prerequisites: 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 443-3 Combinatorial Theory
Design theory: Steiner triple systems, balanced incomplete block designs, latin squares, finite geometries. Enumeration: generating functions, Burnside’s Lemma, Polya counting. (3-0-0) Prerequisite: MATH 232; MATH 243 or MACM 201.

MATH 444-3 Topology
Development of elementary theory of topological spaces. (3-0-0) Prerequisite: MATH 425, or permission of the department.

MATH 445-3 Graph Theory
Connectivity, Eulerian graphs, Hamiltonian graphs, planar graphs, matchings, vertex coloring, and applications of graphs. (3-0-0) Prerequisite: MATH 243 or MACM 201.

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 332

MATH 451-3 Mathematical Logic
Introduction to the theory of formal systems and to the theory of recursion. (3-1-0) Prerequisite: fifth level standing preferably with some Mathematics courses at the 400 division.

MATH 452-3 Set Theory
Introduction to Zermelo Fraenkel set theory. (3-0-0) Prerequisite: MATH 242.

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 466-3 Tensor Analysis
Tensors, Riemannian space, applications to classical dynamics, hydrodynamics and elasticity. (3-1-0) Prerequisite: MATH 252. Recommended: MATH 313

MATH 467-3 Vibrations
Vibrations of discrete systems with many degrees of freedom; matrix methods. Non-linear vibrations; the phase plane; singular points and limit cycles. Perturbation methods; singular perturbation expansions. (3-0-0) Prerequisite: MATH 232 and 310. Recommended: MATH 263 (or PHYS 211) and MATH 314.
MATH 100-3 Critical Thinking
An introduction to the evaluation of arguments as they are encountered in everyday life. The central aim will be to sharpen skills of reasoning and argumentation by understanding how arguments work and learning to distinguish those which actually prove what they set out to show from those which do not. Open to all students. (lecture/tutorial) Prerequisite: one of PHIL 210, MACM 101, or permission of the instructor.

PHIL 150-3 History of Philosophy I
A survey of philosophic thought from ancient Greece to the Renaissance. Special attention will be given to the works of Socrates, Plato, Aristotle, St. Augustine, St. Thomas Aquinas and Galileo. The views of these great thinkers have helped to shape the ways in which we see the world. This course is therefore recommended to everyone with an interest in our intellectual heritage. (lecture)

PHIL 151-3 History of Philosophy II
A survey of philosophic thought from the Renaissance to the 20th Century. Special attention will be given to the works of Descartes, Leibniz, Spinoza, Locke, Berkeley, Hume, Kant, Hegel and Mill. The views of these great thinkers have helped to shape the ways in which we see the world. This course is therefore recommended to everyone with an interest in our intellectual heritage. (lecture)

PHIL 200-3 Metaphysics
An examination of central problems of metaphysics such as space and time, universals and particulars, substance, identity and individuation and personal identity. (lecture/tutorial) Prerequisite: one of PHIL 100, 150, 151.

PHIL 210-4 Natural Deductive Logic
This course studies a natural deductive system of propositional and quantificational logic, the first-order theory of identity and the first-order theory of relations. Topics include the metatheory of propositional logic and the application of formal theory to the assessment of natural language arguments. (lecture/tutorial)

PHIL 214-3 Axiomatic Logic
This course studies the metatheory of axiomatic propositional and quantificational logic. Topics include proof theory, the metatheory of propositional logic, the proof theory of first-order logic, first-order models, soundness and completeness. (lecture/tutorial) Prerequisite: one of PHIL 210, MADM 101, MATH 144, CMPT 205.

PHIL 220-3 Introduction to Social and Political Philosophy
An introduction to central problems of political and social philosophy: for example, the basis of political obligation, the proper limits of state power, the appropriate scope of individual liberty, and the nature of social justice. Sometimes the course will focus on the views of historically important political philosophers such as Plato, Aristotle, Hobbes, Locke, Rousseau, Burke, Bentham, Mill and Marx. (lecture/tutorial)

PHIL 232-3 Selected Topics
A specific topic, philosopher or philosophical work to be dealt with as occasion and demand warrant. (lecture/tutorial)

PHIL 232-3 Selected Topics
A specific topic, philosopher or philosophical work to be dealt with as occasion and demand warrant. (lecture/tutorial)

PHIL 240-3 Philosophy of Religion
A critical analysis of classic and contemporary arguments concerning the rationality of belief in God, and related issues. (lecture/tutorial)

PHIL 241-3 Philosophy in Literature
Philosophical themes in the writings of such authors as Voltaire, Dostoevski, Sartre, Camus, Conrad and Golding. (lecture/tutorial)

PHIL 242-3 Philosophy of Art
An examination of issues concerning the nature of works of art. The course will include a consideration of rival theories of art such as: art as expression, art as representation, and art as sign form.
Theories of aesthetic criticism will be studied in relation to taste, personal experience, and truth. (lecture/tutorial)

PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
An introduction to philosophical issues concerning the nature of science. Topics to be discussed include the distinction between science and pseudo-science, the nature of scientific method, the nature of explanation in the natural and social sciences, the phenomenon of scientific change, the relationship between scientific theory and observation, and the objectivity of social science. (lecture/tutorial)

PHIL 280-3 Introduction to Existentialism
A study of existentialist philosophers such as Kierkegaard, Nietzsche, Heidegger, Sartre, and Camus and a survey of precursors such as Kant and Hegel. (lecture/tutorial)

PHIL 300-3 Introduction to Philosophy
An introductory course specifically intended for students in other departments who have at least 60 semester hours credit. This course is more advanced than 100 and 200 division courses and is of interest to students not only in the humanities, but also in the natural and social sciences. (lecture/tutorial) Prerequisite: at least 60 semester hours credit. Normally, students with credit for PHIL 100 may not take this course for further credit. This course does not count towards the upper division requirements for a student pursuing a minor, major, or honors program in philosophy.

PHIL 301-3 Epistemology
An examination of central theories of knowledge such as realism, idealism, pragmatism, phenomenalism, rationalism, empiricism, and causal theories of knowledge. Other topics to be discussed may include, for example, the Gettier problem, scepticism, the nature of belief, reason, and sensation, the problem of induction, and foundationalism. (seminar) Prerequisite: one of PHIL 100, 150, 151; PHIL 203.

PHIL 310-3 Modal Logic and its Applications
(small) Recommended: PHIL 210, 214, or an otherwise suitable background.

PHIL 314-3 Topics in Logic I
An examination of one or more topics such as: philosophical logic; deontic logic; the logic of knowledge and belief; the logic of preference; tense logic; foundational set theory; recursive functions and the history of logic. (seminar) Recommended: PHIL 210, 214, or an otherwise suitable background.

PHIL 320-3 Social and Political Philosophy
An examination of an issue or selection of issues in social and political philosophy. Contemporary or historical readings or a mixture of these will be used. Possible topics include: justice, the law and legal systems, sovereignty, power and authority, democracy, liberty and equality. Sometimes the course will focus on the views of historically important political philosophers, such as Plato, Aristotle, Hobbes, Locke, Rousseau, Burke, Bentham, Mill and Marx. (seminar) Prerequisite: PHIL 120 or 220.

PHIL 321-3 Moral Issues and Theories
An advanced investigation of central issues and theories in moral philosophy. In any given term, the course may focus on a general theory or concept or concern, for example meta-ethics, utilitarianism, or theories of rights. Sometimes it will focus on a particular problem or problems, such as medical ethics, moral personhood, or free will and moral responsibility. (seminar) Prerequisite: PHIL 120.

PHIL 325-3 Philosophy of Art I
An advanced study of various topics in aesthetics. Possible topics include: formalism and expressionism in the arts, the nature of aesthetic judgment and criticism, meaning and truth in the arts, art and society, and creativity. (seminar) Prerequisite: PHIL 242 or six hours of philosophy.

PHIL 331-3 Selected Topics
A specific topic, philosopher or philosophical work to be dealt with as occasion and demand warrant. (lecture/tutorial) Prerequisite: as stated by department at time of offering.

PHIL 332-3 Selected Topics (Lecture)
(Lecture) Prerequisite: as stated by department at time of offering.

PHIL 340-3 Philosophical Methods
An examination of various techniques which philosophers use to define, discover and deal with conceptual problems. (seminar) Prerequisite: PHIL 100 or 110; PHIL 203.

PHIL 341-3 Philosophy of Science
A study of the nature of scientific enquiry, classificatory systems, laws and theories, the role of observation in science, the demarcation between science and non-science, causality, the status of theoretical constructs, and teleological explanation. (seminar) Prerequisite: PHIL 100 and 203, or COGS 200; PHIL 210 or 214.

PHIL 343-3 Philosophy of Mind
A study of a theory of the mind, consciousness, and human action. (seminar) Prerequisite: PHIL 100 and 203, or COGS 200.

PHIL 344-3 Philosophy of Language I
An introduction to the major philosophical theories of language. Topics to be considered include: relationship between language and mind, language and the world, language and society. (seminar) Prerequisite: PHIL 100 and 203, or COGS 200.

PHIL 350-3 Ancient Philosophy
(seminar) Prerequisite: PHIL 100 or 150.

PHIL 353-3 Locke and Berkeley
(seminar) Prerequisite: PHIL 100 or 151.

PHIL 354-3 Descartes and Rationalism
(seminar) Prerequisite: PHIL 100 or 151.

PHIL 355-3 Hume and Empiricism
(seminar) Prerequisite: PHIL 100 or 151.

PHIL 360-4 Seminar I
(seminar) Prerequisite: as stated by department at time of offering.

PHIL 421-4 Ethical Theories
A highly focussed, advanced examination of a selection of topics in normative or meta-ethics. (seminar) Prerequisite: one of PHIL 120, 320, or 321.

PHIL 435-4 Selected Topics
A specific topic, philosopher or philosophical work to be dealt with as occasion and demand warrant. (lecture/tutorial) Prerequisite: two 300 level Philosophy courses.

PHIL 444-4 Philosophy of Language II
Advanced topics in recent work in philosophy of language, such as meaning, reference, speech acts, and language and thought. (seminar) Prerequisite: PHIL 210 or 214.

PHIL 451-4 Kant
(seminar) Prerequisite: at least one of PHIL 353, 354, 355.

PHIL 452-4 Nineteenth Century European Philosophy
An examination of one or more major philosophers from the European tradition, such as Hegel, Nietzsche, Schopenhauer, Comte, Fichte, Schelling, and Kierkegaard. (seminar) Prerequisite: at least two of PHIL 353, 354, 355, 451.

PHIL 453-4 Background to Analytical Philosophy
The development of philosophical thought in the late 19th and early 20th centuries. Selections from the writings of F.H. Bradley, G. Frege, B. Russell, and the early Wittgenstein. (seminar) Prerequisite: two 300 level PHIL courses.

PHIL 455-4 Contemporary Issues in Epistemology and Metaphysics
(seminar) Prerequisite: two 300 level PHIL courses.

PHIL 456-4 Twentieth Century European Philosophy
A study of a representative figure or figures from major movements of contemporary continental philosophy. (seminar) Prerequisite: at least two of PHIL 353, 354, 355, 451, 452.

PHIL 467-4 Seminar II
(seminar) Prerequisite: two 300 level PHIL courses.

PHIL 477-5 Honors Tutorial I
(seminar) Prerequisite: PHIL 477 is a requisite for all honors students, and must be taken in one of the last two semesters of the student's philosophy program. It must be taken concurrently with or prior to PHIL 478. At least eight weeks prior to the semester in which they wish to enrol in PHIL 477, honors students should obtain departmental approval of a proposed syllabus and arrange for faculty supervision of the course.

PHIL 478-5 Honors Tutorial II
(seminar) Prerequisite: PHIL 478 is a requisite for all honors students, and must be taken in one of the last two semesters of the student's philosophy program. It must be taken concurrently with or consecutively to PHIL 477. At least eight weeks prior to the semester in which they wish to enrol in PHIL 478, honors students should obtain departmental approval of a proposed syllabus and arrange for faculty supervision of the course.

Physics

Faculty of Science

See also courses listed under Nuclear Science (NUSC). For courses marked with an asterisk (*), tutorials will be held in the open workshop format, i.e., unstructured periods each week when teaching assistants are available to answer questions and help with problem assignments.

Minimum Grade Requirement
Students wishing to register for Physics courses must have obtained a grade of C- or better in prerequisite courses.

PHYS* 101-3 Introduction to Physics
A course for students with relatively weak backgrounds in physics. Kinematics and dynamics; waves; optics; electricity and magnetism. (3-0-1) Prerequisite: BC high school algebra 12 (or equivalent) or MATH 100 (may be taken concurrently). Students who have obtained a grade of C- or better in BC high school Physics 12 (or its equivalent) or MATH 100; or who have taken any further physics course normally may not take PHYS 100 for credit.

PHYS* 102-3 General Physics I
A general survey course for life science students. Kinematics and dynamics, including rotational motion; fluids, properties of matter and thermal physics. (3-0-1) Prerequisite: BC high school physics 12 or PHYS 100. Corequisite: MATH 151, 154 or 157 must precede or be taken concurrently. Students with credit for PHYS 120 may not take PHYS 101 for further credit.

PHYS* 103-3 General Physics II
A general survey course for life science students. Waves and optics; electricity ad magnetism; modern physics emphasizing radioactivity. (3-0-1) Prerequisite: PHYS 101. Students with credit for PHYS 121 may not take PHYS 102 for further credit.
Recommended corequisite: MATH152, 155 or 158 should precede or be taken concurrently. Students are encouraged to take PHYS 130 at the same time as PHYS 102.

PHYS* 120-3 Modern Physics and Mechanics
A general survey course for students in the physical sciences. A study of physical phenomena from quarks to galaxies, statics and dynamics, special relativity, rotational motion, elementary quantum ideas. (3-0-1) Prerequisite: BC high school physics 12 or PHYS 100. Students with credit for PHYS 102 may not take PHYS 120 for further credit. Corequisite: MATH 151 or 154 must precede or be taken concurrently.

PHYS* 121-3 Optics, Electricity and Magnetism
A general survey course for students in the physical sciences. Light, geometrical optics, electricity, simple circuits, magnetism, applied physics. (3-0-1) Prerequisite: PHYS 120 (or PHYS 101 with a grade of A or B). Students with credit for PHYS 102 may not take PHYS 121 for further credit. Corequisite: MATH 152 or 155 must precede or be taken concurrently.

PHYS 130-2 General Physics Laboratory A
Elementary experiments in optics, electricity, mechanics and heat that are designed to augment the general survey courses. (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 131 for credit.

PHYS 131-2 General Physics Laboratory B
Elementary experiments in optics, electricity, and mechanics that are designed to augment the general survey courses. (0-0-4) Prerequisite: Students may not count more than one of 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 Periphysical 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, energy, momentum, free, forced and damped oscillations, rigid body motion, gravitation. (3-1-0) Prerequisite: PHYS 121; or PHYS 101 and PHYS 120 with grade of B or better. Students may not count both PHYS 210 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 233-2 Introductory Physics Laboratory A
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 Introductory Physics Laboratory B
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 244-3 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 324-3 Electromagnetics
Electromagnetics, magnetostatics, electromagnetic waves, transmission lines, waveguides, antennas and radiating systems. (3-1-0) Prerequisite: PHYS 221, MATH 252. Students who have obtained credit for PHYS 325 before the 83-1 semester may not take PHYS 324 for further credit.

PHYS 325-3 Relativity and Electromagnetism
Galilean relativity, Lorentz transformation, special relativity, relativistic mechanics, tests of relativity, covariance; field transformations electromagnetism, general relativity. (3-1-0) Prerequisite: PHYS 211, 221, 251. Students with credit for PHYS 326 before the 83-1 semester may not take PHYS 324 for further credit.

PHYS 326-3 Electronics and Instrumentation
Circuits and circuit theory, passive and active devices, amplifiers, feedback, modern measurement techniques and instrumentation. (3-1-0) Prerequisite: PHYS 211, 221. Corequisites: 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 Intermediate 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 355 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 pass/withdraw 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 pass/withdraw basis.

PHYS 345-3 Statistical Physics
Postulates of statistical mechanics, partition functions, applications of thermodynamics and equilibrium. Quantum statistics and applications. (3-1-0) Prerequisite: PHYS 244 or CHEM 360. Recommended: PHYS 385.

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, hydropower 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 365-3 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.

PHYS 384-3 Methods of Theoretical Physics
I
Applications of mathematical methods in physics, differential equations of physics, eigenvalue problems. (3-1-0) Prerequisite: PHYS 211 (or MATH 263), PHYS 221, MATH 252, MATH 310.

PHYS 385-3 Quantum Physics
Origins of quantum theory, atomic models, waves and particles, Schroedinger equation, free and bound states, the hydrogen atom, atomic structure and spectra. (3-1-0) Prerequisite: PHYS 211 (or MATH 263), PHYS 221, MATH 252. Corequisites: 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 behaviour 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, MACM 316, CMPT 102. Recommended: 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-physicists majors may enter with MATH 262, 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’s equations, radiation and propagation of electromagnetic waves. (3-1-0) Prerequisite: PHYS 325 and either PHYS 384 or 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. Introduction to computer data reduction. (2-0-4) Prerequisite: PHYS 326 and 331; or permission of the instructor.

PHYS 431-4 Advanced Physics Laboratory I
Advanced experiments in Physics. May include special projects. (0-0-6) Prerequisite: PHYS 331 and 385. Recommended: PHYS 332.
PHYS 435-0 Practicum III
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 336 and 60 hours of credit with a minimum cumulative GPA of 2.75.

PHYS 436-0 Practicum IV
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 435 followed by 12 hours of credit. A minimum cumulative GPA of 2.75.

PHYS 437-0 Practicum V
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 436 and a minimum cumulative GPA of 2.75. Students should apply to the department at least one semester in advance. A course fee is required. This course is evaluated on a pass/withdrawal basis.

PHYS 455-3 Applied Optics
Interaction between light and matter, population inversion, stimulated emission, optical resonators, temporal and spatial coherence, gain and power output of laser oscillators. Selected topics in applied optics such as crystal optics, light modulation, fibre optics, non-linear optics and opto-electronic devices and components. Applications of lasers. (3-1-0) Prerequisite: PHYS 355 and 385.

PHYS 465-3 Solid State Physics
Crystal structure, lattice vibrations and thermal properties of solids, free electron model, band theory, applications. (3-1-0) Prerequisite: PHYS 385.

PHYS 484-3 Nonlinear Physics
Nonlinear mechanics, nonlinear lattice dynamics, competition phenomena, applications in optics and chemistry, forced oscillations, chaos. (3-1-0) Prerequisite: PHYS 384 or permission of the department.

PHYS 492-2 Special Topics in Physics
Studies in areas not included within the undergraduate course offerings of the Department of Physics. (2-0-0) Prerequisite: permission of the department.

PHYS 493-3 Special Topics in Physics
Studies in areas not included within the undergraduate course offerings of the Department of Physics. (3-0-0) Prerequisite: permission of the department.

Political Science Faculty of Arts

POL 100-3 Introduction to Politics and Government
A comprehensive introduction to the study of politics and government for both political science majors and students specializing in other disciplines. The course will explore the major concepts, methods, approaches and issues in political science, as well as the primary components of government structure and the political process. (lecture/tutorial)

POL 151-3 The Administration of Justice
The development of laws and their application to the citizen and social groups. Special consideration will be given to civil liberties. (lecture/tutorial)

POL 201-3 Research Methods in Political Science
An introduction to quantitative research techniques in political science. (lecture/tutorial) Prerequisite: POL 100 or 151. Students with credit for POL 213 or SA 255 may not take POL 201 for further credit.

POL 210-3 Introduction to Political Philosophy
An examination of concepts presented by the major political thinkers of the western world. The course surveys those ideas which remain at the root of our political institutions, practices and ideals against a background of the periods in which they were expressed. (lecture/tutorial) Prerequisite: POL 100. Students with credit for POL 111 may not take this course for further credit.

POL 211-3 Politics and Ethics
An examination of selected contemporary political controversies that raise fundamental ethical issues. Discussion will be informed by contending perspectives in modern political philosophy. (lecture/tutorial) Prerequisite: POL 100 or 151.

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.

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.

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 151.

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.

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.

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. Students with credit for POL 152 may not take this course for further credit.

POL 311-4 History of Political Thought I
Political thought from Plato to Rousseau. (lecture/seminar) Prerequisite: POL 210 or 211.

POL 312-4 History of Political Thought II
Political thought from the French revolution to the Chinese revolution. (lecture/seminar) Prerequisite: POL 210 or 211.

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: POL 210 or 211. Students who have credit for POL 212 may not take this course for further credit.

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: POL 201 (or 213).

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: STAT 203 (formerly 103), or POL 201 or SA 255. Students who have completed POL 315 may not take SA 355 for further credit.

POL 319-4 Selected Topics in Political Theory (lecture) Prerequisite: POL 210.

POL 321-4 The Canadian Federal System
Development of the federal system including topics such as the division of powers, parties, federal-provincial relations and theories of federalism. (lecture/seminar/lab) Prerequisite: POL 221 and 222.

POL 322-4 Canadian Political Parties
Development of the Canadian party system. Party ideologies, organization, campaigns and elections. (lecture/seminar/lab) Prerequisite: POL 221 and 222.

POL 324-1 Canadian Government and Politics
An examination of the historical development of the provinces and the role they have played in Confederation. The course surveys the evolution of provincial economies, societies and governments in order to understand the contemporary issues and problems faced by Canada’s provincial states. (seminar) Prerequisite: POL 221 and 222.

POL 324-4 The Canadian Constitution
An analysis of the Canadian constitution from a theoretical and comparative perspective. Amendment, entrenchment, civil rights. (lecture/seminar/lab) Prerequisite: POL 221 and 222.

POL 329-4 Selected Topics in Canadian Government and Politics (lecture) Prerequisite: POL 221 or 222.

POL 330-4 Government and Politics: Western Europe
An introduction to the political systems of Western Europe. The analysis of patterns of political development, political culture, party systems, and political processes will be highlighted. (lecture/seminar/lab) Prerequisite: POL 231.

POL 332-4 Government and Politics: United States
An examination of the American political system, including the presidency, the congress, the courts, the bureaucracy and the party system. (lecture/seminar) Prerequisite: POL 231.

POL 333-4 Soviet and Post-Soviet Political Systems
A comprehensive introduction to the evolution of the Soviet political system and the post-Soviet successor states. Topics examined will include the factors responsible for the disintegration of the USSR, the structure and dynamics of the Russian political system and the problems of post-communism through the Eurasian region. (lecture/seminar) Prerequisite: POL 231.

POL 334-4 East European Political Systems
A comprehensive introduction to the political
organization and political dynamics of the east European states including an examination of the various contemporary issues and problems which have influenced the political development of those countries. (lecture/seminar) Prerequisite: POL 231.

POL 335-4 Government and Politics: People’s Republic of China I
An examination of the political development of China in modern times with special emphasis on political culture and its relationship to political institutions, political processes and political behavior. (lecture/seminar) Prerequisite: POL 231.

POL 336-4 Government and Politics: People’s Republic of China II
An analysis of China’s current constitutional structure, modernization program, post cultural revolution period, and development in both domestic and international affairs. Emphasis will be placed on explanations of political change and perspectives for future development. (lecture/seminar/lab) Prerequisite: POL 335.

POL 337-4 Government and Politics: Selected Latin American Nations I
An examination of the political systems of selected Latin American nations, including an analysis of political culture, political economy, political institutions, interest groups and both formal and informal political processes. (lecture/seminar) Prerequisite: POL 231.

POL 339-4 Selected Topics in Comparative Government and Politics
(lecture) Prerequisite: POL 231.

POL 341-4 International Integration and Regional Association
Theories of integration, and the empirical analysis of selected regional association, historical and contemporary. Imperialism, federation, association. (lecture/seminar/lab) Prerequisite: POL 241.

POL 342-4 Relations Between Developed and Developing Nations
Problems arising from the disparities in power and wealth between the highly industrialized countries of Europe and North America, and the under-industrialized countries of Asia, Africa and Latin America. (lecture/seminar) Prerequisite: POL 241.

POL 343-4 Global Political Economy
An introduction to the study of the international political economy, with an emphasis on the interaction between the state and markets, and the basic political-institutional relationships of trade, money and financial investment, foreign debt and foreign aid. (lecture/seminar/lab) Prerequisite: POL 241.

POL 344-4 Public International Law
Sovereignty, nationality, jurisdiction, arbitration. Examination of selected cases exemplifying present trends in the international legal order. (lecture/seminar) Prerequisite: POL 241.

POL 345-4 The Nation-State and the Multinational Corporation
A study of relations between multinational enterprise and national interests in developed and developing countries. (lecture/seminar) Prerequisite: POL 241.

POL 346-4 International Organizations
An examination of the structures and processes and the main substantive decisions of the United Nations and related international organizations. Based upon in-depth study of the UN Charter, the Security Council, General Assembly, Secretary-General and Secretariat and their constitutional and political interactions since 1945, with special attention to the theory and practice of international organizations advanced by the principal Western countries, the Soviet Union and Soviet bloc, the People’s Republic of China and leading Third World countries. (lecture/seminar) Prerequisite: POL 241. Students who have credit for POL 141 may not take this course for further credit.

POL 347-4 Introduction to Canadian Foreign Policy
An overview of Canadian foreign policy post World War II. Various perspectives are discussed including realism, economic nationalism, liberal-internationalism and political economy/dependency analysis. A variety of analytical perspectives are used to examine issue-areas such as foreign trade including the role of NAFTA, defence policy and alliance relations, foreign investment, foreign aid, immigration policy, energy policy and the role of domestic political factors in foreign policy decision-making. (lecture/seminar/lab) Prerequisite: POL 221 or 222, and 241. This course may serve as a field B or D course for departmental requirements. Students with credit for POL 421 may not take this course for further credit.

POL 348-4 International Conflict Resolution
The course concentrates on negotiation, preventive diplomacy, crisis management and conflict termination. Methods of peaceful and coercive diplomatic resolution of international conflicts will be explored, with emphasis on investigation of the various contributions that have been made by United Nations peacekeeping, peackeeping and peace enforcement operations. Course simulation work, when used, will focus on problems of containing the proliferation of weapons of mass destruction. (lecture/seminar/lab) Prerequisite: POL 241. Students with credit for POL 442 may not take this course for further credit.

POL 349-4 Selected Topics in International Relations
(lecture) Prerequisite: POL 241.

POL 351-4 The Public Policy Process
Combines a practical analysis of the structures and processes surrounding contemporary policy issues and a theoretical analysis of alternative approaches to the study of public policy-making. (lecture) Prerequisite: POL 251 or 221.

POL 352-4 Urban and Local Governance in Canada
A comparative study of local government in Vancouver, Winnipeg and Toronto. The nonpartisan tradition and interest groups. Relations with other levels of government. (seminar) Prerequisite: POL 252. Students with credit for POL 351 may not take this course for further credit.

POL 353-4 Public Sector Management
A detailed analysis of administrative planning in the public sector, particularly as it relates to the Canadian government. The significance of financial management and personnel management to the overall planning will be emphasized. (seminar) Prerequisite: POL 251 or 221. Students with credit for POL 356 may not take this course for further credit.

POL 354-4 Comparative Metropolitan Governance
A comparative analysis of regional metropolitan governance in Canada and selected other jurisdictions (such as the USA, UK, etc.). The course involves an examination of major policy dilemmas in urban development, and of the local, regional and senior intergovernmental relations within which most of the public policy making in metropolitan settings takes place. (seminar) Prerequisite: POL 252.

POL 355-4 Governing Instruments
Examines and compares the various means at the disposal of government for implementing policy options, including regulation, the creation or privatization of public enterprises, the delivery or contracting out of services, taxation and tax expenditures, and any other administrative or legislative processes that governs in Canada and/or in similar countries have used to manage the economy or effect social change. (seminar) Prerequisite: POL 251. Students with credit for POL 452 may not take this course for further credit.

POL 357-4 Law and Politics
An examination of cases and issues designed to acquaint students with main themes and conventions of public law. (seminar) Prerequisite: POL 151 or 221.

POL 359-4 Selected Topics in Governance
(lecture) Prerequisite: POL 151 or 251 or 222 or 221.

POL 381-4 Politics and Government of Japan I
The political system of Japan, including an analysis of political culture, political institutions, political behavior and both formal and informal political processes. Emphasis will be placed on the pre-World War II political development of Japan. (lecture/seminar) Prerequisite: POL 231.

POL 382-4 Politics and Government of Japan II
This course deals with the political system of Japan, including an analysis of political culture, political institutions, political behavior and both formal and informal political processes. Emphasis will be placed on the post-war development of Japan as a democratic polity. (lecture/seminar) Prerequisite: POL 381.

POL 411-4 Normative Political Theory
An examination of the major political norms which have oriented public conduct and provided the standards for evaluating the quality of public life: liberty, justice, equality, participation, privacy, public interest, accountability, obedience, dissent and resistance. (seminar) Prerequisite: POL 312 or 313 or 212) or PHIL 320.

POL 414-4 Theories of Political Development
An examination of theories of the social and economic forces which challenge the adequacy of political institutions and political skills. The ideas of B. Moore, Jr., Huntington, Apley, Friedich and Gurr. (seminar) Prerequisite: POL 231.

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 neoclassical or libertarian currents. (seminar) Prerequisite: POL 312 or 313 (or 212) or PHIL 320.

POL 416-4 Feminist Social and Political Thought
This course will examine the works of major feminist thinkers and the problems of developing feminist theory. (seminar) Prerequisite: POL 210.

POL 417-4 Human Rights Theories
This course introduces 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 controversies. (seminar) Prerequisite: POL 210 and 231. Recommended: PHIL 220 or 320.

POL 418-4 Selected Topics in Political Theory I
(seminar) Prerequisite: POL 210.

POL 419-4 Selected Topics in Political Theory II
(seminar) Prerequisite: POL 210.

POL 422-4 Canadian International Security Relations
The course traces the evolution of Canadian thinking on national international security issues through an examination of pre-World War II isolationism, elite attitudes during the Cold War, the formative period of NATO. as well as Canadian involvement in the Korean and Indochina conflicts. More recent policies concerning ALCM testing, NORAD, and nuclear non-proliferation will also be explored in detail. (seminar/lab) Prerequisite: POL 221 or 222, POL 241 and 347 (formerly 421). This course may serve as a field B or D course for departmental requirements.

POL 423-4 BC Government and Politics
The legislature, political parties, pressure groups, relations with other governments, and other aspects
of the policy process. (seminar) Prerequisite: POL 221 and 222.

POL 424-4 Quebec Government and Politics
An examination of the political culture and institutions in the province of Quebec with particular emphasis on the period since 1960. (seminar) Prerequisite: POL 221, 222 and 321.

POL 425-4 Political Leadership in Canada
The roles and functions performed by the prime minister and the provincial premiers and the various constraints on the exercise of these functions. The social background, values, attitudes, and leadership styles of selected political leaders. (seminar) Prerequisite: POL 221 and 222.

POL 426-4 Canadian Political Behavior
The study of political attitudes and behavior in Canada. Topics will include political culture, public opinion, elections and voting behavior. (seminar/lab) Prerequisite: POL 201 (or 213) and 222. Students with credit for POL 326 may not take this course for further credit.

POL 427-4 The Legislative Process in Canada
An analysis of legislatures in the Canadian federal and provincial areas, including their role in the policy process, their strengths and weaknesses, and prescriptions for reform. (seminar/lab) Prerequisite: POL 221 and 222. Students with credit for POL 325 may not take this course for further credit.

POL 428-4 Selected Topics in Canadian Government and Politics
(seminar) Prerequisite: POL 221 and 222.

POL 429-4 Selected Topics in Canadian Government and Politics II
(seminar) Prerequisite: POL 221 and 222.

POL 430-4 Government and Politics: Selected Asian Nations
An examination of political change in the countries of Asia since the end of colonial rule. The problems of national integration, social and economic equality, and political participation. The role of elites, party organizations, the bureaucracy, the army, and political institutions in nation-building will also be considered. (seminar) Prerequisite: POL 231.

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: POL 231.

POL 432-4 Comparative Communist and Post-Communist Political Systems
A comparative examination of the emergence and development of communist political systems and also the impact of that experience on the various post-communist successor states undergoing the process of regime transition in Eurasia and eastern Europe. The course will focus on theoretical issues pertaining to the topics considered, and case studies of specific countries. (seminar) Prerequisite: POL 231.

POL 433-4 Comparative Developing Systems
A survey of political problems in selected Third World countries. Topics covered will include: the preconditions for democracy, the role of military countries. Topics covered will include: the preconditions for democracy, the role of military

POL 434-4 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: one of POL 341, 342, 343, 344, 345, 346, 347 or 348. POL 421 or 442 may also serve as a prerequisite for this course.

POL 444-4 Politics and Foreign Policy in the European Economic Community
This course offers a comparative foreign policy analysis of EEC members, as well as an introduction to European political co-operation. Focuses on institutions of the EEC, including the Commission, Council of Ministers, European Council and European Parliament. Provides an analysis of both internal EC issues such as Common Agricultural Policy and European Monetary Union and external issues such as trade and security relations. (seminar/lab) Prerequisite: POL 241.

POL 445-4 American Foreign Policy: Processes, Issues
Examines US foreign policy in the post World War II era. 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: POL 241 and 332.

POL 446-4 International Relations of East Asia
An overview and analysis of international relations in East Asia. (seminar/lab) Prerequisite: POL 241.

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: POL 241 and 343.

POL 448-4 Selected Topics in International Relations I
(seminar) Prerequisite: POL 241.

POL 449-4 Selected Topics in International Relations II
(seminar) Prerequisite: POL 241.

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: POL 351 or 355 or both POL 221 and 222.

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: POL 252

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: POL 351 or 355 or both POL 221 and 222.

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: POL 351 or 355 or both POL 221 and 222.

POL 458-4 Selected Topics in Local and Urban Government and Politics
(seminar) Prerequisite: POL 252.

POL 459-4 Selected Topics in Public Policy, Public Administration and Public Law
(seminar) Prerequisite: POL 151 or 251.

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: POL 231.

POL 486-4 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
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 psychology, perception, learning and motivation are considered. (lecture/laboratory) Prerequisite: students who have taken PSYC 101 may not register for PSYC 100.

PSYC 102-3 Introduction to Psychology II
Acquaints the student with major issues in contemporary psychology and considers their historical antecedents. Topics in learning, cognition, social psychology and abnormal psychology are considered. (lecture/laboratory) Prerequisite: PSYC 100. Students who have taken PSYC 101 may not register for PSYC 102.

PSYC 106-3 Social Issues
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 Research Methods in Psychology
An introduction to the procedures used in psychological research, and to the logic underlying them. Topics include the strengths and weaknesses of different approaches to research, the formulation of testable questions, the control of extraneous influences, the measurement of effects, and the drawing of valid conclusions from empirical evidence. Provides a background for senior psychology courses since it offers a basis for the critical evaluation and conduct of research. (lecture/laboratory) Prerequisite: PSYC 100 and 102, or (PSYC 101). See the Letters of Permission section within the undergraduate Department of Psychology.

PSYC 210-4 Data Analysis in Psychology
Covers basic descriptive and inferential techniques most appropriately applied to the various forms of data from psychological research. Should be completed by majors and honors before the end of semester 4. (lecture/laboratory) Prerequisite: PSYC 201 and BC high school math 12 or MATH 100 or MATH 110 or equivalent. Students without BC high school math 12 should enroll in MATH 110, rather than MATH 100. See the Letters of Permission section within the undergraduate Department of Psychology.

PSYC 221-3 Introduction to Cognitive Psychology
Introduction to the method and theory relevant to thinking and related processes. Includes an examination of memory, attention, concept formation, problem solving, consciousness and the relation of language to thought. (lecture/laboratory) Prerequisite: PSYC 100 and 102, (or PSYC 101). Students who have taken PSYC 320 may not register for PSYC 221.

PSYC 241-3 Introduction to Abnormal Psychology
Introduces students to the area of abnormal psychology. Topics include the definition and classification of pathological behavior, factors involved in the development of pathology, and evaluation of therapy outcome. (lecture/tutorial) Prerequisite: PSYC 100 and 102, (or PSYC 101). Students who have taken PSYC 340 may not register in PSYC 241.

PSYC 250-3 Child Psychology
Considers the psychological and physical aspects of human development from conception through middle childhood. Topics include social, emotional, language, cognitive, perceptual and physical development. (lecture/tutorial) Prerequisite: PSYC 100 and 102, (or PSYC 101). Students who have taken PSYC 350 or 351 may not register in PSYC 250.

PSYC 260-3 Introduction to Social Psychology
Examines methodology and content in social psychology. Topics include: attitudes and values; social perception and cognition; group behavior; social inclusion; prejudice, discrimination, and sexism; aggression; altruism, interpersonal attraction and interpersonal relationships. (lecture/tutorial) Prerequisite: PSYC 100 and 102, (or PSYC 101). Students who have taken PSYC 360 may not register for PSYC 260.

PSYC 270-3 Introduction to Personality
Introduces students to classic and contemporary theories, conceptual debates, and empirical research in the area of personality. (lecture/tutorial) Prerequisite: PSYC 100 and 102, (or PSYC 101).

PSYC 280-3 Biological Bases of Behavior
Surveys a variety of biological approaches to understanding behavior, including research from allied disciplines relevant to the biopsychological analysis of behavior. Includes: genetic basis of normal and abnormal behavior, psychobiology of development, intelligence, aggression, biological approaches to mental illness, learning disabilities, and the behavioral effects of drugs, hormones, biorhythms, brain damage, and environmental enrichment. (lecture/laboratory) Prerequisite: PSYC 100 and 102 (or PSYC 101). Recommended: BISC 101.

PSYC 301-4 Intermediate Research Methods and Data Analysis
A continuation of PSYC 201 and 210-4. Provides extensions of the basic theory and methods of research design and data analysis. Includes discussions of the analysis of substantive problems, the choice of appropriate research designs, and special problems that arise in the analysis of psychological data. (lecture/laboratory) Prerequisite: PSYC 201 and 210. See the Letters of Permission section within the undergraduate Department of Psychology.

PSYC 302-3 Learning
Conditions, principles, and theories of learning. Consideration of the acquisition and extinction of behavior. (lecture/tutorial) Prerequisite: PSYC 201 and 221.

PSYC 303-4 Perception
Conditions, principles, and theories of perception. Considers how individuals become aware of the structure and properties of their environment. Topics include perception of form, pattern, spatial relations, motion, causality, and time, and individual differences in perception. (lecture/laboratory) Prerequisite: PSYC 201 and 221 (or 320).

PSYC 306-3 Psychological Assessment Procedures
A survey of selected techniques for assessment of individual and group differences in aptitudes, abilities, achievement, attitudes, interests, and personality. Emphasis is placed on evaluating the effectiveness of various techniques, including performance tests, self-report questionnaires, inventories and projective approaches. This course provides a suitable introduction for students considering graduate training in clinical psychology. (lecture/tutorial) Prerequisite: PSYC 201 and one of PSYC 241 or 270.

PSYC 307-4 Historical Foundations of Psychology
Examines the development of psychological thought through theories of ontology, epistemology and ethics that laid the foundations for modern psychology. Provides a background for psychology courses by analysing how various viewpoints on the mind-body relationship, empiricism, rationalism and the nature of science contributed to the development of modern psychology. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 308-4 History and Systems of Modern Psychology
Examines the development of modern psychology from the founding of the first laboratories in the late 19th century to the present. The development and revisions of the major theoretical systems of psychology are examined from a comparative and critical perspective. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 311-4 Psychological Measurement
Deals with basic problems in the development of psychological measures. Treatment of the concepts of reliability and validity and the application of these concepts in experimental and observational research. Implications of measurement principles for the design of experiments and studies. Introduction to classical and contemporary methods in different content areas. (lecture/laboratory) Prerequisite: PSYC 201 and 210.

PSYC 321-3 Intelligence and Creativity
Surveys historical conceptions of the nature of intelligence, and reviews current theoretical and applied research concerning intelligence and creativity. Topics will include: the measurement of intelligence and creativity; the role of heredity and environment in their development; the relations among intelligence, creativity, and achievement; the social and political implications of theories of intelligence. (lecture/tutorial) Prerequisite: PSYC 201 and 221.

PSYC 325-4 Memory
Examines 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 326-3 Psychology of Consciousness
Systematic consideration of consciousness as a psychological problem. Topics covered will include: the placebo of consciousness in the history of psychology; research on states of consciousness, e.g. dreaming, hypnosis, meditation, fantasy; research on the relationship between brain and consciousness; applications of consciousness research. (lecture/tutorial) Prerequisite: PSYC 201. Recommended: PSYC 221.

PSYC 330-4 Attention
Examines the processes of selective attention: how attention is located spatially; the role of attention in the perception of objects; automaticity; and the physiological mechanisms that mediate attentional processes. (lecture/laboratory) Prerequisite: PSYC 201, and 221 (or 320).

PSYC 335-3 Sensation
Considers the capabilities of the sensory systems, and the sensory bases of experience with reference to the characteristics of stimuli, the receptor mechanisms, the processes of transmission, and the concomitant neurophysiological processes. Consideration is also given to the problems of response indicators and the measurement of sensory magnitudes. (lecture/tutorial) Prerequisite: PSYC 201 and 280.

PSYC 342-0 Practicum I
First semester of work experience in the psychology co-operative education program. Prerequisite: PSYC 201 and 210. Students should apply to the co-op 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 with a minimum CGPA of 3.0.

PSYC 345-3 Feeling and Emotion
Considers the conditions, principles and theories of the experiential and behavioral aspects of feeling and emotion as these relate to motivation, learning, perception, personality, psychosomatics, and social behavior. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 355-3 The Psychology of Adolescence and Youth
Considers human development from the end of childhood to the beginning of the adult stage, from a bi-social point of view. Included among the topics are psychological effects of sexual maturation, choice of vocation and marriage partner, effects of participation in the gang and youth organization, cultural variations in the patterns of growth. (lecture/tutorial) Prerequisite: PSYC 201 and 250 (or 350 or 351).

PSYC 356-3 Developmental Psychopathology
Examines theoretical approaches, research findings, and treatment outlooks concerning problems and disorders in childhood development. (lecture/tutorial) Prerequisite: PSYC 201, 241, and one of 250, 350 or 351.

PSYC 357-3 Psychology of Adulthood and Aging
Considers human development from young adulthood to old age. Included are theories of adult development and aging; environmental and biological factors in aging; and the effects of aging on sensation, perception, learning, cognition, personality, psychopathology, and social relations.
PSYC 364-3 Psychology of Gender
Explores theories and research on the psychology of gender. Gender similarities and differences in psychological development, social roles, and personality will be discussed. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 365-3 Language Development
Treats language development from a psychological point of view. Topics include: origins of language in phylogeny, comparison between animal and human communication systems, and the acquisition of language in the first year of life. (lecture/tutorial) Prerequisite: PSYC 201 and 250 or COGS 200.

PSYC 367-3 Psychology of Language
Explores language comprehension and production from a psychological point of view. Topics include: experimental analysis of basic processes in comprehension and production of speech, speech perception, reading, conversational analysis, pragmatics, and relationship between language and thought. (lecture/tutorial) Prerequisite: PSYC 201 and 221.

PSYC 369-3 Law and Psychology
Introduces students to the area of law and psychology. The role of psychology in the legal system will be discussed. Topics include: social psychology and law, developmental psychology and law, juvenile justice, experimental psychology and law, mental disability and law, and the influence of psychology in the legal system. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 370-3 Theories of Personality
Reviews major theories of personality such as those of Freud, Jung, Rogers, Allport, Skinner, Bandura, and Kelly. The emphasis will be on comparisons of concepts; representative research will be considered in relation to each major theory. (lecture/tutorial) Prerequisite: PSYC 201 and 270.

PSYC 373-3 Behavior Therapies
Considers the philosophy, theory, and practice of the behavior therapies. Theories of learning which have generated techniques for behavior change are critically examined and a broad range of techniques is reviewed with therapeutic efficacy the primary focus. The influence of cognitive psychology on behavior therapy is emphasized. (lecture/tutorial) Prerequisite: PSYC 201, 241 (or 340), and 270 (or 370).

PSYC 375-3 Fundamentals of Clinical Psychology
Considers the scientific and clinical aspects of the discipline of clinical psychology. Both traditional roots and recent developments in the field are discussed. Topics include: models of clinical psychology, methods of assessment and modes of intervention and psychotherapy. (lecture/tutorial) Prerequisite: PSYC 201, and two of 241 (or 340); 270 (or 370); 306.

PSYC 381-3 Biopsychology of Motivation and Behavior
A consideration of the physiological systems which control and regulate basic drives, including hunger, sex, thirst, sleep, and arousal. (lecture/tutorial) Prerequisite: PSYC 201 and 280.

PSYC 382-4 Cognitive Neuroscience
A consideration of the central nervous systems which control and regulate higher order complex behavior. Emphasis on human data. The complex behavior considered includes learning, memory, and information processing, emotion, aggression and language. (lecture/tutorial) Prerequisite: PSYC 201 and 381.

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 moral development. Effects of head trauma, disease, abnormal environments, and aging will also be covered. (lecture/tutorial) Prerequisite: PSYC 201, 280. Recommended: PSYC 250.

PSYC 385-3 Evolution and Social Behavior
Topics such as altruism, parental care, mate choice, sex differences in behavior, aggression, dominance, and territoriality are considered from an evolutionary perspective. The role of heredity and environment in the development of these behaviors is also discussed. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 387-3 Biological Bases of Abnormal Behavior
Examines consequences and treatments of brain damage and disease, and the biological bases of psychopathologies, including mood disorders, anxiety, schizophrenia, eating disorders and substance abuse. Prerequisite: PSYC 201 and 280.

PSYC 402-5 Historical and Theoretical Issues in Psychology
Examines the basic ideas concerning the relationship between mind and body and the empirical and rational foundations of scientific thought as applied to modern psychology. Students will be expected to analyze either the historical development of contemporary approaches or theoretical issues that are relevant to their area of interest in psychology. (seminar) Prerequisite: PSYC 201; and one of 207, 307, 308 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 410-5 Research Design I
Reviews the basic logic of controlled experimentation, and focuses on analysis of variance designs commonly used in psychological research. Particular emphasis is given to the relative merits of the several designs when there are multiple research questions to be answered. (seminar) Prerequisite: PSYC 201, 210, 301 and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5.

PSYC 411-5 Research Design II
Focuses on multivariate regression and correlation models. Deals with ways of answering questions when direct experimental manipulation is not feasible, and demonstrates the utility of the principles involved for solving problems other than those for which they were first proposed. (seminar) Prerequisite: PSYC 201, 210, 301, and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5. Recommended: PSYC 410.

PSYC 425-5 Language and Thinking
(semester) 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 430-5 Selected Topics in Perception and Cognition
(semester) Prerequisite: PSYC 201, 210, 221 (or 320), and one of 303, 325 and 330, and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5.

PSYC 442-0 Practicum III
Third semester of work experience in the psychology co-operative education program. Prerequisite: successful completion of PSYC 342 and 345 and 60 semester hours with a minimum CGPA of 3.0.

PSYC 443-0 Practicum IV
Fourth semester of work experience in the psychology co-operative education program. Prerequisite: successful completion of PSYC 442 and 75 semester hours with a minimum CGPA of 3.0.

PSYC 444-5 Psychopathology
(semester) Prerequisite: PSYC 201, 210, 241 (or 340) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 450-5 Selected Topics in Developmental Psychology
(semester) Prerequisite: PSYC 201, 210, 250 (or 351) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 451-5 Seminar in Infancy
(semester) Prerequisite: PSYC 201, 210, 250 (or 351) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 452-5 Selected Topics in Social and Moral Development
(semester) Prerequisite: PSYC 201, 210, 250 (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 456-5 Selected Topics in Adulthood and Aging
(semester) Prerequisite: PSYC 201, 210, 250, 357 and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5.

PSYC 459-5 Selected Topics in Developmental Research
Provides experience in designing and conducting a developmental research study. Students will be expected to apply developmental methodology and theory to a particular research project. Specific content and methodological focus will vary. (semester) Prerequisite: PSYC 201, 210, 250 (or 351); two of PSYC 355, 356, 357, 450, 451, 452, 456 and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5.

PSYC 461-5 Selected Topics in Social Cognition
(semester) Prerequisite: PSYC 201, 210, 260 (or 360) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 462-5 Selected Topics in Interpersonal Relations
(semester) Prerequisite: PSYC 201, 210, 260 (or 360) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 465-5 Selected Topics in Social Psychology
Examines methods of research in social psychology with particular emphasis on experimental design and procedures. Provides students with the opportunity to design and conduct social psychological research. (semester) Prerequisite: PSYC 201, 210, 260 (or 360), and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5.

PSYC 469-5 Selected Topics in Psychosocial Issues
(semester) Prerequisite: PSYC 201, 210, 241 (or 340), 260 (or 360), 369 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 470-5 Selected Topics in Personality
(semester) Prerequisite: PSYC 201, 210, 270, 370 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 480-5 Physiological Psychology
(semester) Prerequisite: PSYC 201, 210, 280, and one of PSYC 381 and 382, and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 481-5 Laboratory in Biopsychology
The techniques of electrophysiological recording are demonstrated and learned. These include electroencephalography, electromyography, electrocardiography, electrodemography and other techniques for the measurement of physiological changes which are related to behavior. The recorded information is related to the behavioral and physiological conditions that influence their occurrence and form. (seminar) Prerequisite: PSYC 201 Undergraduate Courses 251
Prerequisite: PSYC 201 and permission of the department. Students should register for 493 first time a three credit directed studies course is taken, and for 494 and 495 if further three credit directed studies courses on separate topics are taken.

PSYC 493-3 Directed Studies
Independent research or research in topics selected in consultation with the supervising instructor. Prerequisite: PSYC 201 and permission of the department. Students should register for 493 first time a three credit directed studies course is taken, and for 494 and 495 if further three credit directed studies courses on separate topics are taken.

PSYC 494-3 Directed Studies
Independent research or research in topics selected in consultation with the supervising instructor. Prerequisite: PSYC 201 and permission of the department. Students should register for 493 first time a three credit directed studies course is taken, and for 494 and 495 if further three credit directed studies courses on separate topics are taken.

PSYC 495-3 Directed Studies
Independent research or research in topics selected in consultation with the supervising instructor. Prerequisite: PSYC 201 and permission of the department. Students should register for 493 first time a three credit directed studies course is taken, and for 494 and 495 if further three credit directed studies courses on separate topics are taken.

PSYC 496-5 Directed Studies
Independent reading or research in topics selected in consultation with the supervising instructor. Prerequisite: PSYC 201 and permission of the department. Students should register for 496 first time a five credit directed studies course is taken, and for 497 and 498 if further credit directed studies courses on separate topics are taken.

PSYC 498-5 Directed Studies
Independent research or research in topics selected in consultation with the supervising instructor. Prerequisite: PSYC 201 and permission of the department. Students should register for 496 first time a five credit directed studies course is taken, and for 497 and 498 if further credit directed studies courses on separate topics are taken.

PSYC 499-5 Honors Project
The research project in PSYC 490 is executed and the results are written up in thesis format. Prerequisite: PSYC 301.

Quaternary Studies
Faculty of Science

QUAT 400-1 Seminar in Quaternary Studies
An examination of current issues and problems in quaternary research. Graded on S/U basis. Prerequisite: only available to students enrolled in Quaternary Studies program, and permission of program advisor. QUAT 401-1 Field School
Identification, mapping and interpretation of quaternary deposits and landforms, with particular emphasis on British Columbia. Graded on S/U basis. Prerequisite: only available to students enrolled in Quaternary Studies program, and permission of program advisor. QUAT 403-4 Directed Readings in Quaternary Studies
Designed for students in the quaternary studies minor program who wish to pursue in detail a topic not covered in existing courses. Prerequisite: permission to enter directed readings courses requires written consent of both a faculty member associated with the Institute for Quaternary Research (IQR) who is willing to supervise the research, and the director of IQR.

Resource and Environmental Management
Faculty of Applied Sciences
REM 100-3 Global Change
Humanity's role in changing the face of the earth: 1) changes in population and society: technological change; institutions, social organization, and cultural values; patterns of production and consumption; urbanization; changing attitudes and emphasis, 2) transformation of the global environment: land-forests; soils; sediment transfer; water-terrestrial water systems; coastal zone; oceans; atmosphere; biota-terrestrial fauna, marine biota, flora; understanding transformations. (2-0)

REM 311-3 Applied Ecology and Sustainable Environments
Students will learn to apply the ecological concepts introduced in prerequisite courses to applied ecological problems at the population, community, and ecosystem levels of organization. Emphasis will be placed on processes which drive ecological dynamics, on recognizing those processes and dynamics in applied contexts, and on interpreting ecological data. (lecture/tutorial-computer lab) Prerequisite: REM 100, EVSC 200, BISC 204, STAT 101 or equivalent, MATH 154 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, nation, provincial, regional, and local levels. Its purpose is to present a basic set of evaluative questions which can be used to address the effectiveness and efficiency of the environmental regulatory and management systems currently in use. (lecture/tutorial) Prerequisite: REM 100, EVSC 200.

REM 412-3 Environmental Modeling
Students receive hands-on experience in the construction and analysis of computer simulation models of environmental and ecological systems and problems. (lecture/tutorial) Prerequisite: BISC 204, REM 100 and 200, MATH 151 or 154 or 157, MATH 152 or 155, MATH 310, STAT 101 or 103 or 301.

REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances
Informed decision making and effective management regarding hazardous substances requires that ecological, human health and environmental risks of use and discharge can be assessed before management decisions are made. (lecture) Prerequisite: BISC 312, CHEM 102, 115, REM 100, 200, MATH 151 or 154 or 157, STAT 101 or 103 or 301.

REM 471-3 Forest Ecosystem Management
In this course students will examine the problems of managing forest ecosystems for a variety. The course will start with an examination of the ecological characteristics of forest ecosystems and their dynamics. The second section will focus on the objectives and tools of forest management in an ecological context. The final section of the course will focus on the institutions, economics and policies of forest management, with a focus on British Columbia’s historical and current management issues. This course will involve lectures, group discussions, field trips and exercises, and computer labs. (lecture, tutorial, computer lab) Prerequisite: ECON 103, 105, REM 200, 311 and 356.

Science
Faculty of Science

SCI 010-1,2,3 Contemporary Topics in Natural Sciences
Members of all departments of the Faculty of Science discuss topics to give students an insight into modern science.

SCI 300-3 Science and its Impact on Society
The impact of science in our society. This course introduces upper level university students to all facets of science and their resulting technologies. Governmental policies often involve far-reaching scientific/technological decisions and this course attempts to provide a scientific perspective to help achieve rational and effective policies. (lecture/tutorial) Prerequisite: 60 credit hours. Not open to students in the Faculty of Science or the Schools of Computing Science, Engineering Science and Kinesiology.

Sociology
Faculty of Arts

Note: To assist the student in planning an interdisciplinary program, the discipline designates are listed as follows.
(S) sociology
(A) anthropology
An (SA) course, therefore, counts as either sociology or anthropology.

SA 100-4 Perspectives on Canadian Society (SA)
An examination of Canadian society from the perspective of the social sciences — an introduction both to the nature of Canadian society and to the use of sociological and anthropological concepts applied to the analysis of modern societies in general. This course is meant to appeal to those who specifically
wish to expand their knowledge of Canadian Society, and also to those who may be considering further work in sociology and anthropology. Topics to be considered include class structure, the nature of Canada's population, regional variation, gender relations, multiculturalism, native issues. (lecture/tutorial)

SA 141-0 Sociology and Anthropology Practicum (SA)

This is the first semester of work experience in the co-operative education program in sociology and anthropology. It is meant to be exploratory in nature. Prerequisite: 29 semester credit hours with a minimum cumulative GPA of 2.75 including SA 101, 150, 201 or 250, 255 and one of SA 202, 203, 263. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

SA 150-4 Introduction to Sociology (S)
The study of basic concerns of sociology, such as social order, social change, social conflict and social inequality. (lecture/tutorial)

SA 201-4 Anthropology of Contemporary Life (A)
An introduction to the anthropological perspective as applied to contemporary social and cultural issues and settings. Topics may include: urban anthropology; belief systems; medical anthropology; and problems of 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 may not take SA 216 for further credit.

SA 217-4 Conflict, Violence and War (SA)
Provides a sociological and comparative framework for the study of conflict, such as inter-group conflict, organized and collective violence and international wars. Terrorism as a contemporary form of inter-group conflict will be examined. Other topics to be explored are: the military industrial complex, nuclear arsenal, disarmament, and the peace movement. (lecture/tutorial) Prerequisite: SA 150. Students with credit for SA 292 and 293 (on a war-related topic) may not take SA 217 for further credit.

SA 218-4 Illness, Culture and Society (SA)
The study of socio-cultural factors related to health and illness. Focus will be on patterns of health seeking activity, systems of health care, causal and symbolic factors. Issues include 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 210 or 150. Students with credit SA 460 when offered as Medical Anthropology may not take SA 218 for further credit.

SA 231-4 The Sociology of Domestic Life (S)
An examination of families and households in social, cultural, political and economic context. This course focuses on the diversity of family forms in contemporary societies (particularly Canada) in relation to various social institutions and processes, including demographic trends, ideology, the economy, the state and social policies. (lecture) Prerequisite: SA 150.

SA 245-4 Introduction to Visual Anthropology (A)
This course introduces students to the principles and practices of visual anthropology. The course will be shaped to two central themes: the visual in anthropology, and the anthropology of the visual. Topics to be covered include the use of photography, film and video as a tool in ethnographic research, the use and implications of new information technologies and the ‘reading’ of photographs, film and video from an anthropological perspective. (lecture/tutorial) Prerequisite: SA 101. Recommended: one of SA 201, 263, 286 or 293.

SA 250-4 Introduction to Sociological Theory (S)
An account of sociological theory, outlining the main ideas and concepts of the principal schools of thought. (lecture/tutorial) Prerequisite: SA 150.

SA 255-4 Introduction to Social Research (SA)
An introduction to the conduct of sociological and anthropological research. Topics covered include: the relationship between theory and research, concept formation, operationalization, exploratory studies, hypothesis generation and testing, data collection techniques within both sociology and anthropology, the assessment of causality, the critical evaluation of research on both theoretical and methodological grounds, the definition of research problems, and ethical issues in social research. (lecture/tutorial) Prerequisite: SA 101 or 150. Students with credit for POL 213 may not take SA 255 for further credit.

SA 260-4 Individual and Society (S)
An examination of how self and identity (e.g. race, class, gender, sexual orientation) are socially derived within contemporary western culture, and of the ways that individuals understand their social environment. (lecture/tutorial) Prerequisite: SA 101 or 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 China: Sociological and Anthropological Perspectives (SA)
An examination of the social, cultural, economic and political institutions and the processes of social change shaping them. The emphasis will vary from semester to semester. (lecture/tutorial) Prerequisite: SA 101 or 150.

SA 286-4 Native Cultures of British Columbia (A)
A study of selected Native peoples of British Columbia in terms of ecological adaptation and social organization. Topics may include: continuity and change in traditional ceremonial complexes; art; political processes. (lecture/tutorial) Students with credit for SA 140 may not take SA 286 for further credit. This course is taught as part of the BC studies program. 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 orproblem with topical interest or general relevance. (lecture/tutorial)

SA 293-4 Special Topics in Anthropology (A)
An introduction to the discipline and perspective of anthropology through analysis of an issue, process or problem with topical interest or general relevance. (lecture/tutorial) Recommended: SA 101.

SA 294-4 Special Topics in Sociology and Anthropology (SA)
Topical exploration of interdisciplinary issues in sociology and anthropology. (lecture/tutorial)

SA 300-4 Canadian Social Structure (SA)
An analysis of the social institutions and structure of Canadian society. The focus of the course will vary from semester to semester, but typically it will examine different theoretical approaches to the study of Canada and, from these, develop a framework for the analysis of Canadian social institutions and class structure. (seminar) Prerequisite: SA 150 and one second year sociology or sociology/anthropology course. Recommended: SA 100.

SA 301-4 Key Ideas in Anthropology (A)
A consideration of basic themes in anthropological thought with respect to their historical origins and theoretical structures. Methodological problems in the interpretation of cross-cultural materials. (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 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 course.

SA 316-4 Tourism and Social Policy (SA)
An examination of tourism from the perspectives of sociology and anthropology, focusing primarily upon the social and cultural impacts of tourism and the social policy implications of tourism development in different societies. (seminar) Prerequisite: SA 150 and one second year sociology or sociology/anthropology 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 understandings of both biomedicine in the West and alternative medical systems. Topics may include: cultural variation in definitions of illness; medical pluralism in complex societies; medical authority and social control; the relation between health and gender, age, class, and ethnicity. (seminar) Prerequisite: SA 101 and 218.

SA 319-4 Culture, Ethnicity and Aging (SA)
An examination of the effects of culture and ethnicity on the aging process and the treatment of the aged. Although the orientation of the course is cross-cultural and comparative, particular emphasis will be placed on the social aspects of aging among various ethnic groups in contemporary Canada. (lecture/
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 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 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 course.

SA 323-4 Symbol, Myth and Meaning (A)
An examination of myth, symbolism, ritual and cosmological systems. Anthropological theories of magic, possession, witchcraft, healing and religious movements analyzed in 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 analyze the interrelations of family, church, class, interest groups, etc., particularly as they influence and are influenced by the state. The relations of law and ideology to the structures of government will form the context for this analysis. The course may also focus on broad theoretical questions of contemporary political interest. (seminar) Prerequisite: SA 150 and one second year sociology or sociology/anthropology 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 environment; 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 course. Recommended: SA 250

SA 332-4 The Anthropology of Domestic Life (A)
The study of descent, kinship, marriage and the domestic domain in cross-cultural and historical perspective. Topics to be considered could include: the economic and political context of kinship; the social definition of childhood, adulthood, and old-age; the nature and function of marriage. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 333-4 Schooling and Society (S)
A sociological analysis of the nature of the education system and its relationship to major social institutions in Western industrial societies, in particular Canada. Aspects studied may include: the classroom, teachers, student culture, bureaucratization, inequality, employment, and social policy. (seminar) Prerequisite: SA 150 and one second year sociology or sociology/anthropology course.

SA 335-4 Gender Relations and Social Issues (S)
A sociological study of the position of women and men in major social institutions in Western industrial societies, in particular Canada. Social institutions that may be examined include: the family, education, the economy, the polity, law, and the mass media. Particular attention will be paid to social policy issues. (seminar) Prerequisite: SA 150 and one second year sociology or sociology/anthropology 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 can be applied to the examination of social problems and issues which become the object of social policy. A central concern of the course is the question of how social issues are defined as problematic. Particular attention will be given to gender, ethnicity, class and generation. Substantive examples of social policy issues will be selected from a number of fields. (seminar) Prerequisite: SA 150 and either SA 101 or one other lower division (A) course.

SA 341-0 Sociology and Anthropology Practicum III (SA)
This is the third semester of work experience in the co-operative Education Program in sociology and anthropology. The work experience will be focused in a specialized area of the student's choice. Prerequisite: Successful completion of SA 241 and normally the completion of at least 61 semester hours with a minimum cumulative GPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

SA 345-4 Issues in Canadian Ethnic Relations (SA)
A survey of current issues in ethnic and intercultural relations in Canada, considered in the context of demographic trends and policy development. (seminar) Prerequisite: any two of the following: SA 101, 150, 201.

SA 350-4 Classical Sociological Thought (S)
An examination of aspects of the work of one or more of the nineteenth or early twentieth century sociological theorists. (seminar) Prerequisite: SA 250.

SA 351-4 Classical Marxist Thought (SA)
A detailed study of classical Marxist social thought. (seminar) Prerequisite: SA 250.

SA 355-4 Quantitative Methods (SA)
An examination of measurement issues within sociological and anthropological research, focusing on the logical and conceptual construction and interpretation of tables, and an examination of the uses and abuses of statistics. Through an introduction to ‘hands on’ use of the computer, this course emphasizes the applications, rather than the mathematics, of statistics. (seminar) Prerequisite: STAT 203 or equivalent and SA 255 or POL 213. Students with credit for SA 355 may not take POL 515 for further credit.

SA 356-4 Qualitative Methods (SA)
An examination of qualitative field methods, including participant observation, interviewing, archival research, cross-cultural research, life histories, network analysis, mapping, and ethical problems of fieldwork. (seminar) Prerequisite: SA 255 and 101 or 201.

SA 357-4 Survey Methods (SA)
Students will formulate a research problem suited to a quasi-experimental (survey) design, and perform all the research steps needed for its completion. (seminar) Prerequisite: SA 255. Recommended: SA 355.

SA 358-4 The Philosophy of the Social Sciences (SA)
An analysis of the nature of explanation in the social sciences: ‘mind’ and action, positivist and interpretive modes of explanation, sociological and historical explanation, objectivity, forms of relativism, the concept of rationality. (seminar) Prerequisite: SA 150 and one second year sociology or sociology/anthropology 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 booklet. (seminar) Prerequisite: SA 101 and 150, plus one second year sociology, anthropology or sociology/anthropology 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, trans-national political agencies and public policy, the internationalization of culture, the global labor market, the ‘world city’ hypothesis, ethnic resurgence and alternatives to these developments. (seminar) Prerequisite: SA 150 and one second year sociology or sociology/anthropology course. Recommended: SA 202.

SA 363-4 Processes of Development and Underdevelopment (SA)
An examination of sociological and anthropological theories of development and underdevelopment as applied to the Third World. The nature and consequences of world system linkages; colonialism and decolonization; patterns of social change in selected societies and regions. (seminar) Prerequisite: SA 250 or one of SA 201, 263, 286 or 293. Recommended: SA 263.

SA 364-4 Urban Communities and Cultures (SA)
Anthropological approaches to urbanization, the nature of the city as a social system, and urban cultures and lifestyles. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Students with credit for SA 464 may not take SA 364 for further credit.

SA 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 examines such issues as the relationship between social organization and mode of subsistence, politics of hunger, and the way in which human societies in their particular social, historical, and cultural contexts view and interact with the natural world. Content may differ from semester to semester. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 374-4 South Africa: Socio-Political Development (SA)
An exploration of the socio-political transformation of South Africa and the legacy of apartheid. Inter-ethnic relations and nation-building are compared with nationalist conflicts in other divided societies; constitutional experiments with power sharing and corporatism are assessed. (seminar) Prerequisites SA 101 or 150 and one second year Sociology or...
Anthropology course, or permission of instructor. Students with credit for SA 477 may not take SA 374 for further credit.

**SA 386-4 Native Peoples and Public Policy (SA)**
An examination of relations between Natives and non-Natives, indigenous peoples and governments in Canada. The consequences of these relations for the lives of Native peoples. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 and 293.

**SA 387-4 Canadian Native Peoples (SA)**
The study of traditional and contemporary Canadian Native peoples. The focus of the course will vary from semester to semester. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

**SA 388-4 Comparative Studies of Minority Indigenous Peoples (SA)**
The social and cultural patterns of aboriginal populations within various modern nation-states; their relations with majority societies and with other indigenous groups across the world. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

**SA 401-4 The Politics of Culture in Contemporary Societies (A)**
Anthropological explorations of the relationship between political, cultural, and social processes in contemporary societies. Topics may include: social organization and symbolic systems; the use of political rhetoric and propaganda; the mobilization of social, cultural and political constituencies; the articulation of political processes between local, national, and international levels. (seminar) Prerequisite: SA 301. Recommended: SA 356.

**SA 402-4 The Uses of Anthropology (A)**
An examination of the ways in which anthropology is used to affect action in the world. Topics may include: advocacy anthropology; the development and practice of applied anthropology; the emergence of anthropology as a form of cultural critique. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Recommended: at least two upper division courses in Anthropology.

**SA 416-4 Sociology of Art Forms (S)**
This course may focus 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 fate of art in modern society, popular culture, mass media, ideology in art. (seminar) Prerequisite: SA 150 and one second year sociology or sociology/anthropology course.

**SA 420-4 Sociology of Aging (SA)**
The structural and behavioral implications of aging. Topics include: demographic aspects of aging; relationship of aging to political, economic, familial and other social institutions; psychological significance of aging. (lecture/seminar) Prerequisite: SA 150 and one second year sociology or sociology/anthropology course, or acceptance into the diploma program in gerontology.

**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 or sociology/anthropology 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 Advanced Anthropological Theory (A)**
A senior seminar on current perspectives in anthropological theory. Emphasis will differ from semester to semester. (seminar) Prerequisite: SA 301, 90 credit hours, a GPA of at least 3.25 and consent of the instructor.

**SA 455-4 Special Topics in Applied Social Research (SA)**
An advanced seminar devoted to special topics in applied social research. (seminar) Prerequisite: SA 255 and SA 355 or 356.

**SA 460-4 Special Topics in Sociology and Anthropology I (SA)**
An advanced seminar devoted to an in-depth examination of a topic not regularly offered by the department. The disciplinary designation will change to reflect specific topics; refer to each semester's course booklet. (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-colonial societies; the persistence, transformation and disappearance of contemporary peasantry; directed change programs. (seminar) Prerequisite: SA 250 or 101 and one of SA 201, 263, 286 or 293. Recommended: SA 283.

**SA 467-4 Anthropology of the Self (A)**
Cross-cultural explorations in the social construction of selfhood. The comparative study of indigenous theories about the mind, body, gender and self. These beliefs will be considered in relation to social structure and western psychology theory. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

**SA 472-4 Anthropology and the Past (A)**
Anthropologists frequently turn to historical documents (traveller's reports, missionary archives, etc.) in order to reconstruct the nature of past societies; likewise, every society has a sense of its own past and represents it in its own way. This course examines the relation between history and anthropology. Content may include: the use of historical material in anthropological research; construction of traditional knowledge as a cultural process; history and the politics of culture; the relation between individual and collective memory. (seminar) Prerequisite: SA 301 or 350, or consent of the instructor.

**SA 486-4 Issues in Northwest Coast Studies (A)**
The examination of theoretical and methodological issues in Northwest Coast Studies. The focus will vary from semester to semester. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Recommended: SA 255.

**SA 495-4 Selected Regional Areas (SA)**
An examination of selected aspects of the social structure, culture and the processes of social change in a specific regional area. The focus will vary from semester to semester. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Normally, only majors in the Department of Sociology and Anthropology may take SA 496 or 497.

Students with credit for SA 496 may not take SA 497 for further credit.

All honors students must take SA 499, normally after completing 120 hours of credit. This course is not available to students completing a general degree.

**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 Faculty of Arts**

**Spanish Language**

Students with knowledge of the Spanish language may take a short test in order to be placed in a language course best suited to their abilities in Spanish. The test is also used to advise students of the possibility of obtaining advance placement or challenge credit. Call the Language Learning Centre at (604) 291-4698 to make an appointment for a placement test. Please note that students will not usually be able to take courses below the level in which they have been placed. Native speakers of Spanish or students who received their secondary education entirely within a Spanish-speaking community will not normally be admitted to a 100 or 200 level Spanish language course.

**SPAN 102-3 Introductory Spanish I**
Acquisition of spoken fluency and elementary reading facility. This course is for all students who have not previously taken Spanish and for those whose proficiency in Spanish is not judged adequate for more advanced courses. (tutorial/laboratory)

**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 command, and accurate 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 Hispanic culture. (lecture/tutorial) Prerequisite: SPAN 201.

**SPAN 220-3 Introduction to Spanish Linguistics**
An introduction to the study of Spanish linguistics, with particular attention to the sound system, grammatical structure, and lexical contrasts with English. (lecture/tutorial) Prerequisite: SPAN 202.

**SPAN 240-3 Introduction to Hispanic Literature**
An introduction to Spanish and Latin American thought through selected readings of modern authors; with emphasis on reading facility and appreciation of literature. (lecture/tutorial) Prerequisite: SPAN 202.
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. Reading and analysis of selected texts will serve as the basis for further practice in oral and written expressions. (lecture/tutorial) Prerequisite: SPAN 303 or 201. Prerequisite: SPAN 202.

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.

SPAN 307-3 Practical Spanish Phonetics
A video assisted course designed to improve oral skills and to provide detailed information about phonetic analysis and the sound system of Spanish. (lecture/laboratory) Prerequisite: SPAN 220 or equivalent. Recommended: SPAN 303.

SPAN 349-3 Basic Texts in Hispanic Literature I
A study of selected works from the sixteenth to the nineteenth century. (lecture/tutorial) Prerequisite: SPAN 240. SPAN 349 is required for Spanish majors and honors. Students with credit in SPAN 241 may not take this course for further credit.

SPAN 350-3 Basic Texts in Hispanic Literature II
A survey of important works from the Middle Ages to the Renaissance. (lecture/tutorial) Prerequisite: SPAN 240.

SPAN 353-3 Texts of the Colonial Period
A study of selected works in Latin American literature from the times of the ‘discovery’ to the 19th century.

SPAN 345-4 Teaching Spanish as a Second Language
Application of linguistic principles to the teaching of Spanish as a second/additional language. (lecture/tutorial) Prerequisite: SPAN 220.

SPAN 445-5 Selected Topics in Modern Spanish Literature
Studies in either the modern Spanish novel, modern Spanish theatre, or modern Spanish poetry. Students will receive advance notice about which topic will be taught in a given term. Modern Latin American novel will study the major Latin American novelists and narrative genres of the 20th century with special emphasis on current techniques of literary analysis. Modern Latin American short story will study the genre in the 20th century through its most representative authors. (seminar) Prerequisite: SPAN 240.

SPAN 457-5 Selected Topics in Modern Latin American Poetry and Theatre
Studies on either modern Latin American poetry or modern Latin American theatre. Students will receive advance notice about which topic will be taught in a given term. (seminar) Prerequisite: SPAN 240.

SPAN 460-3 Special Topics
SPAN 461-3 Directed Studies
Prerequisite: 90 credit hours, including SPAN 220 or 240, and permission of the department.

Spanish and Latin American Studies
Faculty of Arts
SLAS 380-0 Practicum I
First semester of work experience in the Spanish and Latin American Studies co-operative education program.
Prerequisite: 30 semester hours with a minimum CGPA of 2.75, including recommended courses LAS 140, 200 and SPAN 102. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the second week of the semester preceding the employment semester. Not offered.

SLAS 390-0 Practicum II
Second semester of work experience in the Spanish and Latin American Studies co-operative education program.
Prerequisite: completion of SLAS 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. Not offered.

SLAS 480-0 Practicum III
Third semester of work experience in the Spanish and Latin American Studies co-operative education program.
Prerequisite: completion of SLAS 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. Not offered.

SLAS 490-0 Practicum IV
Fourth semester of work experience in the Spanish and Latin American Studies co-operative education program.
Prerequisite: completion of SLAS 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. Not offered.

Statistics
Faculty of Science
See also courses listed under Actuarial Mathematics (ACMA), Mathematics and Computing Science (MACM) and Mathematics (MATH).
Open Workshop for STAT Courses
(some courses marked with ** below)
Some introductory and service courses are organized through the department’s open workshops. In addition to regularly scheduled lectures, students registered in these courses are encouraged to come to the workshops for assistance with problems and questions any time during posted working hours. At the workshop students will have the opportunity to meet with the co-ordinator, the teaching assistants and other students, and work together to understand statistics in a friendly and helpful environment. Supplementary course materials, Macintosh computers and calculators are available for student use.
Statistics Workshop
STAT 101, 203, 270, 301, 302 K9516 (inside K9510) Ms. X.Q. Chen

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, TLX 9505, the Student Academic Resources office (if the workshop is closed) or Simon Fraser University at Harbour Centre.

Minimum Grade Requirement in Prerequisites for Later STAT Courses
Students enrolled in courses offered by the Department of Mathematics and Statistics must have obtained a grade of C- or better in prerequisite courses.

Some experience with a high level programming language is recommended by the beginning of the second year.

No student may take, for further credit, any course offered by the Department of Mathematics and Statistics which is a prerequisite for a course the student has already completed with a grade of C- or higher, without permission of the department.

Courses marked with an asterisk (*) are intended to be particularly accessible to students who are not specializing in Statistics.

STAT 101-3 Introduction to Statistics**
An introductory course in the collection, description, analysis and summary of data, including the concepts of frequency distribution, parameter estimation and hypothesis testing. (3-0-1) Prerequisite: BC high school mathematics 11 (or equivalent) or Basic Algebra. Students with credit for ARCH 376, BUEC 232 (formerly 332) or STAT 270 (formerly MATH 272 and 371) may not subsequently receive credit for STAT 101-3. Students with credit for STAT 102, 203 (formerly STAT 103), 301, MATH 101 or 102 may not take STAT 101 for further credit.

STAT 203-3 Introduction to Statistics for the Social Sciences
An introductory course in descriptive and inferential statistics aimed at students in the social sciences.

STAT 270-3 Introduction to Probability and Statistics**
A first course in the basic theory of probability and statistics. (4-3-1) Prerequisite: BC Math 11 (or equivalent) or Basic Algebra. Students with credit for ARCH 376, BUEC 232 (formerly 332), or STAT 270 may not subsequently receive credit for this course.

Students with credit for any of STAT 101, 102 or 103 may not take this course for further credit.

STAT 280-3 Applied Probability Models
Review of elementary probability models. Conditional
probability and conditional expectation. Fitting and testing adequacy of models. Applications to production management and quality control. Introduction to simple Markov chains, Poisson processes, inventory and queues. Reliability models including lifetime analysis and circuit configuration. (3-1-0) Prerequisite: STAT 270 or MATH 272.

STAT 290-3 Selected Topics in Probability and Statistics
Topics in areas of probability and statistics not covered in the regular undergraduate curriculum of the department. Prerequisite: dependent on the topic covered.

STAT 301-3 Statistics for the Life Sciences**
An introductory course in research methodology and associated statistical analysis techniques for students with training in the life sciences. (3-1-0) Prerequisite: either the student must have 45 credit hours or a minimum of 30 credit hours including MATH 152 or 155. Students with credit for STAT 101, 102, 203 (formerly 103) or 270 (formerly MATH 272) may not take STAT 301 for further credit. Mathematics major, minor, and honors students may not use this course to satisfy the required number of semester hours of upper division mathematics. However, they may include the course to satisfy the total number of required hours of upper division credit.

STAT* 302-3 Analysis of Experimental and Observational Data**
The standard techniques of multiple regression analysis, analysis of variance, and analysis of covariance, and their role in experimental research. (3-0-1) Prerequisite: STAT 101 (or MATH 101) or STAT 102 (or MATH 102) or STAT 203 (formerly 103) or STAT 270 (or MATH 272) or STAT 301 or ARCH 376 or BUED 232 (formerly 332). Students with credit for MATH 302 may not take STAT 302 for further credit. Mathematics major and honors students may not use this course to satisfy the required number of semester hours of upper division mathematics. However, they may include the course to satisfy the total number of required hours of upper division credit.

STAT 330-3 Introduction to Statistical Inference
Standard statistical inference procedures for analysing experimental and survey results. Statistical model building. Foundations of experimental design. (3-1-0) Prerequisite: MATH 232 and STAT 270 (MATH 272). Students with credit for MATH 312 may not take STAT 330 for further credit.

STAT 340-3 Statistical Quality Control
Design and implementation of control charts and alternatives, process capability analysis, acceptance sampling procedures, and related quality management principles and standards. (3-0-0) Prerequisite: STAT 330 (or MATH 372) or other course in statistics subject to instructor approval. Students with credit for the former course, STAT 440, may not take STAT 340 for further credit.

STAT 350-3 Linear Models in Applied Statistics

STAT 380-3 Introduction to Stochastic Processes

STAT 390-3 Selected Topics in Probability and Statistics
Topics in areas of probability and statistics not covered in the regular undergraduate curriculum of the department. (3-1-0) Prerequisite: dependent on the topic covered.

STAT 402-3 Generalized Linear and Non-linear Modelling
A skills oriented unified approach to a broad array of non-linear regression modelling methods including classical regression, logistic regression, probit analysis, dilation assay, frequency count analysis, ordinal-type responses, and survival data. (3-1-0) Prerequisite: STAT 302 or STAT 350.

STAT 403-3 Intermediate Sampling and Experimental Design
A practical introduction to useful sampling techniques and intermediate level experimental designs. (3-0-2) Prerequisite: STAT 302 or 330. Students with credit for STAT 410 or 430 may not take STAT 403 for further credit. Mathematics minor, major and honors students may not use this course to satisfy the required number of semester hours of upper division mathematics credit. 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. (3-0-2) Prerequisite: STAT 330 (or MATH 372) or permission of the instructor. Students with credit for MATH 340 may not take STAT 410 for further credit.

STAT 420-3 Non-Parametric Statistics
Non-parametric statistics concerns methods which do not involve special assumptions of parent distribution. Tests based on the binomial distribution, contingency tables and chi-squared test: tests for two or more samples based on ranks and rank correlation statistics. (3-0-0) Prerequisite: STAT 330 (or MATH 372) or permission of the department. Students with credit for MATH 473 may not take STAT 420 for further credit.

STAT 430-3 Statistical Design and Analysis of Experiments
An extension of the designs discussed in STAT 330 to include more than one blocking variable, incomplete block designs, fractional factorial designs, and response surface methods. (3-1-0) Prerequisite: STAT 350 (or MATH 372). Students with credit for MATH 404 may not take STAT 430 for further credit.

STAT 450-3 Statistical Theory
Distribution theory, methods for constructing tests, estimators, and confidence intervals with special attention to likelihood methods. Properties of the procedures including large sample theory. (3-1-0) Prerequisite: STAT 350. Students with credit for MATH 472 may not take STAT 450 for further credit.

STAT 460-3 Decision Analysis and Bayesian Inference
Review of marginal and conditional distributions. Prior, posterior, and predictive distributions. Utilities, decision analysis under uncertainty, decision trees, backward induction. Bayesian estimation and hypothesis testing, comparison with classical methods. (3-1-0) Prerequisite: STAT 350. Students with credit for MATH 475 may not take STAT 460 for further credit.

Women’s Studies
Faculty of Arts

WS 101-3 Introduction to Women’s Issues in Canada
An interdisciplinary study of current issues related to women’s experiences in Canada. The focus will be on women’s interaction with social structures and public policy and how these differ for different women’s circumstances. (lecture/tutorial) Students who have taken WS 100 may not take WS 101 for further credit.

WS 102-3 Introduction to Western Feminisms
An historical and comparative survey of feminisms in the 20th century in Western Europe and North America. (lecture/tutorial) Students who have taken WS 100 may not take WS 102 for further credit.

WS 200-3 Women in Cross-Cultural Perspective
The focus will be on the situation of women in cross-cultural perspective using literary, historical, anthropological and other appropriate sources. (lecture/tutorial) Prerequisite: WS 101 or 102 (may be taken concurrently).

WS 201-3 Women in Canada 1600-1920
Examines the changing nature of female experience from the days of New France to the First World War through the lives of both famous and anonymous women. The diaries, memoirs, letters and literary works of Canadian women will be a major interest. (lecture/tutorial) Prerequisite: WS 101 or 102 (may be taken concurrently).

WS 202-3 Women in Canada 1920 to the Present
Examines the range of experience open to Canadian women in the 20th century. The strengths and limitations of women’s roles will be analysed from a historical perspective, using demographic evidence, autobiographies, literature, government documents and monographs. (lecture/tutorial) Prerequisite: WS 101 or 102 (may be taken concurrently).

WS 203-3 Female Roles in Contemporary Society
An interdisciplinary study of definitions of self/other as derived from sexual roles and the psychological mechanisms by which such definitions are acquired and maintained. (lecture/tutorial) Prerequisite: WS 101 or 102 (may be taken concurrently).

WS 204-3 Women, Science and Technology
This course examines some of the social, political and economic consequences for women of the development of a global system of science and technology. A survey of feminist critiques of this system will focus on such topics as the place of science in education, the evaluation of the appropriateness of technologies, the nature of evidence, and strategies for empowerment in relation to research and development. (lecture/tutorial) Prerequisite: WS 101 or 102 (may be taken concurrently); or six credit hours in sciences or applied sciences.

WS 205-3 Women and Popular Culture
A study of images of women as revealed through the analysis of a variety of media. (lecture/tutorial) Prerequisite: WS 101 or 102 (may be taken concurrently).

WS 206-3 Issues in Women’s Health and Health Care
A critical examination of women’s relations to the health care system in Canada as practitioners, users, researchers and objects of medical treatment and research. Among the topics discussed will be the medical model, the privatization of health care, the medicalization of daily life including reproduction, and feminist alternatives to the medical system. (lecture/tutorial) Prerequisite: one of WS 101 or 102 (may be taken concurrently). Students who have taken WS 100 may not take WS 206 for further credit.

WS 301-4 Special Topics in Women’s Studies
A specific topic within the field of women’s studies, not otherwise covered in depth in regularly
scheduled courses, will be dealt with as occasion and demand warrant. (lecture/tutorial) Prerequisite: six credits in women's studies including WS 101 and/or 102.

WS 302-4 Special Topics in Women's Studies
A specific topic within the field of women's studies, not otherwise covered in depth in regularly scheduled courses, will be dealt with as occasion and demand warrant. (lecture/tutorial) Prerequisite: six credits in women's studies including WS 101 and/or 102.

WS 303-4 Special Topics in Women's Studies
A specific topic within the field of women's studies, selected by the course director, and not otherwise covered in depth in regularly scheduled courses, will be dealt with as occasion and demand warrant. (lecture/tutorial) Prerequisite: six credits in women's studies including WS 101 and/or 102.

WS 304-4 Women and Religion
This course examines critical issues of women's relationships to theology and religious practice in major religious traditions. (lecture/tutorial) Prerequisite: six credits in women's studies including WS 101 and/or 102.

WS 305-4 Women and Utopias
This course focuses upon various visions of a better world for women. Using historical and fictional sources, it examines proposals to reorganize societies, giving special attention to utopian ideas about creating equality among all members of the community. (lecture/tutorial) Prerequisite: six credits in women's studies including WS 101 and/or 102.

WS 306-4 Women's Autobiographies, Memoirs and Journals
An examination of women's autobiographical writings, focusing on self-images, self-presentations and world views. (lecture/tutorial) Prerequisite: six credits in women's studies including WS 101 and/or 102.

WS 307-4 Women in British Columbia
Selected topics in the history of women's experience in British Columbia, with particular attention to women's work, political action, family life and education. (lecture/tutorial) Prerequisite: six credits in women's studies including WS 101 and/or 102.

WS 308-4 Women and Work
This course explores the nature and conditions of women's paid and unpaid work. It will include an examination of theories which explain labour market discrimination; the effect of public policies on work; and the international relationships which affect women's work. Prerequisite: six credits in women's studies including WS 101 or 102. Students who have taken SA 335 and/or WS 310 under the title Women and Work may not take this course for further credit.

WS 309-4 Gender and Development
Explores the relationship and the contrast between women and men in the development process and provides an analysis of gender policies and planning practices – local, national and international. Prerequisite: six credit hours in women's studies including WS 101 or 102. Students who have taken WS 301 Special Topic: Women and Development or WS 301 Special Topic: Gender and Development may not take this course for further credit.

WS 310-4 Special Topics in Women's Studies
A specific topic within the field of women's studies, not otherwise covered in depth in regularly scheduled courses, will be dealt with as occasion and demand warrant. (lecture/tutorial) Prerequisite: 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/tutorial) Prerequisite: six credits of women's studies including WS 101 and/or WS 102. Students who have taken this course as a women's studies special topics course may not register for WS 313.

WS 400-4 Methodological Issues in Women's Studies
A study and critique of the assumptions of existing disciplines as they refer to the study of women. This course is designed as corrective and supplemental to the various disciplines as they are currently taught. (lecture/seminar) Prerequisite: 60 credit hours including two women's studies courses, one of which must be WS 101 or 102.

WS 401-5 Research Project
Individual or small group studies of community problems. The students will submit a prospectus for the project at least two months before the study is undertaken. The project will be directed by one of the faculty members of the program. (individual research) Prerequisite: nine credits in women's studies including WS 101 and/or 102; permission of instructor; approval of course proposal by department.

WS 402-2 Directed Readings
Provides opportunities for individual tuition at an advanced level. (individual tuition) Prerequisite: nine credits in women's studies including WS 101 and/or 102; 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 410-4 Special Topics in Women's Studies
A specific topic within the field of women's studies, not otherwise covered in depth in regularly scheduled courses, will be dealt with as occasion and demand warrant. (lecture/tutorial) Prerequisite: 60 credit hours including two women's studies courses, one of which must be WS 101 or 102.

WS 411-4 Feminist Psychoanalytic Theories
This course examines both the psychoanalytic tradition and modern feminist frameworks for psychoanalytic theory and practice. (seminar) Prerequisite: 60 credit hours including two women's studies courses, one of which must be WS 101 or 102.

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.
Graduate Studies
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

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
The student’s supervisory committee is composed of two or more persons who help the student define a program of studies and report 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 PhD 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 at Simon Fraser University. 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 World Wide Web site (http://www.sfu.ca) and in most department offices. In addition, most departments offer publications describing their graduate programs. These are available directly from the departments and are usually posted on the department’s web sites.

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 1.3.5.

Before applying for admission, the student should write to the chair of the graduate program committee in the appropriate department to enquire about special admission requirements for the program.

1.3.2 Admission to a Graduate Diploma Program
The minimum University requirements for admission to a graduate diploma program are as follows:

a) a bachelor’s degree from a recognized university, or the equivalent;
b) submitted evidence, usually in the form of reference from qualified referees, of the student’s ability to undertake advanced work in the area of interest.

In exceptional circumstances, a student may be admitted with lower formal qualification than in (a) above but with professional experience of significance to the proposed area of study.

In addition, the student must satisfy any further requirements set by the graduate program committee. Students whose native language is not English, may be required to satisfy the University and the graduate program committee as to their command of English. (See also 1.3.11.)

1.3.3 Admission to a Master’s Program
The minimum University requirements for admission to a master’s program are as follows:

a) a bachelor’s degree with a cumulative grade point average (CGPA) of at least 3.0 from a recognized university, or the equivalent;
b) submitted evidence, usually in the form of references from qualified referees, of the student’s ability to undertake advanced work in the area of interest.

In exceptional circumstances, a student may be admitted with lower formal qualification than in (a) above but with professional experience of significance to the proposed area of research.

In addition, the student must satisfy any further requirements set by the graduate program committee. Students whose native language is not English, may be required to satisfy the University and the graduate program committee as to their command of English. (See also 1.3.11.)

1.3.4 Admission to a Doctoral Program
The minimum University requirements for admission to a doctoral program are as follows:

a) either
i) a master’s degree from a recognized university, or the equivalent, or
ii) a bachelor’s degree, with a cumulative grade point average of at least 3.5, from a recognized university, or the equivalent, or
iii) at least two semesters in a master’s program at this University with a cumulative grade point average of 3.5 in 75% of the graduate course work required for the degree. All graduate courses for the master’s degree, whether taken at this University or another university, shall be considered in the calculation.
b) submitted evidence that the applicant is capable of undertaking substantial original research. Normally, such capability will be judged from letters of reference from qualified referees, and the completion of a master’s thesis or other scholarly work.

In addition, the student must satisfy any further requirements set by the graduate program committee. Students whose native language is not English, may be required to satisfy the University and the graduate program committee as to their command of English. (See also 1.3.11.)

1.3.4.a Cohort Special Arrangements
These highly structured cohort-based programs are designed to meet the educational needs of specific student groups in fulfilling the requirements for a master’s degree, where these needs cannot be met within existing programs. Each program will integrate studies from across two or more disciplines and will involve a curriculum and requirements recommended by each program’s academic steering committee and approved by the senate graduate studies committee. Students may undertake this degree program only through specific admission to the cohort program.

The admission criteria, degree requirements and any other special conditions for an individual 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 for these programs may differ from the regular graduate fee schedule published in the University Calendar, and will be announced separately.

1.3.5 Admission Under Special Arrangements
Exceptionally able applicants, who wish to work for a master’s or doctoral degree outside or between existing programs at Simon Fraser University, may apply to work under special arrangements. A student applying for special arrangements must have a well-developed plan of studies in an area which can be shown to have internal coherence and academic merit, and in which the University has appropriate expertise and interests among its faculty members.

Graduate students applying or working under special arrangements are required to conform to senate regulations for graduate students. However, there are additional regulations which concern only students 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 895-3 Special Topics — to be selected by the student and the supervisory committee.
SAR 896-6 Special Topics — to be selected by the student and the supervisory committee.
SAR 897-5 Special Topics — to be selected by the student and the supervisory committee.

Special arrangements master’s and doctoral thesis work are assigned the following numbers:

SAR 898 Master’s Thesis
SAR 899 PhD Thesis
1.3.6 Admission as a Qualifying Student
Normally, qualifying students will be working either to improve cumulative grade point averages in order to meet the minimum University requirement, or to make up deficiencies in their backgrounds to satisfy the graduate program committee in their area of interest. An applicant may be recommended for admission as a qualifying student when it is expected that the admission requirements for a master’s or a doctoral program can be met through the satisfactory completion of no more than 30 credit hours of specified courses. A qualifying student who has completed the make-up work may then apply under 1.3.2 or 1.3.3 for admission to a master’s or doctoral program.

The minimum University requirements for admission as a qualifying student are as follows.

a) a bachelor’s degree, or the equivalent
b) submitted evidence of academic ability, usually in the form of references from qualified referees

1.3.7 Admission as a Special Student
Normally, a special student at the graduate level is a person who has at least a bachelor’s degree, or the equivalent, who wishes to take specified courses but is not seeking a degree from this University. A special student will not be permitted to enrol only in undergraduate courses. Transcripts of previous university work (or proof of obtaining a degree) will be required at the time of application, but letters of reference will not necessarily be required. Application may be through the graduate program committee in the department in which the student wishes to work. Permission is required from the instructor in each course. No credit will be given towards any degree offered by the University for courses taken as a special student except, under unusual circumstances, on petition to the senate graduate studies committee.

1.3.8 Conditional Admission
A student who wishes to apply in any of the above categories can be given conditional admission before all the conditions for admission have been met. In that case, the student is admitted conditionally upon fulfilling certain specified requirements.

1.3.9 Admission as an Exchange Student
Bona fide graduate students at other universities who wish to take courses at Simon Fraser University, not leading to a degree at this University, will be admitted on the recommendation of the chair of the department (or equivalent officer) and the dean of graduate studies at the other university, and with the permission of the appropriate graduate program committee and the dean of graduate studies at Simon Fraser University.

1.3.10 Application for Admission
Application forms may be obtained from the Office of the Registrar or from any graduate program committee. The completed forms should be returned to the department in which the student wishes to enrol at least three months before the semester in which the student wishes to register. However, students are advised to check with the appropriate departments as to the prevailing application deadlines for the graduate program in which they are interested.

Admission of master’s or doctoral students is by resolution of the senate graduate studies committee or, for students entering under special arrangements, on the recommendation of the senate graduate studies committee. Decisions on admissions made by the senate graduate studies committee shall be final. Final approval of admission for special students or exchange graduate students is by the dean of graduate studies provided that all the conditions of such admission have been met.

1.3.11 Application to Take a Second Master’s or Doctoral Degree
Students who have a master’s or a doctoral degree can apply to take a second master’s or doctoral degree under the following constraints.

a) no course work taken for the first degree shall count towards the second.

b) none of the research done for the first degree shall be used for the second.

c) none of the time spent in residence for the first degree shall count towards the residence for the second degree.

1.3.12 English Language Competence
English is the language of instruction and communication in the University. Accordingly, an applicant whose primary language is not English or whose previous education has been conducted in another language must demonstrate command of English sufficient to pursue graduate studies in the chosen field. Applicants normally will be required to achieve a satisfactory score on a standardized English test acceptable to the University. This test must include a writing component. The Test of English as a Foreign Language (TOEFL) combined with the Test of Written English (TWE) are acceptable for this purpose. The IELTS (International English Language Testing System) is also acceptable. The minimum University requirements for scores on these tests is TOEFL = 570, 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. However, some programs require students to start in a specific semester.

1.4.2 Registration
Registration occurs in the month preceding the start of each semester and must be completed by the Friday preceding the start of classes; the academic calendar of events is contained in the Simon Fraser University Calendar. 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, if the senior supervisor is appointed. In addition, registration for courses taken outside the student’s department must have the approval of the course instructor. Students going on leave are required to register (see 1.8.4).

1.4.3 Registration in Discontinuous Programs
Students who are enrolled in programs which are designed to be discontinuous are not required to go 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 the design of their programs, the normal leave regulations apply (see 1.8.4).

1.4.4 Continuity of Registration
With the exception of students in discontinuous programs, all students are required to register in every semester from admission 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.)

1.4.5 Part Time Study
A number of graduate programs have been approved, by the relevant graduate program committee, for part time study. These are listed below.

- archaeology (MA; PhD)
- business administration (Executive MBA)
- communication (MA; PhD)
- economics (MA; PhD)
- education (MA; MSc; MEd)
- engineering Science (MEng)
- English (MA; PhD)
- french (MA)
- liberal studies (MA)
- mathematics and statistics (MSc, PhD)
- physics (MSc, PhD)
- political science (MA, PhD)
- publishing (MPub)
- resource and environment management (MREM)
- Latin American studies (MA)
- special arrangements (MA; PhD)
- women’s studies (MA)

The list of approved programs is subject to change. A student in a graduate program may enrol part time or in a co-op semester if all the following requirements are satisfied in that semester:

a) that program has been approved by senate for part time study or co-op respectively, and
b) the student enrols in one course only or co-op, and
c) the student is not working on his or her thesis, project, or extended essays, and
d) the student will spend no more than 50% of his or her productive time on his or her graduate studies.

The application to enrol part time or in a co-op program must be approved by the student’s senior supervisor and the chair of the departmental graduate program committee. A part time enrolment is considered to be the equivalent of one half a full time equivalent (FTE) enrolment. The time limit for degree completion may reflect part time status; (see 1.12).

1.4.6 Course Audit
Graduate students should be allowed to audit graduate courses, with the permission of the instructor, the senior supervisor and the graduate program chair of the student’s department and such audits should be recorded as AU on the student’s transcript, if the student has fulfilled the requirements agreed to by the student and 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 toward degree requirements.
1.4.7 Co-operative Education

Co-operative education integrates work experience and graduate studies. The name reflects the co-operative relationship among the University, employer and student. Practical experience from work terms is related to the student’s major interests within the graduate program. A number of graduate programs have been approved, by the relevant graduate program committee, for co-operative education (co-op). These are listed below.

- Chemistry (MSC)
- Business administration (daytime MBA)
- Mathematics and statistics (MSc)
- Resource and environmental management (MRM)

The list of approved programs is subject to change. The application to enrol in co-op is subject to the approval of the student’s supervisory committee and the graduate program committee. 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 could be ‘co-op’ 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.

1.5 Academic Standing

1.5.1 Normal Grading System

Normally, for grading at the graduate level in the University, the following grades are used.

- A = 4.00 points
- A- = 3.67 points
- B+ = 3.33 points
- B = 3.00 points
- B- = 2.67 points
- C = 2.00 points
- F = 0 points

A student must maintain a cumulative grade point average (CGPA) of 3.0. The CGPA is the cumulative average of the grade points earned in the Simon Fraser University graduate courses taken towards a master’s or doctoral degree.

When a student is working on a thesis, extended essay or project as part of the requirements for the degree, the notation of IP (in progress) shall be entered on the transcript. The IP notation is not a grade and is not used in calculating the student’s CGPA.

In exceptional circumstances, the grade for a course may be deferred. This shall be entered as DE in the student’s record. If the grade is not received by the assistant director, graduate studies by the last day for submitting grades in the next semester, the DE grade will automatically be converted to an F. When the grade for a course is not deferred and no grade is received by the assistant director, graduate studies, the notation N will be placed in the student’s record. For the purposes of calculating the CGPA, N counts for 0 points.

1.5.2 GN Notation

The notation GN (grade not reported) may be used if circumstances beyond the control of the University make it impossible for grades to be assigned for a course. The notation has no numerical equivalent and does not affect either the semester grade point average or cumulative grade point average.

1.5.3 Satisfactory/Unsatisfactory Grading (S/U)

A department, recommending through the standard channels to senate, with senate approval, may require that a designated course be graded satisfactory/unsatisfactory (S/U) for all students in the course.

An individual student may request to take a course on an S/U basis by applying to the supervisory committee. If that committee concurs, the request will be submitted to the graduate program committee for final approval. If the course is outside the student’s department, the approval of the other graduate program committee concerned 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 1.7.2 may be taken S/U. Neither an S nor a U will count in the CGPA, but the grade received shall be recorded on the transcript.

1.5.4 CGPA Required For Continuation and Graduation

A graduate student is required to maintain a CGPA of at least 3.0. Failure to do so is evidence of unsatisfactory progress and the matter will be considered by the graduate program committee as required under the Procedure for the Review of Unsatisfactory Progress in regulation 1.8.2.

Under no circumstances will a student, whose CGPA is below 3.0, be awarded a graduate degree.

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 credit for 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 credit 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 third semester of full time equivalent enrolment after the student’s admission, although in certain circumstances, and with the permission of the dean of graduate studies, the appointment can be delayed. The senior supervisor is the person principally responsible for supervising the student throughout the degree program. A senior supervisor must hold the rank of assistant professor or above.

A senior supervisor who is planning to be off campus for any length of time shall arrange for proper supervision of the student during this absence. The graduate program committee and the dean of graduate studies shall be informed in writing of the arrangement.

1.6.4 Supervisory Committee

In degree programs in which there is a requirement for a thesis, a project or extended essays, a supervisory committee, constituted as described below, must be established. For students in other programs, the supervisory committee alone may comprise the supervisory committee.

Where a supervisory committee requires members in addition to the senior supervisor, the senior supervisor, in consultation with the student, shall recommend the composition of the supervisory committee. In such cases, the supervisory committee consists of the senior supervisor and at least one other faculty member. For degrees designated by senate as professional degrees, the other member(s) of the committee may be either suitably qualified person(s). This recommendation shall be made during the same semester in which the senior supervisor is appointed. Recommendations of supervisory committees that include persons who are not faculty members should be accompanied by their brief curriculum vitae. The composition of the supervisory committee, for which the senior supervisor is chair, shall be approved by the graduate program committee and sent to the dean of graduate studies for final approval. It shall be sent to the faculty graduate studies for information.

For degrees designated by senate as professional degrees, the other member(s) of the committee may be other suitably qualified person(s). This recommendation shall be made during the same semester in which the senior supervisor is appointed. The composition of the supervisory committee, for which the senior supervisor is chair, shall be approved by the graduate program committee and sent to the dean of graduate studies for final approval. It shall be sent to the faculty graduate studies committee for information.

The supervisory committee is responsible for helping the student develop a program of study leading to a degree and reporting on the progress of the student’s work. The committee shall be available for consultation.

1.6.5 Change in the Supervisory Committee

Continuity of supervision is important in all graduate work. As a consequence, a change in supervisory committee, especially a change in senior supervisor, may be made only on the basis of strong reasons.

A request for a change in the supervisory committee may come from the student, any member of the supervisory committee or any member of the
graduate program committee. It shall be sent to the graduate program committee accompanied by the reasons, in writing, for the proposed change. If the graduate program committee concurs in the request, it shall be sent to the dean of graduate studies for final approval.

1.6.6 Human Subjects Ethics Review
All research involving human subjects must be directed for review and approval, to the university ethics review committee. Copies of the policy (R20.01), procedures and forms for this review may be obtained from the department or the dean of graduate studies.

1.7 Residence and Course Requirements

Master’s Students
1.7.1 Residence Requirement for the Master’s Degree
The aim of the residence requirement is that the student spend a period of time in contact with faculty members and with other students. To this end, the student shall be registered in a master’s program at the University for a minimum of three full time equivalent semesters. Semesters of part time registration will be counted as one half of a full time semester; on leave semesters will not count toward this minimum. No part of the minimum may be waived for work performed before admission to the University as a master’s student.

1.7.2 Course Requirements 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.

1.7.3 Course Requirements for the Master’s Degree
Master’s candidates must complete the University minimum requirement of 30 credit hours in one of the following ways.

   a) successfully complete a minimum of 12 credit hours of graduate course work and submit an original thesis
   b) successfully complete a minimum of 20 credit hours of graduate course work and submit at least two extended essays, or a project
   c) successfully complete a minimum of 30 credit hours of graduate course work and pass a final examination
Depending on the requirements of the program, all three alternatives may not be available. A graduate program committee may require work in addition to the minimum requirements, either on an individual basis or, with senate ratification for all students in its program.

The following constraints apply to the minimum course work requirement.

One half of the minimum course work of the departmental degree requirements must be taken at this University.

On the recommendation of the graduate program committee and approval of the senate graduate studies committee, up to one half of the departmental minimum may be transfer credit from another institution.

None of the University minimum may be taken on an S/U basis.
None of the University minimum may be courses taken in order to qualify for admission.
None of the University minimum may be undergraduate courses.

A graduate student may apply to take one or more courses at another university for credit towards a degree at Simon Fraser University. Such applications shall be made at least one month before the course/ courses start and shall be approved by the student’s supervisory committee and graduate program committee and be sent to the senate graduate studies committee for final approval. No more than one half of the minimum course work requirement for the master’s degree may be taken at another university. While taking a course/courses at another university under these provisions, the student shall maintain normal registration at this University, not registration on leave.

Doctoral Students
1.7.4 Residence Requirement for the Doctoral Degree
The aim of the residence requirement is that the student spend a period of time in contact with faculty members and other students. To this end, the student shall be registered in a doctoral program at the University for a minimum period as follows.

   a) doctoral students entering the program with a master’s degree shall be in residence for five full time equivalent semesters.
   b) doctoral students entering the program with a bachelor’s degree shall be in residence for eight full time equivalent semesters.
   c) students who have transferred to the doctoral program from the master’s degree program at Simon Fraser University without completing the master’s degree, shall be in residence for a total of eight full time equivalent semesters, at least five of which must be in a doctoral program.

Semesters of part time registration will be counted as one half of a full time semester; on leave semesters will not count toward this minimum. No part of the minimum may be waived for work performed before admission to the University as a master’s of doctoral student.

1.7.5 Course Requirements for the Doctoral Degree
There are no University course requirements for the doctoral degree. However, a student’s supervisory committee, graduate program committee or the faculty graduate studies committee, may require a student to take specified courses or credit hours as part of the degree program.

1.7.6 Doctoral Thesis
All doctoral programs require a doctoral thesis based on substantial original research.

1.8 Progress, Withdrawal and Leave

Master’s and Doctoral Students
1.8.1 Progress Evaluation
At least once each year, the supervisory committee will report on the student’s progress. This report will be sent, in writing, to the graduate program committee with a copy to the student. The evaluation of students in coursework for a master’s degrees will rely on their maintenance of a CGPA of 3.0 as required by graduate regulation 1.5; in such cases no separate evaluation is required.

1.8.2 Procedure for Review of Unsatisfactory Progress
If a student’s progress appears to be unsatisfactory, the supervisory committee or the chair of the graduate program committee shall make a written report to the graduate program committee. That committee shall consider whether or not the student’s progress has been satisfactory. Should the student’s progress be found to be unsatisfactory, the committee, on consultation with the supervisory committee, if one has been appointed, may:

   a) require the student to withdraw, or
   b) inform the student of the unsatisfactory progress and require the student to improve in specific ways in a specific amount of time.

The student concerned has the right to appeal before the graduate program committee when the case is considered, and may submit any materials relevant to the case. A student who is required to withdraw shall be informed, in writing, with copies to the dean of graduate studies and the assistant director, graduate studies. If required to improve within a specific amount of time, the student shall be informed, in writing, as to what precisely is required, with copies to the dean of graduate studies and the assistant director, graduate studies. Any decision of the graduate program committee under the provisions of this section may be appealed to the senate graduate studies committee through the dean of graduate studies. The student has the right to appear before the senate graduate studies committee when the case is heard. The decision of that committee shall be final.

1.8.3 Withdrawal from Courses and from the University
Permission of the senior supervisor and the chair of the graduate program committee is required to withdraw from a course. If the senior supervisor is not yet appointed, permission of the chair of the graduate program committee is required. If such permission is granted, a student may withdraw from a course without academic penalty up to the end of the ninth week of classes in any semester.

Under extenuating circumstances, a student may withdraw from a course without academic penalty during the tenth to the 12th week of classes. Such circumstances must be beyond the control of the student (e.g., medical or financial crisis); under such circumstances, therefore, 898 (Master’s Thesis Research), 899 (PhD Research) or a similar course may be added, as appropriate. The permission of the senior supervisor and the chair of the graduate program committee is required.

A student may withdraw from the University at any time by notifying the chair of the graduate program committee and the assistant director, graduate studies.

A student who has withdrawn from the University and who wishes to re-enter shall apply for permission under the same conditions as any other applicant.

1.8.4 Application to go on Leave
One constituent of graduate work is that a considerable length of time is devoted to concentrated work in one particular area of research. It is therefore desirable that a graduate degree involve several consecutive semesters of uninterrupted research. However, a student may apply to go on leave if both of the following conditions are satisfied.

   a) a situation arises which makes it necessary or desirable to interrupt the work, and
b) no substantial use will be made of University facilities. Permission to register on leave must be approved by the student’s supervisory committee and the graduate program committee. Students on leave are required to register during the normal registration period for each semester by indicating on leave status on their current registration form. A student who does not register is considered to have withdrawn from the University.

1.9 Preparation for Examinations

1.9.1 Examining Committee for a Master’s Degree Candidate

Each candidate for a master’s degree shall be examined on the thesis, extended essays or project. Each examining committee shall have the following minimum composition:

a) the chair of the student’s graduate program committee, or his/her designate, who shall be a non-voting chair of the examining committee. If the chair of the graduate program committee is also on the student’s supervisory committee, he/she shall designate a member of faculty at this University, who is not a member of the student’s supervisory committee, as chair.

b) all members of the student’s supervisory committee.

c) a member of faculty at the university, or a person otherwise suitably qualified, who is not a member of the student’s supervisory committee. For those students 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 In Preparation of Thesis, Extended Essays and Project: Regulations and Guidelines (revised February 1997). At least six weeks before the proposed date for the thesis examination, the candidate’s supervisory committee shall make a recommendation concerning the date of the thesis examination and the composition of the examining committee in conformity with 1.9.1. This recommendation, which shall include the thesis title and an abstract, shall be sent to the graduate program committee for final approval and to the assistant director, graduate studies in the Office of the Registrar for entry into the University’s records. The examining committee composition shall reach the assistant director, graduate studies at least one month 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.

Unbound copies of the completed thesis shall be given to the chair of the examining committee for distribution to that committee, and one copy shall be made generally available for inspection by interested members of faculty and students. The completed thesis shall be distributed no later than one month before the examination date and in no case prior to the approval of the examining committee by the senate graduate studies committee. The chair of the examining committee shall inform the dean of graduate studies in writing when the thesis has been distributed.

1.9.5 The Role of the External Examiner

The external examiner shall be chosen as a distinguished scholar with particular experience in the field of the thesis research. The examiner shall be free from potential conflict of interest which may arise, for example, from research collaboration with the student or prospective employment of the student. Whether the external examiner will participate in person or in absentia, including the possibility of a conference telephone connection or similar means, will be determined by the dean of graduate studies who will take into account the departmental views.

The external examiner shall be asked to report on the thesis, to the dean of graduate studies only, before the examination. The report, which should indicate whether the examiner believes the thesis is ready for defence, shall be sent to the chair of the examining committee, by the dean of graduate studies, for distribution to all members of the examining committee before the examination. In cases when the examiner finds the thesis ready for defence, the report will otherwise be kept confidential until after the examination; in other cases, the report need not be kept confidential. Once the examination has taken place, and if the thesis is passed, the external examiner shall send a brief report to the senior supervisor which indicates the general quality of the thesis. That report (which may be either a copy of the initial report to the dean of graduate studies or a report prepared after the thesis defense) shall accompany the recommendation for award of the degree.

In the event of examination in absentia, the report of the external examiner should be quite extensive and give a specific recommendation as to whether or not the thesis ought to pass, fail, or be subject to revision as under 1.10.2. The report shall be copied, by the dean of graduate studies, to the chair of the examining committee, for distribution to all members of the examining committee before the examination. Specific questions raised by the external examiner in that report shall be directed to the candidate during the examination.

1.9.6 Notification of Doctoral Thesis Examination

At least 10 days before the proposed examination, the chair of the graduate program committee will notify the candidate, the examining committee, the dean or deans of faculty concerned and the dean of graduate studies of the date, place and time of the thesis examination; this date shall not be earlier than the originally proposed date. The dean of graduate studies will notify the University community.

1.10 Examinations

Master’s and Doctoral Students

1.10.1 Thesis Examination

The candidate shall give an oral account of the research on which the thesis is based and defend the thesis itself. The candidate must be prepared to answer questions on the field of the research and related fields.

Thesis examinations are open to the University community. Copies of the thesis abstract shall be made available to all those attending the examination. The chair of the examining committee shall allow proper opportunity for questions on the thesis to come from persons who are not members of the examining committee but are attending the examination. The dean of graduate studies or designate shall have the right to attend all phases of the examination.

1.10.2 Classification of the Thesis

There are four possible outcomes of the thesis defence.

1) the thesis may be passed as submitted
2) the thesis may be passed on the condition that minor revisions be completed to the satisfaction of the senior supervisor
3) the examining committee may defer making
judgement if it judges that the thesis could pass after additional work by the candidate. A thesis upon which judgement is deferred shall come forward for re-examination within a period specified by the examining committee. The examining committee may require formal re-examination under section 1.10.1 or may reach its decision by examination of the revised thesis. The examining committee may not defer judgement a second time.

4) the thesis may be failed. In this case, the candidate is required to withdraw from the University.

The decision of the examining committee is by simple majority vote except that, in the cases of PhD candidates or candidates enrolled under special arrangements, the committee may not pass a thesis or defer its judgement on a thesis without the concurrence of the external examiner. A decision to pass the thesis or to defer making judgement may not be reached on a tie vote of the examining committee. If at first a majority vote to pass the thesis cannot be reached, and subsequently, if a majority vote to defer judgement cannot be reached, the thesis will be failed.

1.10.3 Recommendation for the Award of the Degree

When a student has successfully defended the thesis and made any minor revisions required, the supervisory committee shall recommend award of degree. This recommendation goes for approval respectively to the graduate program committee, the faculty graduate studies committee, the senate graduate studies committee and senate, which has the final authority to award the degree.

The title of the thesis, extended essays, professional paper and projects will be recorded on the student’s transcript.

1.10.4 Submission of the Thesis to the Library

If the examining committee has required minor revisions to a thesis, these will be completed as soon as possible after the examination and checked by the senior supervisor. Two unbound copies of the final draft of the completed thesis shall be sent to the library together with a memorandum from the senior supervisor certifying that all required revisions have been made. These two copies will be bound, catalogued and retained by the library, one for the general collection and one for the University archives. graduate program committees may also require not more than two bound copies for departmental files and these should be submitted for binding at the same time.

When the library representative of the dean of graduate studies has checked the thesis and accepted the format, the representative will notify the registrar. No degree will be approved by senate until the registrar has been so notified.

Master’s Students

1.10.5 Examination of Extended Essays submitted in Partial Fulfillment of Degree Requirements

Examination for an extended essay shall be as for the examination of a master’s thesis. The extended essay of a successful candidate shall be deposited in the library in the same format as for a thesis.

1.10.6 Examination of Projects Submitted in Partial Fulfillment of Degree Requirements

For degrees designated ‘professional degrees’ by senate (presently MBA, MEd, MPM, MRM, MEng, MPub) the project will be examined in ways designated by the appropriate faculty graduate studies committee and the dean of graduate studies.

Examination of projects for all other graduate programs shall be as for the examination of theses with the following exceptions: when the project is either live, taped or filmed, only one presentation is required for examination, and only one recording is required for deposition in the library. The one copy deposited in the library shall be the property of the University. The student shall have the right to copy the original, and the right to borrow it for external showing at the discretion of the librarian.

1.11 Publication of Thesis

When the thesis is submitted to the library, the student shall authorize the copying and publication of the thesis as follows.

1.11.1 Partial Copyright License

Except as noted in 1.11.3, the student shall sign a partial copyright license which grants to the University the right to lend the thesis to users of the library, and to make partial or single copies for such users. Multiple copying is not permitted without written permission from the author except that, if the author is unobtainable, the dean of graduate studies may give this permission.

1.11.2 Microfilming

Except as noted in 1.11.3, the student shall sign an agreement form authorizing the National library to microfilm the thesis and to sell microfilm copies on request.

1.11.3 Postponement of Publication

The thesis may be withheld from circulation and from copying for a period of six months from the date of defence of the thesis, in order to protect patentable material, pending application, or where immediate commercial publication is in view. In unusual cases this period might be extended for a further six months. At the time of the thesis defence, a thesis withholding document requesting and authorizing such delay shall be signed by the student, the senior supervisor, and the dean of graduate studies. The official copies of the thesis and all pertinent forms shall be deposited in the library along with the withholding document. A copy of the thesis shall not be sent to the National Library during the restricted period but the abstract of the doctoral thesis shall be sent to Dissertation Abstracts International with the period of restriction duly noted.

1.11.4 Publication of the Thesis by the Student

None of the clauses above preclude the student from publishing the thesis in any form at any time.

1.12 Maximum Time for Completion of the Requirements for the Degree

1.12.1 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.

1.12.2 Doctoral Degree

A student shall complete all the requirements for a doctoral degree within eight calendar years of initial enrolment as a doctoral student or, in the case of a student who has transferred from a master’s program into the doctoral program without completing the master’s degree, within eight calendar years of initial enrolment as a master’s student.

1.12.3 Readmission

Under exceptional circumstances and with the recommendation of the departmental graduate program committee concerned, a student who did not complete the degree requirements within the maximum time, and who was thus required to withdraw, may be readmitted for one semester only to complete those requirements. Final approval for readmission is by the dean of graduate studies.

1.13 Award of the Degree

1.13.1 Application for Graduation

Every candidate for a graduate degree is responsible for applying for graduation on forms available from the Office of the Registrar.

1.13.2 Award of the Degree

Award of the degree is by resolution of senate.

1.13.3 Transcripts

Certified official transcripts of the student’s graduate academic record may be obtained from the Office of the Registrar. Only individually signed copies with the University seal are valid. For further information on cost refer to fees section.

1.14 Convocation Ceremony

Convocation is held twice annually. Graduates from the previous fall and spring semesters convocate in early June, while graduates from the summer semester convocate in October.

1.15 Class Interruption

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

1.16 Graduate Student Appeals

Grades

May be appealed to the instructor, department chair and, in some cases, faculty dean in accordance with academic policy T 20.01.

Progress Evaluations

May be appealed to the senate graduate studies committee (see 1.8.2.)

Appeals

May be initiated at the original level and, if not resolved, the appeal may proceed to other appropriate higher levels up to and including the senate graduate studies committee.
Graduate Fees

The board of Governors reserves the right to change the schedule of fees and refunds without notice.

Fees for Master’s and PhD Students

- full time fee unit ............................................... $768
- exception: off campus MEd program ................. $1750
- EdD program ............................................... $2700
- executive MBA program .................................... $3,500
- (weekend program) ........................................ $4,430
- MBA program (day program) ....................... $800
- joint MBA/MRM program .............................. $784
- MPub program ............................................. $1200
- part time fee is equal to one half of the full time fee unit (see Graduate General Regulations 1.4.5)
- Co-op fee is equal to one half of the full time fee unit (see Graduate General Regulations 1.4.6).

The minimum fee for a master’s degree is set at six full time fee units, unless the degree is completed in no more than 24 consecutive months of full time enrolment, in which case the student is liable only for the fee units payable until the date of completion of all degree requirements.

The minimum fee for the joint MRM/MBE degree is set at 12 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 for a doctoral degree is set at eight full time fee units, unless the degree is completed in no more than 44 consecutive months of full time enrolment, in which case the student is liable only for the fee units payable until the date of completion of all degree requirements.

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 discontinued and affected semesters are:

- Program, Semesters
- MALS, first and second summers
- ME, every summer
- MRM, first and second summers, only for students who have registered part-time exclusively.

Students registered on a time extension beyond the maximum given in Graduate General Regulation 1.12 are required to pay a registration fee equal to one full time fee unit for each such registration.

Students registered for one semester to complete degree requirements as described in Graduate General Regulation 1.12.3 are required to pay a registration fee equal to one and a half full time fee units.

Fees for Special, Exchange, and Qualifying Students

- tuition fee per credit hour ............................................ $77
- Note: No tuition fees will be charged to an exchange student who is a bona fide graduate student paying regular fees at another Western Canadian university which extends a like privilege to graduate students registered at Simon Fraser University.

Other Fees

Athletic-Recreation Fee
- per semester .......................................................... $30
- except for: students registered part-time ..................... $15
- students registered in co-op or on leave ........ no fee

Student Activity Fee
- Full Time ...................................................... $55.35
- Part Time ......................................................... $27.68
- total fee payable per semester ... $55.35 .......... $27.68
- except for: students taking courses for credit at designated off campus locations .... $27.68
- students registered part time .... $27.68
- students registered on leave ...... no fee

Student Services Fee
- per semester .......................................................... $18
- except for: students registered co-op or on leave .... $15
- students registered in the off campus MEd program ............................................ no fee

Special Fees
- application fee .................................................... $55
- late registration fee .............................................. $50
- reinstatement fee ................................................ $100
- official transcript of academic record ................ $3.25
- late submission fee (see Refunds below) ........

- Normally, students are required to submit the transcript fee before the transcript will be released. Only at the discretion of the registrar will the student be billed for a transcript after its release.

- replacement library card fee .................................. $16.50
- graduation fee ........................................................ $36

- The non-refundable graduation fee is payable in six instalments of $6.00 in each of the student’s first six semesters of registration in the graduate program.

Mandatory Supplementary Course Fees

In addition to credit course fees, mandatory supplementary course fees may be assessed for individual courses in addition to basic tuition. Mandatory supplementary course fees cover additional costs associated with photocopied materials, prepared computer disks and/or audio visual tapes that may replace or enhance the use of a required text as a means of instruction. This material may be distributed by the bookstore or individual departments.

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

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

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

Marine Science
- All MASC courses offered at the Western Canadian Universities Marine Biological Station (Bamfield) .............. $137 per credit hour

Resource and Environmental Management
- REM 698 ......................................................... $100 per semester

Form of Payment

Unless otherwise authorized, fees must be paid in full each semester at the time of registration. Credits for scholarships or bursaries will be given only on the authority of the dean of graduate studies. A student applying for 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.

Refunds

Withdrawal from Program
If a student withdraws from the graduate program without completing the degree before the end of the semester, refunds will be calculated from the date the student officially notifies the registrar in writing of his/her withdrawal from the University. Withdrawal in the first month of the semester will result in a refund of 50% of the tuition fees payable. No other refund will be made.

Change of Fee Status
Students whose registration status changes during a semester and within the first four weeks of classes, may be eligible for partial refund of the applicable fees and should consult the Office of the Registrar for further information. No other refund will be made.

Qualifying and Special Students

Fees and fee refunds for qualifying and special students are in accordance with the undergraduate fee schedule.

Completion of Program
If a student completes all requirements for the
degree during the semester, the following refund schedule for total tuition fees payable will apply:

Completion in the first month of the semester refund of 75% of fees payable for the semester
Completion in the second month of the semester refund of 50% of fees payable for the semester
Completion in the third month of the semester refund of 25% of fees payable for the semester

Refunds are applicable to the time extension surcharge, but not to the readmission, reinstatement or late registration fees. Refunds will be made only if the required minimum fee has been paid.

Fee Waiver
The on-leave fee may be waived in exceptional circumstances, for example, from accident, illness or parenting, on the basis of medical documentation.

Late Submission Fee
The fee for submission to the library of thesis, project or extended essays after the deadline for submission, but prior to the first day of classes of the next semester, shall be one eighth of a full time fee unit.

The late submission fee applies to all degree completion requirements, including the master’s final examinations.

Fees for Courses at Another Institution
A student registered at Simon Fraser University who takes a course at another institution of higher learning and has had this course approved in advance for credit towards the graduate program (see General Regulations) is responsible for enrolling at the other institution and paying fees assessed by that institution. When the student produces satisfactory evidence of tuition fee payment at the other institution, the Simon Fraser University fees for that semester will be decreased by this amount.

The student must maintain full time registration at Simon Fraser University. The SFU fee paid for that semester will be refunded to an amount not to exceed the lesser of the two amounts.

The ‘minimum fee for the degree’ is at least six fee units for a master’s degree and at least eight fee units for a doctoral degree.

Tuition Fee Certificates (T2202A)
The official tuition fee certificates will be produced by the Cashiers’ Office in January of the following year. They will be available for personal pick up at the Cashiers’ Office during the month of February in the following year.
Financial Aid for Graduate Students

Scholarships and Fellowships Awarded by the University

The following awards are contingent upon the availability of funds. Detailed information is available from the dean of graduate studies office, AQ 6046. Completed application forms should be submitted to the applicant's department of enrolment by the indicated deadlines.

Entrance Scholarships

Bert Henry Memorial Graduate Scholarship

The recipient is an outstanding student who has obtained the master's degree and is entering any PhD program at Simon Fraser University. The recipient must show high academic performance and potential for significant contribution to the chosen field of study. One award valued at $18,000 per annum is made. Tenure is for one year and may commence in any semester. Application deadline: March 15.

Simon Foundation Doctoral Entrance Fellowship (for Women)

The recipient is an outstanding woman scholar entering any PhD program at Simon Fraser University. The recipient must show potential for significant contribution to society through achievement in her chosen field. One award valued at $15,000 per annum is made. Tenure is one year and may commence in any semester. Application deadline: March 15.

C.D. Nelson Memorial Graduate Scholarships

Recipients are outstanding scholars entering any Simon Fraser University graduate program. Twelve or more awards valued at $17,000 per annum are made. Tenure is one year and may commence in any semester. Application deadline: March 15.

Scott Paper Limited Bicultural Graduate Entrance Fellowship

The recipient is an outstanding student who has received a previous degree at a University in the province of Quebec and is entering any Simon Fraser University graduate program. One award valued at $15,000 per annum is made. Tenure is one year and may commence in any semester. Application deadline: March 15.

Awards for New or Continuing Students

Graduate Fellowships

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 CGPA of 3.5. These are one semester awards valued at $4,400 (master's) or $5,000 (PhD). Students may apply in an annual competition for graduate fellowships tenable in one, two or three semesters. Application deadline is April 15.

Awards for Continuing Students

William and Ada Isabelle Steel Memorial Graduate Scholarship

The recipient is an outstanding full time student in any Simon Fraser University graduate program whose research takes place outside the lower mainland of BC. One award valued at $17,000 per annum (of which $2,000 is for travel, accommodation and related research expenses), Tenure is one year and may commence in any semester. Application deadline is March 15.

President’s PhD Research Stipends

These are one semester awards available to all full time PhD students who have completed all degree requirements with the exception of the thesis.

Financial aid is available from government and other granting bodies and from awards within the University which are administered by the Office of the Dean of Graduate Studies. Refer to the graduate awards database at the above Internet address. Other sources of income are teaching 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.

The Financial Aid and Awards Office administers all student loan applications and awards based on financial need. These include the Canada student loan program, the work study program and graduate bursaries. For further information, contact the Financial Assistance and Awards Office, Student Academic Resources, Maggie Benston Student Services Centre, (604) 291-3892.

Plan and apply well in advance as many scholarship deadlines occur up to 12 months before the granting of the award. Application deadlines are listed for some of the following awards. Please note that these are approximate dates only, and are subject to change by the awarding agency.

International students – students who are not Canadian citizens and who would require financial assistance to attend Simon Fraser University must seek such assistance in their country of origin before arrival in Canada. Many of the outside awards are restricted to Canadian citizens or permanent residents. However, foreign students are eligible for most awards granted by the University.

Categories of Graduate Awards, Bursaries and Stipends

Scholarships and Fellowships Awarded by the University

Scholarships and Awards Administered by the University

Scholarships and Fellowships Administered by Federal Government Agencies

Awards Administered by the International Council for Canadian Studies

Awards Administered by Other Institutions and Associations

Bursaries and Loans

Bursaries Administered by the University

University Administered Bursaries for Continuing Students

University Administered Private/Endowment Bursaries

Student Emergency Loan Fund

Canada Student Loan/BC Student Assistance

International Student Loans

Government Part Time Grants/Loans

Work-Study Program

Special Opportunity Grant for Female Doctoral Students

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 agencies to change deadline dates, discontinue awards, etc. without prior notice.

Graduate Financial Aid

proposed essay subject. No award will be made if, in the opinion of the referees, a suitably high standard has not been reached. Application deadline: September 30.

Archeoametry Prize
A prize valued at approximately $300 will be awarded annually in the spring 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 Aid and Awards, Student Academic Resources, Maggie Benston Student Services Centre. Nomination deadline: January 30.

Arthur Anderson & Company Graduate Entrance Scholarship
One scholarship valued at approximately $4,000 is awarded to a student entering a graduate program in the field of accounting. Application deadline: March 15.

M.D. Angus & Associates Graduate Fellowship in Psychology
One award valued at approximately $300 to assist a graduate student in Psychology with the development of a publishable standardized test. Application deadline: September 30.

Wm. F. and Ruth Baldwin Graduate Scholarship in History
A two-semester award valued at approximately $8,000 awarded preferentially to an incoming student pursuing a graduate degree in British history. Application deadline: March 15th.

Margaret Lowe Benston Memorial Graduate Bursary in Women’s Studies
One or more bursaries valued at approximately $850 each for graduate students in Women’s Studies. Preference will be given to students working in areas relating to women in science and technology. Application deadline: May 30.

BCAA Environmental Studies in Transportation Award
One award of approximately $700 to recognize outstanding academic performance by a graduate student whose thesis research is related to the study of land-based transportation systems and their relationship to, and improvement of, the environment. Application deadline: September 30.

BC Council of Garden Clubs
A scholarship of $750 will be awarded to a student in the master of pest management program whose course of study emphasizes horticultural pest control. The recipient must be a Canadian citizen. Application deadline: September 30.

BC Packers Limited Scholarship
A scholarship valued at $600 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. Application deadline: September 30.

Boag Foundation Graduate Scholarship in Women’s Studies
One award of $2,000 for a graduate student in women’s studies. Application deadline: April 30. 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.

B.P. Beirne Prize in Pest Management
An annual prize, valued at approximately $1,200 with accompanying certificate will be awarded during May each year to the outstanding graduate from the master of pest management program in the three semesters immediately preceding Convocation. The award is in honor of Dr. B. P. Beirne, founder of the Centre for Pest Management at Simon Fraser University. It will be made by nomination by the director of the Centre for Pest Management in consultation, as necessary, with faculty. The candidate will be judged equally on his or her scholastic record, professional paper and relevant professional attributes. Nomination deadline: April 30.

Graduate Entrance Scholarship in Business Administration
An award of approximately $1,200 for a student entering a graduate degree program in Business Administration in the Faculty of Business Administration. Application deadline: March 15.

Cable Television Pioneer Graduate Scholarship
One scholarship of approximately $700 for a graduate student in Communication specializing in communication policy. Application deadline: September 30.

CanCopy Graduate Award in Publishing Studies
An award of approximately $1,800 is awarded to a graduate student in the Master of Publishing program, demonstrating experience within the Canadian book publishing and/or periodical publishing and/or music publishing sector. Application deadline: May 30.

Canron Limited Sidney Hogg Memorial Graduate Scholarship
Canron Limited has established a scholarship in memory of the late Mr. Sidney Hogg, a Convocation founder of SFU. This annual scholarship of approximately $650 will be awarded to a worthy and deserving student in post-graduate studies in physics. The spirit of this scholarship is to assist a student who requires financial aid to complete 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. Application deadline: September 30.

CanWest Graduate Scholarship in Communication
One or more scholarships of $4,000 awarded annually to graduate students in the School of Communication with a particular interest in issues related to broadcasting. Application deadline: September 30.

Chemistry Graduate Research Award
One award valued at approximately $800 to recognize superior performance in the first year of graduate studies in Chemistry. Application deadline: May 30.

COGECO Graduate Scholarship in Communications
One two-semester award of approximately $12,000 for a graduate student in Communication. Application deadline: September 30.

Israel Chertkow Memorial Scholarship in Gerontology
One award of approximately $150 is awarded to the top graduating student in the gerontology diploma program. It is made by nomination by the Director of the Gerontology Research Centre. Nomination deadline: September 30.

Barry Clark Memorial Graduate Scholarship in Pre-Twentieth Century English Literature
One award of approximately $800 for a graduate student in English, specializing in pre-twentieth century English Literature. Application deadline: September 30.

Samuel and Leatrice Cohen Prize in Environmental Physiology
One prize of approximately $900 to recognize the best student paper resulting from graduate research in the field of environmental physiology. Application deadline: September 30.

Douglas Cole Memorial Graduate Entrance Scholarship in Cultural History
One award valued according to the funds available, will be awarded to a student entering the graduate program in History whose focus will be on cultural history. Application deadline: Setember 30.

The Graduate Prize in Computing Science
One prize of approximately $150 is awarded to the top graduate student in Computing Science from income earned from the Graduate Prize in Computing Science Endowment Fund. Nomination deadline: January 30.

Cook Conference Scholarship
One or more scholarships of $1,500 will be awarded to a graduate student studying in any field of History on the basis of high academic performance. Application deadline: January 30.

Criminology Graduate Student Research and Education Grants
Travel grants limited to $250 each for graduate students to travel to conduct research or participate at a conference, workshop or attend a course. Application deadlines: January 15 and September 15.

Isabel Dawson Memorial Scholarship in Gerontology
A scholarship valued at approximately $1,000 each for graduate students in the Faculties of Science or Applied Science. Contact Financial Aid and Awards.

Gordon Diewert Graduate Scholarship in Kinesiology
A scholarship valued at approximately $1,200 will be awarded to a graduate student on the basis of high academic performance and study in the area of motor learning in Kinesiology. This fund has been established in honor of Dr. Gordon Diewert for his contribution to Kinesiology at Simon Fraser University. Application deadline: September 30.

Digmaw Bursary
Bursaries are available to graduate students in Physics. Students must demonstrate financial need and academic ability. Candidates are selected by the chair of the Physics Department. Contact Financial Aid and Awards. Application deadline: September 30.

Distinctive Travel Service Inc. Graduate Scholarship in Education
One or more awards valued at approximately $700 for a graduate student in the Faculty of Education. When possible, the scholarship should be granted to a graduate student with travel costs that are not funded from other sources involved in their research project. Application deadline: September 30.

Robert Hancock Dunham Memorial Scholarship in English
One award of approximately $2,700 for a student entering a graduate degree program in the Department of English. Application deadline: March 15.

DuPont Graduate Entrance Scholarship in Chemistry
Two annual scholarships valued at $5,000 each will be awarded to the top entering graduate students in the Department of Chemistry. Candidates will be judged on their scholastic and research achievements and potential. Recommendation deadline: March 15.

Ebco/Epic Graduate Scholarships in Expert Systems
Several scholarships valued between $700 and $1,000 each are available to graduate students in the Centre for Systems Science. These are:
Arthur and Angie Fouks Graduate Entrance Award in Public Service
One award valued at approximately $4,000 to recognize both outstanding academic performance and a high level of public service by a student entering a graduate program at Simon Fraser University. Student must be nominated by his/her intended department. Nomination deadline: March 15.
Mahatma Gandhi Memorial Scholarship in Kinesiology
A scholarship valued at approximately $700 will be awarded to a Kinesiology graduate student whose research interests are in the areas of nutrition and/or aging. Preference may be given to students who are considered to be deserving and financially needy. Application deadline: January 30.

Glen Geen Graduate Scholarship in Marine Biology
One award of approximately $500 for a graduate student in Biological Sciences with a concentration on Marine Biology. Application deadline: September 30.

German Canadian Benevolent Society of British Columbia Auinger Award in Gerontology
The Auinger Award in Gerontology of approximately $500 provides financial support for a graduate student pursuing a master’s degree in Gerontology. Emphasis is on high academic performance and a research focus on Aging and the Built Environment. Application deadline: September 30.

Sidney Hogg Memorial Graduate Scholarship
Mrs. Sidney Hogg has established a $10,000 endowment, the earned income therefrom to provide a perpetual scholarship of approximately $750 annually. This scholarship is to be awarded to a graduate student in Science who needs financial assistance in order to continue studies and who is qualified in terms of character and scholarship. The award may be held in conjunction with other awards. Application deadline: September 30.

Imperial Order of the Daughters of the Empire Seaman Morley Scott Memorial Graduate Scholarship
A graduate scholarship of approximately $300 in memory of Dr. Seaman Morley Scott will be awarded annually to a female graduate student who is a Canadian citizen who demonstrates high meritorious performance in her academic program. Application deadline: September 30.

International Reading Association Graduate Entrance Scholarship in Geography
One award of approximately $1,500 for a student entering a graduate program in Geography. Application deadline: March 15.

International Reading Association Graduate Entrance Scholarship in English
One award of approximately $1,500 for a graduate student in English. Application deadline: May 30.

Dr. E. A. Fatah Graduate Scholarship in Criminology
An award valued at approximately $2,000 to a graduate student in Criminology pursuing graduate work in the area of victimology. Student should show promise of outstanding achievement at the graduate level with particular emphasis on intellectual ability, originality and ability in research. Application deadline: September 30.

Professor Thelma Finlayson Fellowship
Professor Thelma Finlayson has established a $4,000 fellowship to be offered to graduate students enrolled in programs leading to the master of pest management degree. Preference will be given to students working in the field of entomology. Application deadline: September 30.

French Memorial Graduate Scholarship
One award of approximately $1,200 for a graduate student in French. Application deadline: May 30.
National Council of Jewish Women (Vancouver Section) Graduate Scholarship in Women’s Studies
One scholarship of approximately $700 for a graduate student in the first, second or third semester of Women's Studies. Application deadline: September 30.

Hemingway Nelson Architects Graduate Scholarship
One award of approximately $1,500 for a graduate student carrying out research at the Institute of Molecular Biology and Biochemistry. Application deadline: September 30.

Marshall Noble Memorial Graduate Bursary in Chemical Ecology
One bursary of approximately $1,000 for a graduate student in the Chemical Ecology Research Group in the Faculty of Science. Application deadline: September 30.

Dr. M. Sheila O'Connell Graduate Publication Scholarship
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 approximately $1,000 and is intended to assist candidates in writing and publishing a children's story. Application deadline: September 30.

Centre for Pest Management Endowment Fund
One award valued at approximately $500 for a student entering a graduate degree program leading to a Master of Pest Management. Application deadline: March 15.

Petro-Canada Graduate Scholarship in Science
One scholarship of $3,000 awarded to a student pursuing a graduate degree in the Faculty of Science. Application deadline: September 30.

Annie Peters Pinto Graduate Scholarship in Women’s Studies
One award of approximately $1,500 for a graduate student in Women's Studies. Application deadline: September 30.

Phillip Rutherford/HarperCollins Memorial Bookstore Internship
An award of approximately $1,000 provides a bookstore internship for a graduate student in the master’s of publishing program, normally in BC for 3-4 weeks. Application deadline: September 30.

Graduate Entrance Scholarship in Political Science
One award of approximately $700 for a student entering an MA program in political science. Application deadline: September 30.

Rogers Communications Inc. Graduate Scholarship in Communication
One or more scholarship(s) of approximately $4,000 awarded annually to graduate students in the Department of Communication with a particular interest in issues related to broadcasting or cable. Application deadline: September 30.

Rotary Club of Burnaby Scholarship
A scholarship of $1,000 has been established by the Rotary Club of Burnaby to be awarded to a graduate student in the Faculty of Education in recognition of scholarly merit and the advancement of education practice. Application deadline: September 30.

Office of the Registrar Bursary for Disabled Students
One bursary to a disabled graduate or undergraduate student in any Faculty. Contact Financial Aid and Awards, Student Academic Resources, Maggie Benston Student Services Centre. Application deadline: September 30.

William and Jane Saywell Graduate Scholarship in History
One or more awards of approximately $2,000 for a graduate student in History. Application deadline: January 30.

The Seniors’ Foundation of British Columbia Graduate Awards in Gerontology
Two awards of approximately $2,500 provide financial support for students pursuing a master’s degree in Gerontology. Students must be nominated by the director of the Gerontology program. Application deadline: September 30.

Simon Fraser University Disabled Graduate Student Award
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. Contact Financial Aid and Awards, Student Academic Resources, Maggie Benston Student Services Centre.

Southam Inc. Graduate Entrance Scholarship in Publishing Studies
One award valued at approximately $3,000 for a student entering the Master of Publishing Program. Application deadline: March 15.

The Sulzer Bingham Pumps Inc. Graduate Scholarship
One award valued at $1,000 for a student pursuing a graduate degree in the Faculty of Science or the Faculty of Applied Science. Application deadline: September 30.

TCG International Graduate Scholarship in Business Administration
One or more award(s) of approximately $8,000 for graduate students in the Master of Business Administration program specialising in marketing, international business or policy analysis. Tenable in the spring and summer semesters. Application deadline: September 30.

Dorothy Middle Thomas Graduate Entrance Scholarship in English
One award valued at approximately $500 for a student entering a graduate program in the Department of English. Application deadline: March 15.

VanCity Environmental Graduate Scholarship
A two-semester scholarship of approximately $5,000 tenable in the fall and spring semesters, for a graduate student enrolled in the Natural Resources Management program who is researching environmental and resource management problems in British Columbia. Application deadline: May 30.

Vancouver A.M. Tourist Services Association Graduate Scholarship in Tourism in Memory of Bob Chambers
A scholarship awarded in memory of Simon Fraser University alumnus Bob Chambers. Valued at approximately $500 for a graduate student in the School of Resource and Environmental Management with a concentration on tourism. Application deadline: May 30.

Vancouver Horticulture Society Bursary
The Vancouver Horticulture Society has established a $10,000 endowment, the earned income therefrom to provide a perpetual bursary. The bursary is to be awarded to students of the master of pest management program studying pest problems relating to horticulture. It is awarded to students who need financial assistance in order to continue studies and who are qualified in terms of character and scholarship. Contact Financial Aid and Awards, Student Academic Resources, Maggie Benston Student Services Centre.

International Graduate Scholarship
One award valued at approximately $500 for a graduate student working in the area of French Literature. Application deadline: January 30 or May 30.

Linda Waddell Memorial Scholarship in Publishing Studies
Sponsored by Penguin Canada, one award valued at $2,000 for a student pursuing a Master degree in Publishing Studies. Application deadline: May 30.

Garfield Weston Foundation/BC Packers Limited Graduate Fellowship in Marine Sciences
A one year award valued at $16,000 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. Application deadline: May 30.

Doreen Wilkinson Memorial Graduate Scholarship in Economics
One or more scholarships of approximately $1,500 will be awarded in the fall semester of each year to graduate students entering the doctoral program in Economics at Simon Fraser University. The fund honours Doreen Wilkinson, Economics Departmental Assistant, friend and mentor to many. Application deadline: March 15.

Madame Justice Bertha Wilson Graduate Bursary
A one award valued at approximately $250 is available to a graduate student pursuing research that has a focus on the feminist analysis of law and society. Academic excellence and financial need will be considered. Application deadline: September 30.

Dr. John Yorston Memorial Graduate Scholarship in Pest Management
One award of approximately $1,000 for a graduate student in the master of pest management program specializing in crop protection, plant pathology and nematology. Application deadline: May 30.

Scholarships and Fellowships Administered by Federal Government Agencies

Social Sciences and Humanities Research Council Awards
SSHRCC offers doctoral fellowships in the Humanities and Social Sciences valued at $16,620/year. Applicants must be Canadian citizens or permanent residents of Canada, living in Canada at the time of application. Applicants must have completed a master’s degree or at least one year of doctoral study, and will be pursuing full time studies leading to a PhD or its equivalent. This is a renewable award. The deadline for applications to the department is approximately October 15.

Natural Sciences and Engineering Research Council Awards
NSERC offers postgraduate awards and a limited number of post doctoral fellowships in the fields of science including interdisciplinary research, physical geography and experimental psychology. Canadian citizens and permanent residents who at the time of
application are residing in Canada are eligible. Two categories of postgraduate awards are available:
- **PGSA**: valued at $17,400 per year for 2 years and available to students for the first and second years of postgraduate study either at the MSc or PhD level.
- **PGSB**: valued at $17,400 per year for 2 years and available to Ph.D. students only for the third and fourth years or the fourth and fifth years of postgraduate study.

**Postdoctoral Fellowships**
NSERC postdoctoral fellowships are tenable in Canadian universities or in universities abroad. Applicants must be Canadian citizens or permanent residents of Canada, living in Canada at time of application. Valued at $30,000/year for two years.

**Northern Scientific Training Grants Program**
The training program is managed by the Department of Indian and Northern Affairs. The primary purpose of this program is to encourage students to 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. Deadline: November 4.

**Awards Administered by the International Council for Canadian Studies**
The ICCS administers a number of national and international programs on behalf of Canadian and foreign donors. A brief description of some of the awards is given below. A comprehensive list of awards, including those offered for study abroad, is available from the Office of the Dean of Graduate Studies, 800 _ 325 Dalhousie Street, Ottawa, Ont. K1N 7G2. Deadlines for application are normally in October of each year.

**Commonwealth Scholarship Plan**
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, Indonesia, Jamaica, Malaysia, New Zealand, Nigeria, Sri Lanka, Trinidad and Tobago, Uganda, United Kingdom.

**Awards Administered by Other Institutions and Associations**
**Canadian Federation of University Women Fellowships**
A candidate for any of the following awards must be a Canadian citizen or must have lived in Canada for one year prior to submitting application. Information and application forms are available from: The CFUW, 308 _ 297 Dupuis Street, Ottawa, Ontario, K1N 7H8, and the dean of graduate studies Office.

**Margaret McWilliams Pre-doctoral Fellowship**
One fellowship of $10,000 is awarded annually to a predoctoral woman scholar in any field of study, master’s degree or equivalent; study well advanced at least one year) into doctoral program; may be studying abroad. Deadline: November 30.

**Professional Fellowship**
This fellowship of $4,000 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 30.

**Alice E. Williams Grants**
Three grants of $1,000 each are to assist inrefresh work, specialized study, or training in new techniques. Applicants must have a bachelor’s degree or equivalent from a recognized university. Deadline: November 30.

**Margaret Dale Philip Award**
This award of $1,000 is open to any woman scholar who holds a bachelor’s degree from a Canadian university, who resides in Canada and who wishes to embark on, or continue a program leading to an advanced degree in the field of humanities or social sciences. Special consideration will be given to candidates who wish to specialize in Canadian history. Deadline: November 30.

**International Federation of University Women Research Fellowships, Grants and Bursaries**
Applicants must be members of CFUW. Deadline: approximately November 15. For detailed information contact: International Federation of University Women, 37, Quai Wilson, CH 1201, Geneva, Switzerland.

**Celanese Canada Internationalist Fellowships**
The Celanese Canada Internationalist Fellowships provide opportunities for Canadians to study abroad to build their international competence, and to further Canada’s participation in the world economy into the new millennium. Targeted at outstanding university graduates of proven academic merit and demonstrated personal suitability, fellowships will be awarded on a competitive basis. There will be 125-150 fellowships of $10,000 each awarded over the initial five years (1997-2001). Fellowships are non-renewable. Further information is available from the Office of the Dean of Graduate Studies. Deadline: February 15.

**Graduate Research and Engineering Technology Awards**
The Science Council of British Columbia is offering the GREAT (Graduate Research Engineering and Technology) awards to encourage graduate students to acquire industrial experience and to become familiar with the BC industrial environment. These awards are open to Canadian citizens and permanent residents only. The fellowships are available to graduate students at BC universities in the areas of natural and applied sciences. All BC organizations, both public and private, are eligible to co-operate with the academic institutions, providing that research can be arranged which is acceptable to both the collaborating organization and Simon Fraser University. Tenure is normally for one year, with a possibility of renewal. Further information is available from the Office of the Dean of Graduate Studies. Value: to a maximum of $17,000. Deadline: January 15 to deadline of graduate studies.

**Imperial Order of the Daughters of the Empire War Memorial Doctoral Scholarships**
Eight scholarships will be offered for study towards a graduate degree (master’s degree or equivalent must be completed or in progress at time of application). Deadline: December 1. Eligibility: Canadian citizens; must have done or be doing postgraduate work. Value: $10,000 for study in Canada, $12,500 for study within the Commonwealth.

**Note**: A candidate must approach the province of the university from which he/she has graduated.

**International Development Research Centre**
IDRC offers a number of ‘Young Canadian Researchers’ 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.

**Mackenzie King Open Scholarships**
One award will be offered for study in any field at any university. Eligibility: graduates of any Canadian university. Value: $8,000. Deadline: January 27.

**Mackenzie King Travelling Scholarships**
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 in international relations or industrial relations in the United States or the United Kingdom. Value: $13,000. Deadline: February 1.

**Monsanto Canada Scholarship in Weed Science**
One scholarship is awarded annually at a university in Western Canada to students who have completed one or more years of a master’s or PhD program. Eligibility: Any student entering graduate studies in Plant Science, or Agricultural Engineering with a thesis project on weed control, herbicide chemistry or application technology, weed biology or weed ecology. Value: $2,000. Deadline: September 30.

**Queen Elizabeth II British Columbia Centennial Scholarship**
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 United Kingdom. Eligibility: a graduate of the University of British Columbia, the University of Victoria, or Simon Fraser University a) who has attended any British Columbia public university for a minimum of two years; b) whose ordinary domicile, home or residence is in B.C.; c) who is a Canadian citizen. Deadline: March 31. Applications are available in the Office of the Dean of Graduate Studies. All enquiries, applications and all documents pertaining to this Scholarship must be forwarded directly to the Chief of Protocol, Ministry of Government Services, Parliament Buildings, Victoria, BC, V8W 1X4.

**J.H. Stewart Reid Memorial Fellowship**
The J.H. Stewart Reid Memorial fellowship is open to doctoral students in any field at any Canadian university. Eligibility: a) Canadian citizen or landed immigrant; b) completion of at least one full academic year of graduate work by June 1; c) a first class academic record. Value: $5,000. Application forms are available from the Office of the Dean of Graduate Studies.

**Rhodes Scholarships**
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 Assistance Office and dean of graduate studies Office. Deadline: October 27.

**Rotary Foundation Graduate Scholarships**
Awards are made for one year of study in countries in which there are Rotary clubs and in any field but not for independent or supervised research for medical internships; the purpose of the award is to increase international understanding. Eligibility: bachelor’s degree or equivalent; students between the ages of 18-28 inclusive as of March 1 of the competition year. Value: provides for living expenses, transportation, tuition and fees, limited educational.
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 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.

University Administered Private/Endowment Bursaries

Private Bursaries for all Students

Alumni Scholarship and Bursary Endowment Fund

Program code: GBO-584
Value: up to $500
Awarded: fall and/or spring
Terms of reference: The awards are based on financial need and satisfactory academic standing.

Birk Family Foundation Bursaries

Program code: GBO-551
Value: $500 - $1,000
Awarded: fall and/or spring
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, and are not restricted by faculty or year, and may be renewed. The number and amount of such awards may vary annually depending upon the funds available from the Foundation.

The Honourable Angelo E. Branca and Mrs. Branca Bursary Endowment Fund

Program code: GBO-586
Value: $800
Awarded: fall
Terms of reference: students entering from secondary school. Applicants must demonstrate financial need and have satisfactory academic standing. Other bursaries valued approximately at one semester’s tuition are available to students from any faculty, who have a minimum of 60 credit hours at Simon Fraser University, have maintained satisfactory academic 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, Confraternita Italo-Canadese and friends. Mr. J. Diamond, Mr. J. Segal, Mr. Ben Wosk.

Burnaby New-Westminster Women's Club

Program code: GBO-672
Value: $500
Awarded: fall
Terms of reference: a hard working and deserving female student who has a minimum of 60 credit hours at Simon Fraser University, have maintained satisfactory academic standing and have satisfactory academic performance as well as being a BC resident. This bursary is in memory of Caroline Velichko, a former member of the Burnaby-New Westminster Business and Professional Women’s Club.

Burrard Charitable Foundation Bursary

Program code: GBO-554
Value: $500
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 Endowment Fund

Program code: GBO-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: GBO-596
Value: $200
Awarded: spring

Lois M. Fisher Bursary

Program code: GBO-597
Value: $200
Awarded: spring

Government of BC Women’s Equality Bursaries

Program code: GBO-677
Value: $2 @ $500
Awarded: fall
Terms of reference: To support women enrolled in full or part-time programs in Women’s Studies or related coursework or fields in which women have not traditionally sought post-secondary training, which will lead to a degree, diploma or certificate. Satisfactory academic standing and financial need are also required. Apply on the Simon Fraser University bursary application available at Financial Assistance. The deadline is the end of the second week of classes.

Hamber Foundation

Program code: GBO-559
Value: $700
Awarded: fall
Terms of reference: women students with satisfactory academic standing and need for financial assistance.

Carma Israel Bursary Endowment Fund

Program code: GBO-598
Value: $100
Awarded: fall
Terms of reference: financial need. An endowment fund in memory of Carma Israel has been established by Mrs. Katherine Leshgold.

Charles Chan Kent Golden Wedding Bursaries

Program code: GBO-663
Value: $500
Awarded: fall or 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: $250
Awarded: fall
Terms of reference: on the basis of demonstrated financial need and satisfactory academic performance. Preference will be given to a student in the certificate in family studies program or, failing that, to a student in any faculty whose course work will prepare them to work with children, youth and families after university.

Jo-Ann Mychaluk Bursary Endowment Fund
Program code: GEBO-602
Value: $500 - $800
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.

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.

Opsimath Club Bursary Endowment
Program code: GEBO-603
Value: $500 - $1,000
Awarded: fall
Terms of reference: 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.

Dr Tom Richardson Memorial Graduate Entrance Bursary
Program code: GEBO-726
Value: $200
Awarded: fall
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 based on the following criteria: 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.

Rotary Club of Vancouver Community Service Bursary
Program code: GPBO-568
Value: 3 @ $500
Awarded: fall
Terms of reference: students in financial need with satisfactory academic standing.

William and Jane Saywell Bursary
Program code: GPBO-682
Value: $1,500
Awarded: fall or spring
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 and spring
Terms of reference: This fund has been established to provide bursaries to physically challenged students. Up to three bursaries will be awarded on the basis of financial need. Adjudication will occur in consultation with the Physically Challenged Students' Co-ordinator.

Jennifer Allen Simons Bursary
Program code: GEBO-669
Value: $1,000
Awarded: fall
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.

Harry and Dora Annie Sme Bursary
Program code: GEBO-606
Value: $900
Awarded: fall
Terms of reference: up to three bursaries will be awarded to students in any faculty who have completed at least 30 credit hours at Simon Fraser University. The awards will be based on financial need and satisfactory academic standing. Preference will be given to female students.

Merle L. Smith Bursary
Program code: GPBO-572
Value: $300
Awarded: fall
Terms of reference: a physically challenged student in any faculty who is beyond first year studies. Initial preference will be given to wheelchair users.

University Women’s Club of Vancouver
Program code: GPBO-575
Value: $600
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: $500
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.

Private bursaries for Applied Sciences students

Delcan Corporation Bursaries
Program code: GPBO-667
Value: up to two @ $1,000
Awarded: spring
Terms of reference: graduate students registered full time at Simon Fraser University, in the Faculties of Science and 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 or recommendation from the Office of the Dean of the major program.

Dr Tom Richardson Memorial Graduate Entrance Bursary
Program code: GEBO-726
Value: $300
Awarded: fall
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 based on the following criteria: 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 Sciences Bursaries
Program code: GPBO-578
Value: $500 - $1,000
Awarded: fall, spring
Terms of reference: full time undergraduate and graduate students who have completed two years of post-secondary education. Areas of study include any of the following: Pre-Med program, Kinesiology, Bio-medical Engineering, and Gerontology. Awards are based upon financial need and good academic standing.

Private bursaries for Arts students

Adeline May Clark Bursary Permanent Endowment
Program code: GEBO-499
Value: $400 - $1,000
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. Eligibility: Students must be registered in the School for the Contemporary Arts, and must demonstrate financial need and a high level of achievement in the Arts.

Aird Dundas Flavel Memorial Bursary
Program code: GEBO-659
Value: $500 - $1,000
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.

Keith G. Loughlin Gerontology Bursary
Program code: GEBO-702
Value: $600
Awarded: fall
Terms of reference: a graduate student enrolled in the master of Gerontology program, or to an undergraduate student enrolled in the Gerontology program, a post baccalaureate diploma program. The bursary will be granted to a student demonstrating financial need and in satisfactory academic standing. Preference will be given to a student specializing in quality of life issues in intermediate care facilities for seniors. Applicants should submit with their application, a letter outlining specialization or area of interest in the Gerontology field. A departmental nomination is to be submitted along with the application form.
Dr. Grazia Merler Bursary in French
Program code: GEBO-714
Value: $100
Awarded: spring
Terms of reference: a student in French on the basis of demonstrated financial need and satisfactory academic performance

Vancouver Foundation Health Science Bursaries
Program code: GPBO-578
Value: $500 - $1,000
Awarded: fall, spring
Terms of reference: full time undergraduate and graduate students who have completed two years of post-secondary education. Areas of study include any of the following: Pre-Med program, Kinesiology, Bio-medical Engineering, and Gerontology. Awards are based upon financial need and good academic standing.

Student Emergency Loan Fund
Regulations
The following regulations govern all loans for continuing students over which the University has jurisdiction.
• Short term emergency funds are available to students who urgently need money while awaiting other sources of funding.
• Emergency loans are interest free for a period of 60 days.
• Students must have a demonstrated financial need and source of repayment.
• Normally, graduate students must be registered 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.

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, funds provided under this program will be disbursed through a combination of the Canada Student Loan and BC Student Assistance. Eligibility
Applicants must be Canadian citizens or permanent residents (landed immigrants) and registered full time undergraduate or graduate students to be eligible for assistance. The amount of assistance awarded will be based on assessed need as determined by the provincial authority. Currently, single full time students are eligible for a maximum of $4,420 in BCSAP each semester. The maximum for students with dependent children is $6,545 a semester. You can apply for BCSAP for either one semester or two semesters at once (e.g. fall only, spring only, fall and spring). A student in need of a Canada Student Loan/BC Student Assistance must first obtain an application form from Financial Assistance. The application must be completed carefully and accurately by the student, and where applicable, by the spouse or parent(s). If the student’s application is approved, the student will receive in the mail a Notification of Award/Statement of Personal Responsibility from the Student Services Branch in Victoria. After receiving this Notification, the student’s Canada Student Loan document will be available in Financial Assistance. This office will confirm registration and the student will then take the loan document to a lending institution for negotiation.

If the student is also eligible for BC Student Assistance, the Loan Certificate or grant will be available at Financial Assistance usually at the mid-point of the period of study for which assistance was awarded. Financial Assistance will confirm registration and the student will then take the Loan Certificate to a lending institution for negotiation. Students are advised to keep in constant touch with the bank, or lending institution, from which they secure their loans.

Students should note the Summary of Obligations on the reverse side of the loan certificate prior to negotiating the loan. Interest on the loan is paid by the Federal or Provincial Government as long as the student is registered as a full time student. Students should contact their lending institution 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 II and/or Certificate II to their lending institution in order to retain payment-free status. Students must be undertaking a minimum of 9 regular credit hours in the current semester, be a registered full time graduate student, or be enrolled in a co-op education work term to be considered full time for payment-free status. A copy of these forms may be obtained from the lending institution or Financial Assistance. For appeals, reassessments or other concerns, please contact Financial Assistance at (604) 291-4356.

The provincial government has a loan remission program available to some graduating students. For details contact: Student Services Branch, Ministry of Advanced Education, Training and Technology, telephone 1-800-561-1818.

International Student Loans
United States Students
United States citizens or nationals attending Simon Fraser University are eligible to apply for a US guaranteed student loan. Application is made to a private commercial lender in the student’s home state and the loan is insured by that state, a private non-profit agency or the federal government. Students with permanent resident status may be eligible to apply for Canada Student Loans. See International & Exchange Student Services.

Students from other countries
Students who are not Canadian citizens or Permanent Residents, and who will require financial assistance to attend Simon Fraser University must arrange such assistance in their country of origin before arrival in Canada.

Simon Fraser University permits non-Canadian students to compete for scholarships once they have enrolled at the University on the basis of course work undertaken at Simon Fraser University. It must be stressed that non-Canadian students should not predicate their tuition and living expense estimates upon these sources. Non-Canadian students are normally not permitted to work in Canada. Such students are expected and required by federal law to have sufficient funds guaranteed for their education prior to arrival in Canada.
Government Part Time Grants/Loans
If you are a part time student with demonstrated financial need, you may qualify for a federal study grant of up to $1,200. Grants are targeted to students with dependents and possibly other students with special circumstances who are not able to take full time studies.
Federal students loans up to $4,000 are also available to part time students with financial need. These loans supplement other financial resources such as earnings, scholarships and bursaries.
Part time students who are Canadian citizens or landed immigrants and who are not in default of previous federal or provincial 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.

Work-Study Program
The Work-Study program provides part time on campus jobs for full time students during the fall and spring semesters. To become eligible, students must apply for BCSAP funding. If their financial need is greater than the maximum BCSAP funding, they may be notified by Financial Assistance that they are eligible for Work-Study placement. Each Work-Study placement lasts one semester and pays approximately $8 an hour, covering a range of 90 to 155 hours of work.

Special Opportunity Grant for Female Doctoral Students
If you are a female student who has enrolled or is qualified to enrol in full time doctoral studies, you may qualify for a federal Government Study Grant of up to $3,000 per year for a maximum of three years. Additional loan and/or grant assistance may be available depending on your eligibility for the program. Please check with Financial Assistance in MBC 3200 or call (604) 291-4356 or e-mail us at fiassist@sfu.ca for further information.
Faculty of Applied Sciences

School of Communication

6141 Classroom Complex, (604) 291-3595 Tel, (604) 291-4024 Fax, http://www.sfu.ca/communication

Director
B. Lewis, BA, (Hamilton Coll), MA, PhD (Iowa)

Graduate Program Chair
A. Beale BA, MA, PhD (McG)

Faculty and Areas of Research
For a complete list of faculty, see Communication undergraduate section.

P.S. Anderson – telecommunication and broadcasting policy; communication and dissemination; mass communication

R.S. Anderson – International development; telecommunication; public policy; community development; government regulation

E. Baika – women and information technologies; gender; technology assessment; participatory design of technology; science and technology; gender; communication and development; negotiation as communication

A.C.M. Beale – communication theory; history of communication; cultural policy; feminist analyses; film and video

G.W. Fauruschou – media analysis; aesthetics and popular culture; social and political theory; economic discourse and market populism

R.H. Gruneau – popular culture; media; communications and cultural theory

D. Gutstein – journalism studies; information policy; access to information; documentary research techniques

P. Guild – management of technological change; new product and service formulation; mediated communication

D. Gutstein – journalism studies; information policy; access to information; documentary research techniques

R.A. Hackett – political communication; journalism and media studies; news discourse on war, peace and social movements

L.M. Harasim – computer mediated communication and collaboration; telelearning and telework; social network design and evaluation

P. Heyer – media history and theory; non-verbal communication

M.P. Hindley – interpersonal communication; communication and psychological issues; family communication; conflict resolution

P.M. Howard – communication in the computerized workplace; technology transfer; knowledge systems in development

R.W. Howard – communication in development; conflict and communication; international environmental issues; political communication in non-capitalist societies

S. Klein – advertising; children’s media and culture; audience research; public communication campaigns; non-broadcast video designs and uses

M. Laba – popular culture; media; applied communication for social issues

W. Leiss – advertising; risk communication; science and technology policy

B. Lewis – Pacific Rim; film, broadcasting and communications policy; documentary media

M. Lipsett – science, technology and innovation metrics; management of technology; policy development and analysis

R.M. Lorimer – publishing; mass communication

C.A. Murray – strategic marketing, policy and regulation in telecommunications and broadcasting; political communication and opinion research; social marketing

W.D. Richards – communication/social network theory and network analysis methods; simulation methods; organizational communication/information networks and network analysis

R.K. Smith – management of technological innovation; innovation and cross-cultural communication; information society; the role of design in new service formulation

E. Tiesens – design of software for communication, collaboration, and education; Internet and other networked technologies

B.D. Traux – acoustic and electroacoustic communication; audio aspects of media and advertising; electroacoustic and computer music

J.W. Walls – intercultural communication; communication in East Asian languages and cultures; language and culture in translation

D. Ward – design of interactive learning environments and supports for knowledge building

A. Wilden – communication and culture; sex/gender differences and stereotyping; socialization; media analysis; systems ecology; critical theory; videomontage; strategy of communication

Communication is a comparatively new discipline that builds on more traditional disciplines in the social sciences. It focuses on the analysis of the context and means in which information in all its diverse forms is created, packaged, circulated, interpreted, and controlled. As an applied science the study of communication has become 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, as well as in the fields of 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 wide 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

Present 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
- communication in history
- broadcasting and telecommunication regulation, policy and practice
- communication, development and environment
- the information society/economy
- computer mediated networks and virtual environments
- publishing
- international communication, inter-cultural communication
- science and technology policy, technology-transfer, communication of science
- media and cultural studies
- cultural policy and cultural politics
- acoustic environments and communication
- management of technology
- telework, tele-learning, distance education
- political communication
- communication in conflict and intervention
- crisis/emergency communication

Research and Training Facilities

Assessment of Technology in Context Design Laboratory
Graduate Resource Centre
Interactive Media Lab (network and multi-media studies)
Media Analysis Laboratory
Sonic Research Studio and Soundscape Archives
Telematics Laboratory

MA Program

Admission

Admission requires a bachelor’s degree in communication (with at least a good second-class standing) or an equivalent degree in an interdisciplinary or humanities program, in one of the social sciences, or in socially oriented information systems, or biological sciences. However, qualified students will be accepted only if the communication graduate studies committee finds a suitable thesis supervisor. Besides applications from communication students, the school encourages applications from those with experience in humanities, social or biological sciences, and interdisciplinary studies.

All applications should be directed to the graduate studies committee and, in addition to general university requirements, should include the following.

- a succinct statement of interests and goals together with an account of relevant academic and personal background.
- two samples of scholarly and/or other written work relevant to the applicant’s objectives. In addition, any tapes, films, etc. the applicant considers relevant.
- references from three persons, at least two of whom should be familiar with the applicant’s academic work.

The annual deadline for applications is February 1. The committee will announce its decisions to applicants before the last week of April. Students will normally enter the program in the fall semester.

The school recognizes the special needs of working individuals who wish to upgrade their qualifications. The graduate program in communication has been
approved for part time students; however, University regulations require all MA students to complete their studies within 12 full time equivalent semesters or six years, whichever is shorter.

Advising and Supervision
Each new student is assigned an interim advisor upon admission to the program. The student is expected to select a senior supervisor and in consultation with this faculty member to select one or two other faculty to serve on a supervisory committee by the beginning of the student’s third semester. Although the graduate studies committee (GSC) will endeavor to provide interim advisors with expertise in the student’s stated area of research interest, there is no obligation to select the interim advisor as senior supervisor.

Degree Requirements
Graduate courses are organized into six groups. Group 1 contains survey courses that define and map the field in addition to exposing students to faculty interests and programs of research. Group 2 contains courses in research methods and methodology designed to help students with research projects in the field. Group 3 contains courses in the various research areas available in the school. Group 4 courses provide the opportunities for students to do field work or to work and study in a professional setting. Group 5 courses allow students the opportunity to 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. Candidates for the master’s degree must normally satisfy the following.

Course Work
At least six graduate courses (normally completed before beginning a thesis, a project, or two extended essays) which must include the following.
- one course from group 1
- one course from group 2
- CMNS 860-2 (graduate colloquium)
- three additional courses, at least one of which is to be selected from within the school and may include other courses from groups 1 and 2. A maximum of two courses may be taken from groups 4 and 5. No more than one group 4 or 5 course may be taken with the same instructor, except by permission of the graduate studies committee.
- an original thesis or an original project which, because of content or method, does not conform to the usual definition of a thesis; or extended essays: at least two extended essays in the form of research papers to be submitted and defended orally. These papers will be bound and deposited in the University library. Procedures used in the supervision and examination of extended essays are the same as those used for theses.
- supervision: a supervisory committee should be approved by the graduate studies committee at the beginning of the third semester.
- formal review: graduate degree candidates will have an annual formal review of their academic progress by 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 881, 882

Group 5 Courses: Directed Readings and Studies
CMNS 850, 851, 880

Group 6 Courses: Colloquia, Theses and Comprehensives
CMNS 860, 895, 898, 899

Co-operative Master’s Option
In the fall of 1998, the School of Communication introduced a co-operative education option on a trial basis for master’s students. This program combines professional work experience with academic studies. After the first two semesters of the program, students may alternate work and academic terms. All work positions are in paid, study related jobs and may lead to the communications project or extended essay in lieu of a master’s thesis. Application for the co-operative education program is made through the school’s co-op co-ordinator and the University office of Co-operative Education.

PhD Program
The school will offer PhD students the opportunity to choose from the fields of study and research listed above under Faculty and Areas of Research and Fields of Study and Research.

Admission
Admission requirements for this program will normally include a master’s degree or an exceptional record of undergraduate and/or graduate work in a relevant area of study. Enrolment is strictly limited by the school.

For general university admission requirements, refer to General Regulations. In addition to satisfying general requirements, applicants are asked to provide
- a 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 February 1. The committee will announce its decisions to applicants before the last week of April.

Degree Requirements
All doctoral candidates must complete course work, take a comprehensive examination, and submit a dissertation which demonstrates the student’s ability to make an original contribution to the field of communication. Candidates must normally satisfy the following requirements.

Course Work
Students must complete course work consisting of a minimum of nine courses at the graduate level for those students entering with a bachelor’s degree (including CMNS 860) or five graduate courses for students who have completed a master’s degree.

The graduate studies committee may require additional courses depending upon a 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 students admitted to the PhD program who have not first obtained a master’s degree. CMNS 860, the graduate colloquium is required for students entering with a bachelor’s degree and may be included as one of the six required courses. A minimum of four of these courses must be taken from course offerings within the school. For all students a maximum of two courses may be taken from groups 4 and 5. No more than two of group 4 or 5 courses may be taken with the same instructor, except by permission of the graduate studies committee.
- students will be required by the communication studies committee to demonstrate adequate command of any language essential to the completion of their dissertations.

Group 1 Courses: Surveys of History and Theory
CMNS 800, 802, 804

Group 2 Courses: Research Design and Methods
CMNS 801, 805

Group 3 Courses: Research Area Courses
CMNS 815, 830, 840, 845, 855, 856, 859

Group 4 Courses: Research Internship and Fieldwork
CMNS 881, 882

Group 5 Courses: Directed Readings and Studies
CMNS 850, 851, 880

Group 6 Courses: Colloquia, Theses and Comprehensives
CMNS 860, 895, 898, 899

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 examination, 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 a 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.
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 processes that produce the structures 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.

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 course offerings on topics related to the current research of school faculty of visiting professors.

CMNS 856-5 Graduate Seminar
Advanced work in an area of specialization. Review and evaluation of research in progress.

CMNS 859-5 Acoustic Dimensions of Communications
Special topics in sound and communication studies with emphasis on specific problems in psycho-acoustics, theories of sound cognition and information processing, soundscape studies, acoustic design, community noise surveys, media analysis and related technology. Students will gain experience in designing and conducting research projects in one of these areas. Prerequisite: CMNS 359 or equivalent.

CMNS 860-2 Graduate Colloquium
Discussion of essentials of researching, writing, and defending a thesis. Presentation by students of thesis related research plans or results, thesis architecture, of finished chapters for critical review by faculty and students. MA students must complete this course once before proceeding to a thesis defence. S/U standing only.

CMNS 880-5 Directed Readings and Research
Supervised enquiry in concentrated areas of specialization.

CMNS 881-5 Research Internship
Work and study in an approved professional setting.

CMNS 882-5 Research Field Work
External research beyond regular contact with the University.

CMNS 891-0 Co-op Practicum I
CMNS 892-0 Co-op Practicum II
CMNS 895-0 Comprehensive Examination
Examination of three areas of which one must be on the theoretical or methodological framework/procedures indicated by the proposed dissertation. S/U standing only. The exam may be taken once in the event of unsatisfactory performance.

CMNS 896-0 MA Thesis
CMNS 899-0 PhD Thesis
Communication graduate students may also take PUB 800, 801, or 802 for communication credit.

School of Computing Science
Director
J.P. Delgrande BSc, MSc, PhD (Tor)
Graduate Program Director
M.S. Atkin BSc (Nott), MPhil (Warw), PhD (Br Col)
Faculty and Areas of Research
For a complete list of faculty, see undergraduate Computing Science.
H. Alt-Kaci – theory and implementation of programming languages, logic, and symbolic computation
M.S. Atkin – medical computing, medical image analysis, operating systems and distributed system design
B.K. Bhattacharya – pattern recognition, computational geometry
F.W. Burton – functional programming, parallel computing
T.W. Calvert – information processing in man and machines, biomedical applications, graphics
R.D. Cameron – programming languages and systems, software engineering
V. Dahl – logic programming, computational linguistics, artificial intelligence
J.P. Delgrande – artificial intelligence, knowledge representation
J.C. Dill – computer graphics, computer aided engineering, design and manufacturing
F.D. Fracchia – computer graphics and scientific visualization
B.V. Funt – artificial intelligence, computer vision, colour perception
A. Gupta – constructive combinatorics, parallel complexity theory
R.F. Hadley – artificial intelligence, automated learning, philosophical foundations of cognitive science, computational semantics.
L. Hafer – constrained optimization, design automation
J.W. Han – database and knowledge-base systems, deductive databases, logic programming
R. Harrop – medical applications, automata theory, logic
W.S. Havens – expert systems, constraint reasoning, artificial intelligence
P. Hell – computational combinatorics, algorithm graph theory
R.F. Hobson – very large scale integrated design, computer design, circuit design
K.M. Inkpen – human-computer interaction, multimedia, educational technology, computer-supported collaborative learning and co-operative work, user interface design, tele-learning
T. Kameda – analysis of algorithms, computer communications networks, database systems
R. Krishnamurti – reconfigurable architectures, parallel computing, image processing, interconnection networks
Z.N. Li – computer vision, image processing, artificial intelligence
A.L. Liestman – analysis of algorithms, distributed algorithms, graph theory
W.S. Luk – database systems, distributed processing
M. Monagan – computer algebra, symbolic computation, computer graphics, data structures
J.G. Peters – combinatorial approximation, parallel processing, distributed processing
S. Pilarski – design for testability, built-in self-test, concurrent error detection, distributed databases
F. Popowich – computational linguistics, logic programming, artificial intelligence
R.D. Russell – numerical solution of ODE, mathematical software
Graduate Applied Sciences – Computing Science

T.C. Shermer – computational geometry, graph theory, computer graphics
T.D. Sterling – statistics and data processing applications, social applications, systems design
M. Trummer – numerical analysis
J.J. Weinkam – programming languages, biomedical computing
Q. Yang – scheduling, case-based reasoning, constraint problem solving

Associate Members
J.C. Dill, Engineering Science
M. Monagan, Mathematics and Statistics
R.D. Russell, Mathematics and Statistics
M. Trummer, Mathematics and Statistics

Research Facilities
The School of Computing Science operates several interconnected local areas in co-operation with other departments in the Faculty of Applied Sciences. These networks are connected to SFU LAN, the campus-wide network, which also provides access to the Internet.

Facilities include over 200 networked workstations, file servers, CPU servers, and other specialized systems. These are mostly SUN SPARC and NeXT workstations, with some Silicon Graphics Iris workstations and various PCs. Specialised facilities include an AIS 4000 parallel vision processor and a 76 node transputer system. Additionally, the school has comprehensive resources to facilitate VLSI design, simulation, fabrication and testing.

Other computing resources are provided by the University’s Academic Computing Services department including six large SGI 4D multi-processor systems, four Sun SPARC-II computers, an IBM RS6000, and an Auspex file server. These systems and a wide range of software and services are available to the Simon Fraser University campus community.

Degrees Offered
The School of Computing Science offers programs leading to the MSc and PhD in computing science. It provides students with graduate studies in the following areas: theoretical computing science; artificial intelligence; database systems; computer graphics and multimedia computing; hardware design; distributed computing; programming languages and systems; computer vision and medical imaging.

Admission
To qualify for admission to the MSc program, a student must satisfy the University admission requirements stated in section 1.3 of the Graduate General Regulations and must have a bachelor’s degree or the equivalent in computing science or a related field.

To qualify for admission to the PhD program, a student must satisfy the University admission requirements stated in section 1.3 of the Graduate General Regulations and

- have a master’s degree or the equivalent in computing science or a related field
- 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 subareas 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
Area I – Formal Topics in Computer Systems
- algorithms and complexity
- formal logic and language semantics
- discrete mathematics
- operations research

Area II – Computing Systems
- operating systems and networks
- computer design and organization
- programming languages and compilers
- software methodology and engineering

Area III – Knowledge and Information Systems
- artificial intelligence and robotics
- database and information retrieval systems
- numerical and symbolic computing computer graphics and interfaces

The course requirements for the MSc and PhD degrees each have a distribution requirement to ensure breadth across the major areas defined in table 1. This requirement is specified in terms of number of courses and sub-areas selected from each of the three major areas. At its discretion, the graduate breadth evaluation committee may accept requests to define sub-areas other than those in table 1 for the purpose of satisfying MSc or PhD breadth requirements.

Supervisory Committees
A supervisory committee, at either the MSc or PhD level, consists of the student’s senior supervisor, at least one other computing science faculty member, and other members (typically faculty) as appropriate. The choice of senior supervisor should normally be made by mutual consent of the graduate student and faculty member based on commonality of research interests. The student and senior supervisor should consult on the choice of the remainder of the committee members.

Section 1.6 of the Graduate General Regulations specifies that a senior supervisor be appointed normally no later than the beginning of the student’s third semester in the program, and that the remainder of the supervisory committee be chosen normally in the same semester in which the senior supervisor is appointed.

Research Topics Seminars
The research topics seminar series is presented over the course of the year by faculty and graduate students. Faculty presentations acquaint new graduate students with the research interests of the faculty. Graduate student presentations typically showcase thesis research. Students in the first year of graduate study are required to attend faculty research topics seminars to become familiar with the research interests of the faculty.

MSc Program
Students in the MSc program 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
MSc students choosing the thesis option complete at least 15 credit hours of graduate work (typically five courses) such that at least one course is chosen from each of areas I, II and III of table 1. At least 12 of the 15 credit hours (typically 4 courses) must be taken in computing science. Course work will normally be completed by the end of the fifth semester. MSc students choosing the project option complete at least 27 credit hours of graduate work (typically nine courses) such that at least two courses are chosen from each of areas I, II and III of table 1. The two courses taken in each area should be from different sub-areas. At least 21 of the 27 credit hours (typically seven courses) must be taken in computing science. The project should be roughly equivalent to five credit hours of work.

PhD Program
Students in the PhD program are required to demonstrate breadth of knowledge as outlined below and demonstrate the capacity to conduct original research through the completion and defense of an original thesis. Under normal circumstances a PhD degree should be completed within 12 semesters and should not require longer than 15 semesters.

Depth Requirement
MSc students submit and defend a thesis or project report based on their independent work. Thesis option students consult with his/her supervisory committee, and formulate and submit a written thesis proposal for approval, normally not later than the end of the program’s third semester.

Regulations specifying the examining committee’s composition and procedures for the final thesis or project examination appear in sections 1.9 and 1.10 of the Graduate General Regulations. MSc students with thesis option are required to give a seminar about their thesis research in the interval between distribution of the thesis to the committee and the defense.

Breath Requirement
PhD students are required to demonstrate breadth to a level equivalent to at least 21 credit hours of graduate level course credit (typically seven courses), subject to the following distribution.

- three courses chosen such that one course is drawn from each of areas I, II and III of Table 1,
- two additional courses chosen from any two of areas I, II and III and from sub-areas different from those used for the first three courses.
- two additional courses chosen by the student.

Up to two courses outside of computing science may be used in satisfying the breadth requirement, subject to approval by the student’s supervisory committee and the graduate breadth evaluation committee. A PhD student must achieve a minimum CGPA of 3.4 and passing marks in all courses.

Students submit, within two months of program entry, a proposal to satisfy breadth requirements or may request that up to four courses and any portion of the breadth distribution be waived based on previous graduate work, or by examination. A minimum of nine credit hours (typically three courses) is required. The graduate breadth evaluation committee may approve the proposal or recommend alternatives at its discretion. The breadth requirement is normally completed by the end of the third to sixth program semester, in proportion to the number of courses actually required.
Depth Requirement
PhD students demonstrate depth of knowledge in their research area through a public depth seminar and oral examination, give a thesis proposal seminar, and submit and defend a thesis based on their independent work which makes an original contribution to computing science.

Depth Examination
The depth seminar and examination may be scheduled at any time following the completion of breadth requirements. Typically this is between the fifth and seventh semester in the PhD program; a recommendation is made by the graduate breadth evaluation committee in proportion to the amount of course work required to satisfy the breadth requirement. The examining committee consists of the supervisory committee and one or two additional examiners recommended by it and approved by the graduate program committee. The exam centres on the student’s research. The examining committee, in consultation with the student, specifies the topics in the examination. The student prepares a written survey and gives a public depth seminar; the oral examination follows, and then the committee meets to evaluate the student’s performance in the program to that point. The committee’s evaluation is diagnostic, specifying additional work in weak areas if such exists. A second depth examination or withdrawal from the program may be recommended in extreme cases.

Thesis Proposal
The student and her/his supervisory committee, formulates and submits, for approval, a written thesis proposal consisting of a research plan and preliminary results. The student gives a seminar and defends the originality and feasibility of the proposed thesis to the supervisory committee. The thesis proposal is normally presented and defended within three semesters of the depth examination.

Thesis Defense
Regulations specifying the examining committee composition and procedures for the final public thesis defense are in sections 1.9 and 1.10 of the Graduate General Regulations. PhD students give a seminar; typically this will be about their thesis research and is presented in the interval between distribution of the thesis to the committee and the defense.

Graduate Courses
CMPT 601-5 Computing Science Education I
This course will introduce graduate students in Education to the basics of computing science. Emphasis will be placed on the use of microcomputers. Topics will be programming microcomputers; file handling; microcomputer hardware; word processing; graphics; social, economic and legal implication. Prerequisite: graduate status in education. If the student has an adequate background in computing, this course must be replaced by other computing science undergraduate or graduate courses.

CMPT 602-5 Computing Science Education II
This course introduces some formal topics in Computing Science to the graduate student in education. Topics include discrete mathematical structures; models of computing; data structures; formal languages and algorithms. Also, methods will be introduced for the design and implementation of large programs using structured modular design. Prerequisite: CMPT 601 or consent of instructor(s).

CMPT 710-3 Computational Complexity
This course provides a broad view of theoretical computing science with an emphasis on complexity theory. Topics will include a review of formal models of computation, language classes, and basic complexity theory; design and analysis of efficient algorithms; survey of structural complexity including complexity hierarchies, NP-completeness, and oracles; approximation techniques for discrete problems.

CMPT 720-3 Artificial Intelligence
Artificial Intelligence brings concepts such as computation, process, sub-procedure, data structure, and deduction to the students traditionally raised by psychologists, linguists, and philosophers. In this course we will study a representative sample of work in the field. This will include programs which process written English, ‘see’, play games, prove theorems, and solve problems. A student who has taken CMPT 410 or equivalent may not take CMPT 720 for further credit.

CMPT 730-3 Foundations of Programming Language
This course will cover basic concepts in the area of programming languages. The course will be largely of a theoretical nature and will concentrate on fundamental concepts of lasting importance, rather than topics of current interest.

CMPT 740-3 Database Systems
Review of introductory database concepts; query optimization; concurrency control; reliability and crash recovery; distributed databases; object-oriented databases; knowledge base management systems.

CMPT 750-3 Computer Architecture
Parallel processing: SIMD & MIMD systems, pipelining, data flow architecture; microprogramming; control memory minimization, optimization and verification of micro-programs.

CMPT 760-3 Operating Systems
This course will discuss design issues relating to the functionality and performance of modern workstation operating systems, such as methods for sharing memory, file and data objects, and choice of communication protocols. The special needs of high performance multiprocessor systems and real time systems will also be addressed.

CMPT 770-3 Computer Graphics
This course covers advanced topics and techniques in computer graphics such as solid modelling, curves and surfaces, fractals, particle systems, advanced rendering techniques, animation and post-production techniques. Research topics in virtual reality, human figure animation, CAD, scientific visualization and other areas will also be discussed. Students with credit for CMPT 461 or equivalent may not take CMPT 770 for further credit.

CMPT 811-3 Distributed Algorithms
This course is an introduction to computation in distributed systems with emphasis on the design and analysis of distributed algorithms. We will study many of the distributed algorithms that have been proposed for such problems as election, selection, sorting, spanning trees, and routing. Several models of distributed computing will be discussed.

CMPT 812-3 Parallel Computation
This course is a theoretical treatment of parallel complexity theory concentrating on algorithms and models. Topics will include models of parallel computation, parallel complexity hierarchies, basic tools and techniques of the construction of parallel algorithms, and selected advanced topics.

CMPT 813-3 Computational Geometry
This course covers recent developments in discrete, combinatorial, and algorithmic geometry. Emphasis is placed on both developing general geometric techniques and solving specific problems. Open problems and applications will be discussed.

CMPT 814-3 Algorithmic Graph Theory
Algorithm design often stresses universal approaches for general problem instances. If the instances possess a special structure, more efficient algorithms are possible. This course will examine graphs and networks with special structure, such as chordal, interval, and permutation graphs, which allows the development of efficient algorithms for hard computational problems.

CMPT 815-3 Algorithms of Optimization
This course will cover a variety of optimization models, that naturally arise in the field of management science and operations research, which can be formulated as mathematical programming problems.

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 approach, parallel vision machines and algorithms, and case study of contemporary robot vision systems.

CMPT 822-3 Computational Vision
A seminar based on the artificial intelligence approach to vision. Computational vision has the goal of discovering the algorithms and heuristics which allow a two dimensional array of light intensities to be interpreted as a three dimensional scene. By reading and discussing research papers — starting with the original work on the analysis of line drawings, and ending with the most recent work in the field — participants begin to develop a general overview of computational vision, and an understanding of the current research problems.

CMPT 823-3 Formal Topics in Knowledge Representation
This course surveys current research in formal aspects of knowledge representation. Topics covered in the course will centre on various features and characteristics of encodings of knowledge, including incomplete knowledge, nonmonotonic reasoning, inexact and imprecise reasoning, meta-reasoning, etc. Suggested preparation: a course in formal logic and a previous course in artificial intelligence.

CMPT 824-3 Issues in Logic Programming
This course covers the computational model of logic programs, the theory of logic programs, the prolog language (both pure prolog and real life prolog, with such features as meta logical predicates, cuts and negation, extra logical predicates, and pragramatic issues); advanced prolog programming techniques, such as nondeterminism, backtracking, incomplete data structures, logic grammars, and meta-interpreters; and applications, such as game playing, equation solving, compilers.

CMPT 825-3 Natural Language Processing
In this course, theoretical and applied issues related to the development of natural language processing systems are examined. Investigations into parsing issues, different computational linguistic formalisms, natural language 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
This course will analyse the Artificial Intelligence theory and practice underlying expert systems and survey a number of the pioneering expert system applications. Topics will include reasoning engines, the rule-based approach, search, model based
representations, constraint propagation, reasoning maintenance, uncertainty, knowledge acquisition, plus practical issues in expert system development.

CMPT 830-3 Compiler Theory
Precedence, LL(k), LR(k) grammars; SLR(k), LALR(k), L(m)R(k) and LR(k) parsing techniques; transduction grammars; general compiler organization, code generation and optimization; memory allocation for object programs; garbage collection.

CMPT 831-3 Functional Programming
This course will cover functional programming including introduction to a functional programming language, program transformation and verification, implementation of functional programming languages, and other selected topics which may include parallel evaluation of functional programs, analysis of performance, and advanced applications.

CMPT 841-3 Query Processing in Database Systems
Algorithms for data intensive operations for disk based, main memory based, loosely distributed and tightly coupled databases; analytical and empirical performance studies of database systems.

CMPT 842-3 Concurrency Control in Database Systems
Transactions, recoverability, serializability theory, schedulers, locking, timestamping, optimistic schedulers, multi-version database systems: recovery, commit protocols, termination protocols; replicated database systems, quorum based concurrency control; distributed snapshot taking, distributed deadlock detection, reliable storage systems; concurrency control in object oriented database systems.

CMPT 843-3 Principles of Database and Knowledge Base Systems
An advanced course on database systems which covers the following topics: semantic data modelling, engineering databases and spatial databases, object oriented data models and systems, deductive database systems, semantic query optimization, learning and induction in database and knowledge base systems, and architectures of data intensive knowledge base systems.

CMPT 851-3 Fault-Tolerant Computing and Testing
This course will cover concurrent error detection, self-checking networks, design for testability, and built-in self test. Existing fault-tolerant systems will be studied.

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 cooperative work, intelligent systems, hypertext, 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: an introduction to visualization (importance, basic approaches and existing tools), abstract visualization concepts, human perception, visualization methodology, 2D and 3D display and interaction, advanced techniques (polygon reduction, volume rendering, multivariate representations, parallel algorithms, etc.) and virtual reality. Prerequisite: CMPT 461, 770 or equivalent (by permission of instructor).

CMPT 891-3 Advanced Seminar
Grade given: S (satisfactory) or U (unsatisfactory).

CMPT 893-3 Directed Reading
CMPT 897-0 MSc Project
CMPT 898-0 MSc Thesis
CMPT 899-0 PhD Thesis

Special Topics Courses
In any semester, a limited number of special topics courses may be offered, subject to student demand and faculty availability. Details of any special topics courses will be posted several months before they are offered.

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 Computer 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).

School of Engineering Science

Director
J.D. Jones BSc (Sus), PhD (Reading), PEng
Graduate Program Chair
M. Saif BSc, MSc, PhD (Cleveland), PEng
Faculty and Areas of Research
For a complete list of faculty see Engineering Science undergraduate section.

J.S. Bird – statistical signal processing, system performance analysis, underwater acoustics and optics, radar, sonar and communications applications
C.R. Bolognesi – fabrication and characterization of advanced compound semiconductor devices such as high electron mobility and heterojunction bipolar transistors, development of new materials and processes for high speed devices, optoelectronics, heterostructure fabrication and characterization; solid state phenomena
T.W. Calvert – information processing in man and machine, biomedical applications, computer graphics and animation
J.K. Cavers – mobile communications, signal processing, network protocols, multimedia information compression, digital communications, digital signal processing structures and hardware
M.J. Deen – microelectronics, high frequency electronics, semiconductor devices and circuits, device physics, device modelling
J.C. Dill – computer graphics, computer aided design, user interfaces, intelligent design
D.A. George* – adaptive signal processing for communications and remote sensing systems
W.A. Gruver – intelligent robotics, machine sensing and sensor-based control with applications to service robots, rehabilitation engineering, and manufacturing automation
K.K. Gupta – computer vision, robotics, interpretation of three dimensional scenes, motion planning, spatial reasoning
R.H.S. Hardy – computer networks, interaction between network and device technologies and network performance, wireless networks
P.K.M. Ho – mobile communications, modulation and detection techniques, joint source and channel coding techniques, integration of stream and packet mode CDMA traffic
R.F. Hobson – very large scale integrated design, computer design, interpreter design
J.D. Jones – applications of artificial intelligence to engineering design, design for manufacturing, finite element analysis, heat transfer and thermodynamics
A.M. Leung – microelectronics, integrated circuit technology, integrated sensors, optical lithography
M. Parameswaran – silicon micromachining, integrated microelectronics and micromechanical sensors and actuators, commercial integrated circuit process compatible sensors and actuators design, integrated circuit design, (application of micromachining for biomedicine and biotechnology) microelectronic processing, process and device simulation
S. Payandeh – robot mechanics and control, modelling and control of grasping and manipulation, interpretation of contact forces and tactile images, kinematic geometry of mechanisms
A.H. Rawicz – reliability physics and engineering, very large scale integrated reliability, physical transducers, integrated sensors, film technology, nonlinear optics, materials processing in microelectronics
M. Saif – estimation and control theory, model based fault diagnosis, large scale systems, optimization, and application of the above to engineering systems
S. Stapleton – passive radio frequency/microwave circuits, GaAs monolithic microwave integrated circuits, nonlinear radio frequency microwave devices, active radio frequency microwave circuits
M. Syrzycki – microelectronics, semiconductor devices, digital and analog VLSI design, integrated circuit technology, integrated sensors, integrated circuit fabrication defects, yield and reliability of VLSI integrated circuits
L. Trajkovic – data communications and electronic circuits, novel algorithms (analytical and numerical methods to collect, characterize and model traffic in high speed packet networks), simulation of transistor circuits in computer aided design tools
J. Vaisey – image compression and processing, signal processing, digital communications
Graduate Applied Sciences – Engineering Science

Associate Members
P.N.S. Bawa, Kinesiology
R.F. Frindt, Physics
J.A. Hoffer, Kinesiology
*emeritus

Degrees Offered
The School of Engineering Science offers two distinct master's degrees, master of engineering (MEng), or master of applied science (MASc) and a doctor of philosophy (PhD) degree.

Master’s Program
The MEng program, for part time study by practicing engineers, is based on a set of courses, normally offered in the evenings, plus a project performed in industry. The principal areas of study for the MEng program are electronics, communications and signal processing. The MASc is a full time program with primary emphasis on the thesis, rather than course work, is more exploratory than the MEng, and covers a greater range of study.

Admission
The normal admission requirement to the MEng and MASc programs is a bachelor’s degree in electrical engineering, computer engineering, engineering science or a related area, with a cumulative GPA of at least 3.0 (B grade) from a recognized university, or equivalent. The quantity of faculty members limits the number of MASc students accepted into the programs.

Transfer from MEng Program to MASc Program
Normally transfer from MEng program to MASc program will be considered under the following conditions.

• Undergraduate GPA. Minimum undergraduate CGPA of 3.3 required.
• MEng GPA. On at least two courses, a minimum CGPA of 3.5.

Degree Requirements – MEng Program
Course Work
MEng candidates are required to complete a minimum of 21 credit hours of course work at the graduate level. Of the courses listed below, all students must take ENSC 820. Those specializing in communications must take ENSC 805 and 810; those in electronics must take one of ENSC 851, 852 or 853 and students in intelligent systems and control must take ENSC 801.

In addition to the course work, an MEng student is required to complete a project. The project is 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, as required, from the student’s senior supervisor, and day-to-day supervision from the student’s manager, or a designated associate. Industrial supervisors, who will sit on the student’s supervisory committee, will be appointed by the graduate chair, in consultation with the senior supervisor. In the case of very small companies, alternate arrangements will be made for industrial supervision.

In addition to submission of a technical report at the completing the project, the student will make an oral presentation to the supervisory committee and the graduate chair. A grade will be assigned based on the quality of the submitted report, the presentation, and the student’s understanding of the subject. A grade of ‘complete’ or ‘in progress’ will reflect the majority decision. In the case of an ‘in progress’ grade, the student is required to re-submit the project report and present it again.

MEng Fees
Students registered in the MEng program may complete their program before paying the minimum total fee for a master’s degree. In such cases, an additional payment is required prior to graduation to satisfy the minimum fee requirement of six full-time fee units. See Graduate Fees.

Degree Requirements – MASc Program
MASc candidates complete 30 credit hours consisting of a minimum of 12 credit hours of course work, plus a thesis equal to 18 credit hours. The courses will, in consultation with the senior supervisor, normally be selected from the list below. Additional courses may be required to correct deficiencies in the student’s background. The thesis is based on an independent project with a significant research component. The student defends the thesis at an examination, in accordance with regulations.

Graduate Research Internship
With the approval of the supervisory committee, students accepted in the MASc or PhD programs have the option of doing research internship in industry. The responsibility for finding a suitable internship rests with the student, though the senior supervisor will provide guidance.

In addition to satisfying the program’s degree requirements, students who choose this option must satisfy the following conditions.

Proposal
The proposal must be approved by the supervisory committee and by the graduate committee. The proposal must include the following.

• justification for undertaking the work in industry
• agreement regarding intellectual property and publications
• funding arrangement

On-campus Presence
During the internship, the student must spend at least one day per week (or equivalent as approved by the graduate committee) on campus to meet with his/her supervisor and attend regular seminars. This is in addition to time spent on campus for course work.

Oral Presentations
A minimum of two oral presentations for the supervisory committee (not including the thesis defence) on the progress of the student’s work will be given during the internship.

Duration
The duration of the internship will not exceed two months by a supervisory committee of three or more faculty members willing to act as senior supervisor.

Failure to Comply
See Graduate General Regulations 1.8.

PhD Program
Admission
To qualify for admission, a student must have a master’s degree in electrical engineering, mechanical engineering, physics, computer science or a related field, have submitted evidence that he or she is capable of undertaking substantial original research in engineering science, and have identified a faculty member willing to act as senior supervisor.

See Graduate Regulations for other PhD program admission requirements.

Residence Requirement
Students will conform to the residence requirement as outlined in section 1.7.3 of the General Regulations.

Transfer from the Master’s Program to the PhD Program
Proceeding to a PhD program without first completing a master’s degree is discouraged. However, a student may be admitted after at least 12 months in the MASc program if all the master’s requirements have been completed with a CGPA of 3.67 or better, outstanding potential for research has been shown, and approval of the student’s supervisory committee, graduate program committee and senate graduate studies committee been given.

Degree Requirements
Course Work
The minimum requirement is 18 credit hours beyond those for the master’s degree, of which six are prescribed courses in the option in which the student is enrolled. Alternatives require approval of the student’s supervisory committee. At most six hours may be senior level undergraduate courses. At most six credit hours may be directed studies. At least six credit hours must be within engineering science.

Qualifying Examination
To qualify the student will submit a brief written research proposal and defend it orally to his/her supervisory committee within the first 14 months of admission. The proposal defense will be judged according to the feasibility and scientific merits of the proposed research, and demonstration of a sophisticated understanding of general material in the student’s major area of research. This level of understanding is associated with senior undergraduate and first year graduate course material. The possible outcomes of the qualifying examination are ‘pass,’ ‘marginal’ and ‘fail’ (a student with ‘marginal’ will be required to re-submit the research proposal and defend it for the second and final time within six months and/or to take more courses, a ‘failing’ grade requires withdrawal).

Thesis
Students define and undertake original research, the results of which are reported in a thesis. An examining committee will be formed as defined in section 1.9.3 of the Graduate General Regulations. Students will conform to residence requirements as outlined in section 1.7.3 of the Graduate General Regulations. The senior supervisor will be an Engineering Science faculty member approved by the department’s graduate program committee.

The student’s progress will be reviewed every 12 months by a supervisory committee of three or more faculty members. At each annual review, the student presents a summary of his/her work to date, with the first review being the research proposal defense described in the section for Qualifying Examination. Students not making satisfactory progress in their research topics, or failing to demonstrate satisfactory knowledge and understanding of recent publications in their general area of research, or failing to have their revised research proposal approved by the supervisory committee within 20 months of admission may be required to withdraw as per section 1.8.2 of the Graduate General Regulations.

Research Seminar
PhD students present at least one research seminar per year as a part of regularly organized departmental seminars, including some based on completed or nearly completed thesis work. Students are expected to attend all the research seminars of the school.

Directed Studies and Special Topics Courses
Directed studies (ENSC 891, 892) and special topics (ENSC 894, 895) courses may be offered by the following research groups, subject to student interest and demand.
Communications Group

estimation theory
ATM network performance evaluation
optical 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 electronics
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 for robotics
intelligent design
intelligent control of robotic systems
intelligent manufacturing systems
model-based fault diagnosis in control systems
multivariable control systems
nonlinear control systems
numerical modeling of heat transfer
robotic synthesis

Graduate Courses

ENSC 801-3 Linear Systems Theory

ENSC 802-3 Stochastic Systems
This course emphasizes the application of probability, random variables and stochastic processes. The main topics covered by the course are as follows: a brief review of probability and random variables; continuous and discrete random processes, including auto correlation, cross correlation and spectral density; AR and ARMA models; and an introduction to Markov chains and queuing theory. Areas of application include digital communication, speech and image processing, control, radar and Monte Carlo simulations. Prerequisite: graduate standing.

ENSC 805-3 Techniques of Digital Communications
This course discusses the fundamental techniques used in the physical layer of a digital communication system. The main topics are as follows: digital modulation, including complex baseband representations, the concept of the signal space, optimal demodulation, bit error probability analysis, as well as timing and carrier recovery; error control techniques, including soft decision decoding and the Viterbi algorithms; and various kinds of equalization (linear, decision feedback, and maximum likelihood sequences estimation). Sub topics of the equalization section include pulse shaping and eye diagrams. The emphasis may vary slightly in different offerings. Prerequisite: permission of instructor.

ENSC 810-3 Digital Signal Processing
This course covers advanced digital signal processing techniques. The main topics are as follows: transform representations of signals: fast transforms (FFT, DCT); signal processing of band pass signals and the Hilbert transform; random signals; the response of LTI systems to random signals; quantization noise in DSP; power spectrum estimation; an introduction to adaptive filters; linear prediction in DSP; and an introduction to hardware implementations of DSP algorithms. Prerequisite: ENSC 802 and a previous course in DP at the undergraduate level.

ENSC 815-3 Signal Processing Electronics
This course covers the techniques used to implement signal processing algorithms. Major topics include the following: complexity and performance in DSP; a review of algorithms, including those for DSP; speech and image processing; the Harvard and modified Harvard architectures; pipeline and parallel processing; the architecture of several commercially available DSP chips and a vector signal processor; real time software and development systems; the mapping of algorithms onto arrays; vectorization of scalar algorithms; languages for parallel algorithms; dependence and signal flow graphs; systolic and wavefront arrays; the Hypercube and the Connection Machine. Prerequisite: permission of instructor.

ENSC 820-3 Engineering Management for Development Projects
This course focuses on the management and reporting activities of typical engineering development projects. Through seminars and workshops it builds the student’s skills at estimating project cost and schedule, keeping a project on track, and handling over the completed project to a customer or another team. A writing workshop emphasizes techniques for writing proposals, and writing and controlling documentation. Prerequisite: permission of instructor.

ENSC 823-3 Mobile and Personal Communications
Propagation phenomena, modulation techniques and system design considerations for mobile and personal networks. Topics include: fading and shadowing, noise and interference effects, analog and digital transmission, cellular designs, multiple access techniques. Prerequisites: permission of instructor.

ENSC 832-3 Mobile and Personal Communications
Propagation phenomena, modulation techniques and system design considerations for mobile and personal networks. Topics include: fading and shadowing, noise and interference effects, analog and digital transmission, cellular designs, multiple access techniques. Prerequisites: 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; multimode and single mode technology; bandwidth limitations imposed by dispersive behaviour of fibre; modified fibre profiles for third generation fibre communication systems; solitons; semiconductor laser diodes; external modulation: PIN, photodiodes and avalanche photo detectors; bandwidth and noise limitations; optical amplifiers’ semiconductor laser amplifiers; doped fibre amplifiers; optical receiver and transmitter circuits; quantum limited receiver performance; BER performance; optical communication networks. Prerequisite: permission of instructor.

ENSC 851-3 Integrated Circuit Technology
Review of semiconductor physics. Technology of semiconductor devices and integrated circuits: material evaluation, crystal growth, doping, epitaxy, thermal diffusion, ion implantation, lithography and device patterning, and thin film formation. Design and fabrication of active and passive semiconductor devices, packaging techniques and reliability of integrated circuits. Prerequisite: permission of the instructor.

ENSC 852-3 Analog Integrated Circuits
Models for integrated circuit activity and passive devices and their implementation; computer aided design tools and their use in designing analog integrated circuits; analysis of single transistor amplifiers; current sources, current mirrors, and voltage references; op-amps characteristics, analyses and circuit design examples; frequency response of integrated circuits; noise in integrated circuits; low power integrated circuits; non-linear analog integrated circuits. The students will be required to either design, fabricate and test simple analog ICs in the microelectronics lab, or do a project which involves the design, analysis, modeling and simulation of an analog integrated circuit. Prerequisite: ENSC 850 or permission of instructor.

ENSC 853-3 Digital Semiconductor Circuits and Devices
MOS device electronics. Second Order Effects in MOS transistors. BJT device electronics. Static and transient analysis of inverters. Digital gates, circuits and circuit techniques. Speed and power dissipation. Memory systems. Gate arrays, custom and customized integrated circuits. CAD tools. Students are required to complete a project. Prerequisite: permission of the instructor.

ENSC 854-3 Integrated Microsensors and Actuators
Microelectronic transducer principles, classification, fabrication and application areas. Silicon micromachining and its application to integrated microelectronic sensors and actuators. CMOS compatible micromachining, static, dynamic and kinematic micromotion. Integrated transducer system design and applications. Students will be required to complete a micromachining 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. Prerequisite: permission of the instructor.

ENSC 856-3 Compound Semiconductor Devices
This course covers the techniques used to design, fabricate and test simple analog ICs in the microelectronics lab, or the course which involves the design, analysis, modeling and simulation of an analog integrated circuit. Prerequisite: ENSC 850 or permission of the instructor.
ENSC 889-3 Advanced Robotics: Mechanics and Control
The course presents advanced approaches to modeling, control and applications of robot manipulators. Topics include kinematic modelling of manipulators using the theory of screw and screw operators; methods for obtaining dynamic model of manipulators; control of manipulators based on independent joint and multivariable control approaches; control of the contact forces between a manipulator and its environment; and adaptive control of manipulators. The course also discusses modeling and control of grasping/manipulation using a dexterous end effector. Laboratory experiments are performed to complement the control theoretic part of the course. Prerequisite: ENSC 438, 801 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
"see the Directed Studies and Special Topics Courses section that appears earlier in this Engineering Science section.

Courses Offered by Other Departments
Of particular interest to Engineering Science graduate students are these courses. Complete descriptions can be found elsewhere in this Calendar.

BUEC 820-4 Analysis of Dynamic Processes
CMPT 720-3 Artificial Intelligence
CMPT 750-3 Computer Architecture
CMPT 815-3 Algorithms of Optimization
CMPT 821-3 Robot Vision
CMPT 822-3 Computational Vision
CMPT 827-3 Expert Systems
CMPT 851-3 Fault-Tolerant Computing and Testing
CMPT 852-3 VLSI Systems Design
CMPT 853-3 Computer-Aided Design/Design Automation for Digital Systems
KIN 885-3 Seminar on Man-Machine Systems
MATH 851-4 Numerical Solutions of Ordinary Differential Equations
PHYS 425/821-3 Electromagnetic Theory
PHYS 810-3 Fundamental Quantum Mechanics
PHYS 861-3 Introduction to Solid State Physics

School of Kinesiology

Director
J. Dickinson BA (Birm), PhD (Nott) Graduate Program Chair T.E. Milner BSc, MSc, PhD (Alta) Faculty and Areas of Research For a complete list of faculty, see Kinesiology undergraduate section.

E.A. Accili – cardiac ion channel physiology P.N.S. Bawa – neurophysiology A.P. Blaber – environmental and aerospace physiology T.W. Calvert – neurosciences and mechanics; health and biomedical engineering


Adjunct Professors

Admission
For admission requirements, see Graduate General Regulations, 1.3. At least 24 hours of appropriate undergraduate science courses are required.

MSc Program
Although the minimal requirements for the MSc are 12 credit hours of graduate courses and a thesis, most supervisory committees require more than the minimum. At least six of these hours must be from the graduate course offerings in kinesiology. Courses will be chosen by the candidates’ supervisory committee after consultation with the candidate. For further information and regulations, refer to the Graduate General Regulations.

Thesis
The school encourages early submission of the thesis proposal which is circulated to faculty and resident graduate students, and formally presented for discussion at an open forum. A formal defense of the completed thesis is made to the examination committee at an open forum. The thesis proposal must precede the defence by at least four months. For further information and regulations, refer to the Graduate General Regulations.

Time Required for Degree
Degree requirements can normally be completed in six semesters.

PhD Program
Degree Requirements
Students are admitted to the program in an area defined and determined prior to acceptance by the school’s graduate program committee. The program must be within the student’s and the school’s capabilities. Students must show competence in methodology relevant to proposed research.
Normally the supervisory committee will prescribe courses necessary to complete the student’s academic preparation. In exceptional circumstances, the supervisory committee may allow the student to proceed without additional course work over and above that for a master’s degree. Study and research is designed to suit the background and research objectives of each student and may differ widely from student to student. A student may be directed to acquire an adequate knowledge of a language which would be relevant to his/her studies.

The student will present two seminars plus a dissertation proposal on topics approved by the student’s supervisory committee. They will be presented during the regularly scheduled school seminar time, normally between the first and sixth semesters. Both the timing and subject matter of seminars will be chosen by the supervisory committee in consultation with the student.

**Comprehensive Examinations**

At a time set by the supervisory committee, and within six semesters of residence, the student takes written and oral comprehensive examinations. The comprehensive examination committee consists of a minimum of five people, at least three of whom must be faculty members of the School of Kinesiology, including the senior supervisor and the school’s graduate program chair (or designate, who will act as the committee chair), plus one faculty member from outside the school.

**Written**
There will be four written examinations.

**Part One**
One exam paper will be devoted to the student’s field of specialization and will permit extensive exploration of the chosen research area. This examination is typically set by the senior supervisor in consultation with the comprehensive examination committee and consists of the following format:
- 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 examination 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 the 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**
Student proceed to the oral examination when a pass or deferred (maximum of two) grade on all four sections of the written examination is received. The oral examination is held by the comprehensive examination committee. The student will be examined primarily in the areas covered by the written examination, but questions may range over the entire discipline. Possible results of the oral examination are pass, defer or fail. A student who fails the oral examination may take it again only once. A deferral results in specific conditions of remedial work or re-testing as determined by the examining committee. A deferred evaluation will not be converted to a pass unless the conditions set by the comprehensive examination committee 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 examination has been passed.

**Dissertation**

**Dissertation Proposal**
Upon successful completion of the comprehensive examinations, the candidate presents 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.

**Graduate Courses**

Note: If the subject matter of a listed course has been previously completed with graduate credit, the course may not be taken again for credit.

**KIN 805-3 Directed Studies**
Seminar opportunity to develop under a faculty supervisor, special interest in considerable depth. Normally, KIN 805 may be taken not more than once for credit toward a degree.

**KIN 806-3 Special Topics**
Special topics in areas not currently covered within the graduate program offerings. The course may be offered as a lecture or a seminar course.

**KIN 807-3 Special Topics**
Special topics in areas not currently covered within the graduate program offerings. The course may be offered as a lecture or a seminar course.

**KIN 808-3 Special Topics**
Special topics in areas not currently covered within the graduate program offerings. The course may be offered as a lecture or a seminar course.

**KIN 810-3 Seminar in Exercise Biochemistry**
A detailed study of current topics in exercise metabolism including endocrine control of exercise metabolism, protein turnover in muscle, metabolic fatigue mechanisms in muscle, and cellular adaptation to training. Prerequisite: KIN 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 cardiovascular and respiratory physiology in health and disease. Prerequisite: KIN 305, 306 and 407.

**KIN 825-3 Seminar — Learning and Motor Development**
Study selected topics from skill learning and motor performance research.

**KIN 826-3 Motor Control: A Behavioral Perspective**
The study of selected aspects of research in motor behavior. The focus will be on delineating the problems of a viable theory of action, and on seeking solutions to the problems. Prerequisite: KIN 467, or equivalent.

**KIN 835-3 Kinanthropometry and Human Development**
To provide detailed insights into strageties and tactics in studying human size, shape, composition, proportion, maturation, gross function as related to normal and atypical growth, exercise, performance and nutrition.

**KIN 840-3 Gross Body Mechanics**
To study in depth the selected aspects of the application and relevance of Newtonian mechanics to human gross bodily movement. Emphasis will be in terms of quantitative measurement of forces produced in human movement and their accuracy in both prediction and modification of human activity.

**KIN 850-3 Cellular and Metabolic Control Systems**
Molecular mechanisms of cellular control, and their relationship to the integration of metabolism and physiological function. The course will cover mechanisms in human movement, 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 851-3 Control Mechanisms in Human Physiology**
An intensive study of human neuro-muscular control and neuro-endocrine control phenomena. Prerequisite: KIN 305, 306 and 407.

**KIN 865-3 Neural Control of Movement**
The course covers the peripheral nervous system including reflexes and spinal cord organization in detail. This prepares the student with a thorough understanding of general functioning of the nervous system. In addition, the course covers the neurophysiology of the cerebellum, motor cortex, basal ganglia, vestibular system and other related structures involved in central control of movement. Laboratory demonstrations are part of the course.

**KIN 870-3 Human Systems Modelling**
Systems analysis will be applied to a variety of physiological problems. Computer software 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 on 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 and Nutrition**
The application of engineering principles to the study of normal and abnormal human function.

**KIN 898-0 MSc Thesis**

**KIN 899-0 PhD Dissertation**
School of Resource and Environmental Management


Director
P.W. Williams BA (OTT), MA (WAT), PhD (UTAH STATE)

Professors
J.C. Day BS, MSc (WONT), PhD (CHIC) – resource, management policy, water resources, impact assessment
J.L. Knetsh BS, MS (Mich State), MPA, PhD (Harv) – law and economics and the assessment of non-pecuniary values (joint appointment with Economics)
B. Newbury BSc, MSc (Manit), PhD (U. Hopkins) – watershed analysis, hydrology of streams and lakes, river basin studies and river rehabilitation (limited term visiting professor, stream hydrologist, Newbury Hydraulics)
R.M. Peterman BSc (Calif), PhD (Br Col) – fisheries population dynamics and management, simulation modelling, risk assessment, decision analysis
P.W. Williams BA (OTT), MA (WAT), PhD (UTAH STATE) – policy, planning and management issues in tourism and outdoor recreation

Associate Professors
A.M. Gill BA (HULL), MA (Alta), PhD (Manit) – tourism, resource communities, (joint appointment with Geography)
F. Gobas BSc, MSc (Amst), PhD (Tor) – environmental toxicology
T.L. Gunton BA, MA (Wat), PhD (Br Col) – regional resource and development planning
E. Harvey BSc (Regina), MSc (Florida), PhD (Calif) – ecology, conservation, geographical information systems
M. Jaccard BA, MRRM (S Fraser), PhD (Grenoble) – energy economics, modelling
K. Lertzman BSc, PhD (Br Col) – forest ecology, long term forest dynamics, landscape ecology, conservation, biology, global change
E. Pinkerton BA (Wellesley), MAT (Harv), MA, PhD (Brandeis) – maritime anthropology, community roles in management of adjacent renewable resources

Assistant Professors
D. Alexander BA (Mich), MA (Trent), PhD (Wat) – regional planning, sustainable urban development, community economic development (limited term)
M.J. Bradford BSc, MSc (S Fraser), PhD (McG) – water flow effects on chinook salmon (research scientist, Department of Fisheries and Oceans)
W. Haider MSc (Austria), MA (OTT), PhD (McG) – parks and outdoor recreation

Adjunct Professors
M. Barker BSc (Lond), MA, PhD (Tori) – Faculty Associate, Fachrichtung Geographie, Universität des Saarlandes, Saarbrücken, Germany (tourism development strategies, landscape protection and park planning in mountain regions; environmental assessment)
W. Bell BA (Vic, BC), MA (WONT) – Director of Energy Management, BC Energy and Mines, Victoria
M.J. Bradford BSc, MSc (S Fraser), PhD (McG) – research scientist, Department of Fisheries and Oceans (water flow effects on chinook salmon)
H. Harkev BSc (Kings Point, NY), MSc (Alaska), PhD (Wat) – Director of Planning, Regional District of Comox-Strathcona
M. Henderson BSc (Western), MSc (Manit), PhD (Br Col) – Research Scientist, Canadian Department of Fisheries and Oceans (fisheries management)
R. Hoos BSc (Calg), MSc (Vic, BC) – Director of Northern Affairs, Polar Gas, Calgary (environmental impact assessment)
A.J. Jordan BA (Hartwick Coll, NY), PhD (Maine) – Manager, Environmental Services, Vancouver Port Corporation, Vancouver
M. Kent BA (S Fraser), MSc (Alta) – Director, Highway Environment, BC Ministry of Transportation and Highways (impact assessment, environmental conflicts)
H. Margolick BA (C’nell), PhD (Br Col) – BC Energy Council, Vancouver, BC (utility resource planning and policy)
D. Marmorek BES (Wat), MSc (BC) – Director and partner, Environmental and Social Systems Analysts Ltd. (ESSA), Vancouver BC (adaptive environmental assessment and management; ecological impacts of acid deposition)
D.W.I. Marshall BSc (Qu) – Program Director, Fraser Basin Management Program (environmental and social impact assessment)
J. Stevenson MacDonald BSc (S Fraser), PhD (W Ont) – Fisheries Scientist, Department of Fisheries and Oceans (ecosystems supporting Canadian fisheries)
A. Mackinnon BSc, MSc (Br Col) – Manager Forest Ecology, BC Ministry of Forests, Research Branch, Victoria
M. Margolick BA (C’nell), PhD (Br Col) – BC Energy Management, BC Energy and Mines, Victoria
J. O’Riordan BA (Edin), MA, PhD (Br Col) – Assistant Deputy Minister, Ministry of Environment, Victoria (regional resources planning)
K. Peterson BA (Br Col), MA (Northwestern) – Energy Planning Consultant
R. Robinson BA (Br Col) – Deputy Chairman, Federal Environmental Assessment Review Office (FEARO) (environmental impact assessment, legislation and process)
B. Switzer BPhyEd, MSc, PhD (Ala) – President, Switzer and Assoc. Consulting (environmental)
A. Thompson LLB (Man), LLM (Tori), JSD (Col) – University of British Columbia Professor, Associate Council, Ferguson Gifford (natural resources, environment, energy)
P. Wright BS (Lakehead), MS, PhD (Ohio State) – Director, Centre for Coastal Studies, Bamfield, BC (environmental conflict resolution, parks and outdoor recreation)

Faculty and student research evaluates the effectiveness of existing natural resource management policies and, where appropriate, to develop alternatives. Innovative strategies often emerge from research into the biological dynamics of natural resources, or the institutional, social, economic or public policy aspects of their management. The emphasis in course materials and research programs is not simply to identify and describe resource and environmental problems, but to better understand causes and design acceptable solutions. Researchers apply a range of approaches including cost-benefit analysis, simulation modelling, legal and institutional assessment frameworks, and social surveys to address critical and emerging natural resource management issues on local, national, and international scales. Considerable research is in collaboration with resource management agencies to facilitate implementation of research results.

Co-operative Education
The REM co-operative education program places students in a resource management agency (government or private) to gain professional work experience in applied problem solving. The optional co-op program can lead to work that is directly applicable to REM 699 Research Project.

Tourism Research
In keeping with its multidisciplinary character, the school plays a leading role in Simon Fraser University’s Centre for Tourism Policy and Research which undertakes research, professional development seminars and workshops, and conducts planning and marketing research projects for public and private sector tourism organizations.

Admission Requirements
Refer to the Graduate General Regulations for admission requirements. Contact the School of Resource and Environmental Management directly for the application package.

Those with degree qualifications in fields not directly related but with extensive experience in resource management are encouraged to apply.
Individuals will vary in their preparation for the various disciplines involved in the school. Therefore, admission to the school might be conditional upon the completion of certain undergraduate courses. Application deadline: February 15.

Master’s Program (MRM Degree)

Requirements
Seventy-three credit hours are required, 43 of which are from the required group plus 30 electives. With the director’s approval, up to seven courses (35 credit hours) may be transfer credits from another institution. In exceptional cases, evidence of advanced education equivalent to one of the courses in the required group may allow a waiver for that course by the program director, thereby reducing the total degree requirements to 68.

Prerequisite Courses
All students must be familiar with the material covered in an undergraduate course in parametric and nonparametric statistics.

Required Courses
REM 601-5 Natural Resources Management I: Theory and Practice
REM 611-5 Applied Population and Community Ecology
REM 621-5 Economics of Natural Resources
REM 631-5 River Basin Analysis, Planning and Management
REM 698-3 Field Resource Management Workshop
REM 699-10 Research Project
REM 801-5 Principles of Research Methods and Design in Resource and Environmental Management
and one of
REM 642-5 Regional Planning I
REM 644-5 Public Policy Analysis and Administration

Elective Courses*
Students normally select 30 credit hours (usually six courses) to strengthen an area of expertise. Possible electives are shown below under each area of specialization currently offered by the school. However, any combination of elective courses may be taken.

Fisheries Management
ECON 863-4 Fisheries Economics**
ECON 864-4 Studies in Economic Fisheries Management**
REM 612-5 Simulation Modelling in Natural Resource Management
REM 613-5 Current Topics in Fisheries Management**
REM 625-5 Risk Assessment and Decision Analysis for Management of Natural Resources
REM 651-5 Project Evaluation
STAT 650-5 Quantitative Analysis in Resource Management and Field Biology

Regional Resource Planning
REM 641-5 Law and Resources
REM 643-5 Environmental Conflict and Dispute Resolution
REM 644-5 Public Policy Analysis
REM 646-5 Environmental and Social Impact Assessment
REM 647-5 Parks and Outdoor Recreation Planning
REM 651-5 Project Evaluation
REM 655-5 Water Planning and Management

Energy Management
REM 612-5 Simulation Modelling in Natural Resource Management
REM 625-5 Risk Assessment and Decision Analysis for Management of Natural Resources
REM 644-5 Public Policy Analysis and Administration
REM 650-5 Energy Use and Policies
REM 651-5 Project Evaluation
REM 658-5 Energy Systems Modelling

Environmental Management
REM 610-5 Management of Contaminants in the Environment
REM 612-5 Simulation Modelling in Natural Resource Management
REM 643-5 Environmental Conflict and Dispute Resolution
REM 646-5 Environmental and Social Impact Assessment

Forest Ecology, Conservation and Management
BISC 816-3 Biology and Management of Forest Insects
REM 612-5 Simulation Modelling in Natural Resource Management
REM 625-5 Risk Assessment and Decision Analysis for Management of Natural Resources
REM 647-5 Parks and Outdoor Recreation Planning
REM 670-5 Introduction to Forestry
REM 671-5 Forest Ecology**
REM 672-5 Silviculture**

Tourism, Parks and Outdoor Recreation
REM 643-5 Environmental Conflict and Dispute Resolution
REM 647-5 Parks and Outdoor Recreation Planning
REM 648-5 The Tourism System
REM 649-5 Tourism Planning and Policy
REM 652-5 Community Tourism Planning and Development

Business Administration
BUS 512-4 Introduction to Business Finance*
BUS 528-4 Accounting*
BUS 536-4 Quantitative Methods in Management*
BUS 543-4 Introductory Graduate Marketing*
BUS 572-4 Organizations and Human Resource Management*
BUS 822-4 Decision Theory*
BUS 858-4 Business and Public Interest*
BUEC 823-4 Business and Economic Forecasting*

Co-operative Education Program
REM 690-0 Practicum I
REM 691-0 Practicum II

Additional Courses
REM 660-5 Special Topics in Resources Management
REM 661-5 Special Topics in Resources Management
REM 662-5 Special Topics in Resources Management
REM 665-5 Special Topics in Resources Management
REM 664-5 Directed Studies
*other courses may be substituted with the approval of the director
**subject to student demand and faculty availability

Joint Master in Natural Resource Management and Business Administration
A combined program leading to a joint master degree in resource management (MRM) and business administration (MBA) is offered. This unique opportunity is designed to provide students with interdisciplinary skills and strategies for effective natural resource management.

Problems in the management of competing demands for tourism, forestry, energy, fisheries, water, mineral and agricultural resources are intensifying. Demand for expertise in traditional management disciplines thus continues to grow, and the capability of managers is greatly increased when their academic and professional experience encompasses an understanding of the roles various disciplines can play in addressing resource issues. This program provides more in-depth opportunities and integrated education in study areas requiring natural resource and business management expertise. It gives students increased familiarity and competence in understanding not only the dynamics of natural resource systems, strategies and decision-making frameworks for their planning and management, but also an appreciation of the economic business implications of those strategies. It has a distinctly integrated natural resource and business management perspective.

The joint degree program will encourage areas of concentration in policy, marketing, accounting, finance and organizational behaviour. While students are exposed to topical issues related to specific subject areas such as tourism, fisheries, forestry and water management, the program stresses the development of integrated problem-solving and critical thinking skills.

Student research evaluates existing and develops new and effective natural resource management systems. Students apply quantitative and qualitative techniques derived from business and natural resource management disciplines to address these issues. Full time faculty members from the school and the Faculty of Business Administration provide guidance and focus for these research initiatives.

Admission Requirements
Up to five students per year are admitted. Candidates must meet the entrance requirements of both the school and Faculty of Business Administration graduate studies committees. Minimum admission requirements are as follows.

• a minimum undergraduate CGPA of 3.0 (or equivalent)
• acceptable score on GMAT test
• acceptable score (570 minimum) on TOEFL if native language is not English
• acceptable score (5 minimum) on Test of Written English

Minimum completion of undergraduate courses in probability and statistics
• introduction to computer programming; differential and integral calculus
• three strong letters of reference, of which two should be provided by university professors familiar with the student’s capabilities

Degree Requirements
This program leads to a master of resource management (MRM) and a master of business administration (MBA). Students must successfully complete 17 courses and a thesis.

Courses
The integrated combination of required and elective courses specify that 11 courses be derived from the core of the traditional MRM and MBA programs. Additionally, a minimum of three electives must be completed from the 800 level of the MBA program and another three must be chosen from MRM. These three courses focus studies into areas of concentration. In consultation with their MRM/MBA supervisory committee, students select three courses from a specific field of concentration in the MBA curriculum (e.g. accounting, finance, marketing, policy, and organizational behavior); as well as three elective courses within specialty areas in the MRM curriculum (e.g. tourism, forestry, energy management, regional resource planning, environmental management, and fisheries management).

The 12 required courses (subject to any approved substitutions) follow.

BUS 512-4 Introduction to Business Finance
BUS 527-3 Financial Accounting

Graduate Applying Sciences – Resource and Environmental Management

BUS 536-4 Quantitative Methods in Management
BUS 543-4 Introductory Graduate Marketing
BUS 572-4 Organizations and Human Resource Management
REM 601-5 Natural Resources Management I: Theory and Practice
REM 611-5 Applied Population and Community Ecology
REM 621-5 Economics of Natural Resources
REM 631-5 River Basin Analysis, Planning and Management
REM 698-3 Field Resource Management Workshop
REM 699-10 Research Project
REM 801-5 Principles of Research Methods and Design in Resource and Environmental Management
and one of
REM 642-5 Regional Planning I
REM 644-5 Public Policy Analysis
and one of
BUS 507-4 Managerial Economics
BUS 588-4 Business and the Public Interest

It is strongly recommended that students take BUS 528 as an elective.

Note: with permission of the directors of the school and the master of business administration program:
- students may waive a maximum of three required courses if equivalent courses have been completed
- in addition to any courses waived, students may substitute related electives for required courses.

**Thesis**

Students must complete a thesis in a research area deemed appropriate by a supervisory committee comprised of a minimum of one representative from each of the school and the Faculty of Business Administration. The topic must be of cross-departmental interest. The thesis should demonstrate the researcher’s comprehensive knowledge of relevant literature, as well as an original contribution to knowledge in an area of concern to business and natural resource management. The thesis manuscript will be examined in a manner similar to that normally employed by the department of the thesis supervisor.

**Application Process**

Upon request, application materials will be mailed.

The following submissions must be completed prior to consideration for entry:
- completed Simon Fraser University graduate application form
- the applicant’s letter of statement of interest
- completed Faculty of Business Administration supplementary application form
- official transcript of undergraduate grades (mailed directly from the granting institution)
- three confidential letters of reference, at least two of which come from faculty members familiar with the student’s work (forms are supplied for references)
- official transcript of GMAT score
- official transcript of test of English as a foreign language (TOEFL) and test of written English (TWE) if student’s first language is not English and their undergraduate degree(s) were not obtained at an institution in Canada, the United States, the United Kingdom, Australia or New Zealand where English has been the language of instruction

All complete applications must be submitted no later than February 1 of the year the student is seeking a September entry into the joint program.

**Doctoral Program**

**Admission**

All applicants must submit at the time of application a 500-1000 word statement of interest to describe how this program fits into career objectives and what they expect to get from the program.

To qualify for admission, an applicant must meet Simon Fraser University’s graduate general regulations and must have,
- the ability to carry out innovative, independent and original PhD level research in that field
- high academic standing in previous university work
- a master’s degree in a related discipline
- excellent performance on the graduate record exam (GRE). Students must send the GRE scores to the School of Resource and Environmental Management.

Applicants must be accepted by an identified senior supervisor prior to admittance. PhD applicants are strongly advised to visit the University for an interview prior to February 15 of the year of requested admission.

See Graduate Regulations for PhD admission requirements.

**Transfer from the Master’s Program to the PhD Program**

A student in REM who shows exceptional ability may apply to transfer to the PhD program only if the first two requirements above are met, has been in the REM program for at least two but not more than four semesters, and if the applicable university regulations for transfers are met. Transfer applications must have the approval of the student’s supervisory committee, REM graduate studies committee, and the senate graduate studies committee. Transfer students will be eligible to earn only the PhD degree.

**Degree Requirements**

Courses

A minimum of 20 credit hours of graduate courses (excluding directed studies courses) are required, at least four of which must be in one of two disciplines in the student’s research area plus two others (see curriculum below). Normally, students take six to eight courses, approved by the supervisory committee, to prepare for comprehensive exams. Courses outside the school require approval of the REM graduate studies committee.

**Comprehensive Examinations**

Normally within five full time semesters after PhD program admission (or MRM program in the case of transferal), students write two comprehensive exams: one written breadth exam graded as a pass, fail or, in marginal cases, to proceed to an oral examination; and one in-depth oral examination on the candidate’s research area. The breadth exam will normally be taken before the depth exam. These comprehensive exams ensure that REM PhD students have sufficient grounding in courses required at the master’s level, and thus have the depth of understanding essential to resource and environmental management. The REM graduate studies committee administers these exams. Prior to scheduling comprehensive exams, students must meet with their supervisory committee and the committee must submit a progress report to the chair of the graduate program committee recommending that the student proceed to the comprehensive examination.

**Thesis Proposal**

In conjunction with their supervisory committee, students develop a detailed written research proposal that defines the area and methods of intended research. Normally within six full time semesters after admission to the PhD program (or within four semesters if the student transferred from the MRM degree), a student must orally present a written thesis proposal at a departmental seminar. The candidate’s supervisory committee attends along with other interested faculty and students. The oral examining committee is composed of the supervisory committee plus the REM graduate studies committee chair. This thesis proposal presentation determines whether the student’s research abilities are adequate for PhD level research and whether the proposed research is feasible and has merit. The student must pass this presentation successfully to remain in the program. Those who do not make satisfactory progress on their research topic, or who fail to demonstrate adequate knowledge and understanding of recent publications in their research area, or whose revised thesis proposal isn’t approved within the time limit given at the start of this section, will be required to withdraw from the PhD program.

A written thesis based on a student’s original research is the final requirement. And must include an appropriate application (such as ecology and economics, or toxicology and law). The topic must be approved as noted above, and the student’s progress will be evaluated annually according to the Graduate General Regulations. To graduate, students must successfully complete a thesis defence, following the usual University format. All other general requirements for a PhD will be followed as outlined in the Calendar.

**Residence Requirement**

A PhD candidate must be registered and in residence at Simon Fraser University for the minimum number of semesters as described in the Graduate General Regulations.

**Curriculum**

All REM PhD students must complete at least four courses as follows.

REM 801-5 Principles of Research Methods and Design in Resource and Environmental Management
REM 802-5 Institutional Design and Decision Making for Environmental Management

At least one course in the student’s primary field

At least one course in the student’s secondary field

All courses in the school can be taken for credit toward a PhD degree except REM 601 and directed studies courses.

**Graduate Courses**

REM 601-5 Natural Resource Management I: Theory and Practice

An overview of disciplinary and interdisciplinary theories and their practical application to analysis of natural resource and environmental planning. Not for credit toward a PhD in resource and environmental management.

REM 602-5 Natural Resource Management II: Advanced Seminar

A professional group workshop course focusing on specific resource and environmental problems. Prerequisite: eight REM courses or permission of instructor.

REM 610-5 Management of Contaminants in the Environment

A study of environmental behavior and toxic effects of chemical substances in the environment and the application of methodologies for their management.

REM 611-5 Population and Community Ecology

A review of population, community, and ecosystem ecology; implications of these areas for methods of resource management and environmental assessment.

REM 612-5 Simulation Modelling in Natural Resource Management

Methods of constructing simulations models and analyzing them through sensitivity analysis. Application of simulation modeling to research and management of environmental and resource systems. Topics will include management of wildlife,
forests, insect pests, fisheries, pollution problems, energy resources, and recreational land use. Prerequisite: REM 611 or permission of the instructor.

REM 613-5 Current Topics in Fisheries Management
Models of fish population dynamics, methods of data analysis, and management in the context of uncertainty. Case studies of management of various world fisheries. In-depth exploration of selected current fisheries problems including extensive data analysis. Focus will be primarily on biological aspects of fisheries management while illustrating how these interface with economic, social and institutional concerns of managers. Prerequisite: permission of instructor.

REM 621-5 Economics of Natural Resources
Application of economic theory to natural resources management problems with a view to assessing existing and alternative policies. Includes theoretical analysis of concepts such as resource pricing, market failure, taxation, etc., and management strategies for specific resources such as forestry, fisheries and environment.

REM 625-5 Risk Assessment and Decision Analysis for Management of Natural Resources
Use of quantitative methods of risk assessment and decision analysis to explicitly take uncertainty into account when making decisions in management of natural resources. Methods of quantifying uncertainty and the resulting risks. Examples from management of forests, wildlife, fisheries, water resources, energy, and toxic chemicals. Communicating information about uncertainties and the resulting risks to resource managers, the public, and scientists. Advantages and limitations of various 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 management.

REM 633-5 Introduction to Remote Sensing and Aerial Photographic Interpretation
The application of these techniques in the acquisition and display of selected resource data. Topics include air photo interpretation, multi-band photography, thermal infrared imagery, satellite imagery, orthophotography, topographic and thematic mapping, and computer cartography.

REM 634-5 Slope Stability and Snow Avalanches in Resource Management
Impact of slope failure and snow avalanches in mountainous environments. Technical counter measures, zoning techniques, and the appraisal of acceptable risk are discussed within different geologic, climatic, and socio-economic contexts. Prerequisite: MRM 633 or permission of instructor.

REM 641-5 Law and Resources
A study of legal interventions related to resource planning and environmental control. The course looks at several aspects of environmental and recourse 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. The course is designed to assist students in understanding the nature of environmental conflict and the role of environmental dispute resolution (EDR) techniques.

REM 644-5 Public Policy Analysis and Administration
Analysis of methods of policy-making and problem solving with particular emphasis on natural resource issues. Topics include goal setting, problem definition, program scheduling, policy evaluation, policy implementation and public administration. A practical analysis of the structure and processes surrounding major contemporary policy issues.

REM 645-5 Resource Development Communities
Examination of the impact of resource developments on communities in Canada. An overview of the social organization of resources-based communities and an analysis of the participatory process in decision making in resource management.

REM 646-5 Environmental and Social Impact Assessment
Evaluation and application of current methodologies for social, economic, and biophysical impact assessment. Prerequisite: REM 601, 611, 621, 642, or permission of instructor.

REM 647-5 Parks and Outdoor Recreation Planning
The course examines a combination of both ecological and market-based resource assessment and planning techniques for conservation and use of parks, forests, and protected areas. Visitor behavior and management in recreation and protected areas settings will be examined.

REM 648-5 The Tourism System
This course will examine the social, environmental and economic components of tourism. Topics will include theoretical concepts and elements of tourism, historical evolution, spatial patterns, and case studies of tourism development in various parts of the world. Discussion of tourism planning and management will focus on the development of tourism as a sustainable resource.

REM 649-5 Tourism Planning and Policy
The course provides frameworks and methodologies for understanding the policy and planning initiatives of public and private sector organizations. Foundations for resource assessment, market analysis, product-market matching and regional tourism strategy development are explored in detail. Prerequisite: permission of instructor.

REM 650-5 Energy Management and Policy
Integration of energy supply and energy demand management to formulate cohesive and efficient energy policies; topics include thermodynamics, modelling, conservation, energy pricing, oil markets, project assessment, the environment and energy planning in developing countries.

REM 651-5 Project Evaluation
The role, limitations and methods of benefit cost analysis. Different measurement techniques will be applied to the estimation of a range of benefits and costs. Market and nonmarket allocations will be considered. Prerequisite: ECON 200, REM 621, or permission of instructor.

REM 652-5 Community Tourism Planning and Development
The course critically examines approaches employed by communities incorporating tourism into their development strategies. Techniques for optimizing the resource potential of communities from economic, social, cultural and environmental perspectives are explored with a view toward developing policies for ‘appropriate’ community tourism. Prerequisite: permission of instructor.

REM 655-5 Water Planning and Management
Evaluation of theoretical models and management experiences; federal, provincial and international institutional arrangements and jurisdictional responsibilities; emerging problems and opportunities. Prerequisite: REM 601, 621, 631, and 646, or permission of instructor.

REM 658-5 Energy Systems Modelling
Training and practical experience in the use of the range of techniques for modelling energy systems: linear programming, econometrics, input-output, energy service models, integrated systems. Prerequisite: REM 621 and 650.

REM 660-5 Special Topics in Natural Resources Management
Special topics in areas not currently offered within the offerings of the resource and environmental management program.

REM 661-5 Special Topics in Resources Management
Special topics in areas not currently offered within the offerings of the resource and environmental management program.

REM 662-5 Special Topics in Resources Management
Special topics in areas not currently offered within the offerings of the resource and environmental management program.

REM 663-5 Special Topics in Resource Management
Special topics in areas not currently offered within the offerings of the resource and environmental management program.

REM 664-5 Directed Studies
Special topics in areas not currently offered within the offerings of the resource and environmental management program.

REM 670-5 Introduction to Forestry
Examines the theory and practice of forest management based on an understanding of the linkages between forest ecosystem dynamics, economics, policy and social concerns. Principles are illustrated with reference to contemporary forestry issues. Prerequisite: REM 611 or permission of instructor.

REM 671-5 Forest Ecology
Structure, function and development of forest ecosystems. Population, community, ecosystem and landscape approaches are used to enable students to understand the biology and management of forests in terms of the processes driving spatial and temporal dynamics.

REM 672-5 Silviculture
Principles and practice of silviculture; lecture and laboratory, with added emphasis on the state of the art in British Columbia. Prerequisite: REM 671, equivalent course, or permission of instructor.

REM 690-0 Practicum I
First semester of work experience in the School of Resource and Environmental Management’s co-operative education program.

REM 691-0 Practicum II
Second semester of work experience in the School of Resource and Environmental Management’s co-operative education program. Prerequisite: students must have completed at least one semester’s courses and permission of REM’s co-op co-ordinator.

REM 698-3 Field Resource Management Workshop
An intensive field course introducing students to the diversity of issues and viewpoints concerning management of natural resources. Problem areas will include forestry, mining, fisheries and wildlife.
REM 699-10 Research Project
A research project dealing with a specific interdisciplinary problem in resource management, administration or allocation. The study must result in the preparation of a formal paper and the presentation of a seminar.

REM 801-5 Principles of Research Methods and Design in Resource and Environmental Management
Students will develop skills and insight into the design, implementation and analysis of interdisciplinary research in natural resource and environmental management. This will help prepare students to carry out their own research projects. Students who entered REM during or prior to the Fall 1994 semester and who have received credit for any one of MRM 601, 611 or 621 may not take REM 801 for credit.

REM 802-5 Institutional Design and Decision Making for Environmental Management
Students will develop a sophisticated understanding of the institutional structure and methods of decision making in natural resource and environmental management. This course complements material covered in a variety of master’s level courses.

REM 899-0 PhD Thesis
Faculty of Arts

Dean
J.T. Pierce BA (Tor), MA (Wat), PhD (Lond)
Associate Deans
T.A. Perry BA (Wabash), MA, PhD (Indiana)
A.R. Blackman BSc (Lond), BSc (Edin), MSc, PhD (McG)
Graduate Degrees Offered
Master of Arts
Master of Fine Arts
Master of Publishing
Doctor of Philosophy

General Regulations
For admission requirements, registration, residence requirements and time limit for completion of degrees, see General Regulations.

Department of Archaeology
Chair
P.M. Hobler BA (New Mexico), MA (Ariz)
Graduate Program Chair
J.D. Nance BA, MA (Calif), PhD (Calig), (604) 291-4420
Faculty and Areas of Research
For a complete list of faculty, see Archaeology undergraduate section.

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, 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. Galidakis – 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, Southwest, field techniques, historic components at native sites
D. Lepofsky – Northwest Pacific, Oceania, cultural ecology, paleoethnobotany, households, prehistoric land use
D. Lyons – ethnoarchaeology, gender, theory, households, Arctic, Africa
J.D. Nance – statistical archaeology, southeast North America, method and theory
D.E. Nelson – archaeometric 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. Shutler Jr. – paleoanthropology of East and Southeast Asia and Japan, prehistory Oceania, paleoindian New World
M.F. Skinner – physical anthropology, skeletal biology, forensic anthropology, paleoanthropology
Adjunct Faculty
A.D. McMillian – archaeology and ethnohistory of Canada, particularly Northwest coast, native arts
D. Sutton – archaeology of the South Pacific
Associate Members
J.M. D’Auria, Chemistry
D.J. Huntley, Physics
R.W. Mathewes, Biological Sciences

Areas of Study
The department offers specialization in archaeology, physical anthropology, ethnology, archaeometry, and zooarchaeology. The student is expected to gain a comprehensive understanding of the discipline. In so doing, the student should strive to acquire a general knowledge of world prehistory, physical anthropology, and archaeological theory and method, in addition to obtaining knowledge and expertise in particular areas of research interest.

Degree Requirements
A distinction is made between students who are enrolled in the program and students who have been formally advanced to degree candidacy. A candidate is a student who has successfully completed the requirements for advancement to candidacy (defined below). Normally, advancement to candidacy will take place by the time the Simon Fraser University residence requirement is fulfilled, but not later than the end of the ninth semester after admission for PhD students and not later than the end of the sixth semester for MA students.

MA Program
The MA program consists of the following sequential steps: course requirements, thesis prospectus, colloquium presentation, advancement to candidacy, and thesis completion and defence.

Course Requirements
In addition to the thesis, the normal course requirements for the MA degree consist of a minimum of three graduate courses including ARCH 871. Students may be required by their committee to take additional courses. Students are also required to take ARCH 872/873 each semester the course is offered. Credit for ARCH 873 does not constitute part of the normal course requirements for the PhD degree. Grading for these 872/873 courses will be restricted to satisfactory/unsatisfactory (S/U).

Comprehensive Exam
Students must write a comprehensive examination, prior to candidacy, to test general knowledge in archaeology and in three regional or topical areas selected by the supervisory committee in consultation with the student. Grading will be on a pass/fail basis but the examination or parts thereof may be repeated once, at the discretion of the department.

Advancement to Candidacy
The requirements for advancement to candidacy are as follows.

• completion of three of the minimum four graduate courses.
• 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 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 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.

PhD Program
The PhD program consists of the following sequential steps: course requirements, comprehensive exam, thesis prospectus, colloquium presentation, advancement to candidacy, thesis completion and defence.

Course Requirements
Course requirements for the PhD degree are to be determined in consultation with the student’s supervisory committee.

In addition to the comprehensive exam and thesis, normal course requirements for the PhD degree consist of a minimum of three graduate courses, including ARCH 871. Students may be required by their committee to take additional courses. Students are also required to take ARCH 872/873 each semester the course is offered. Credit for ARCH 873 does not constitute part of the normal course requirements for the PhD degree. Grading for these 872/873 courses will be restricted to satisfactory/unsatisfactory (S/U).

Language Requirement
A knowledge of a language other than English is desirable, but there are no prescribed language
requirements. However, if knowledge of a language is necessary for the candidate’s field work or reading, he/she will be required to attain the necessary language proficiency.

Graduate Courses
ARCH 840-3 Seminar in Zooarchaeology
Intensive examination of certain key topical areas of faunal studies in archaeology.
ARCH 871-5 Selected Topics in Archaeological Theory
Critical evaluation of new approaches to the study of the human past.
ARCH 872-0 Graduate Seminar in Archaeology and Prehistory
A seminar on selected problems in archaeological science and prehistory. Grading will be restricted to satisfactory/unsatisfactory (S/U).
ARCH 873-2 Graduate Seminar in Archaeology and Prehistory
A seminar on selected problems in archaeological science and prehistory. Students may take ARCH 873 for credit once in the graduate program.
ARCH 875-5 Seminar in Paleoanthropology
Selected topics in human osteology, physical anthropology, and fossil humans.
ARCH 876-5 Selected Topics in Archaeological Method
Seminar focusing on examination of archaeological methods from historical/mathematical/statistical perspective.
ARCH 881-5 North American Prehistory
ARCH 882-5 African Prehistory
ARCH 883-5 Mesoamerican Prehistory
ARCH 894-3 Special Topics in Archaeology
This course will be offered from time to time to meet special needs of students and make use of specialization of visiting faculty members.
ARCH 895-5 Special Topics in Archaeology
This course will be offered from time to time to meet special needs of students and to make use of specialization of visiting faculty members.
ARCH 896-5 Readings in Archaeology
ARCH 897-5 Field Work Seminar
Seminar in field research. Participants will present their recent field work to the class for critical discussion.
ARCH 898-0 MA Thesis
ARCH 899-0 PhD Thesis

MFA Program
The program leading to the degree of master of fine arts in Interdisciplinary Studies is designed to provide an advanced level of professional training for artists in the fields of music, dance, theatre, film, and visual arts. Its goals are the furthering of 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 within an historical perspective.

Admission Requirements
Applicants must demonstrate creative competence with a high standing in undergraduate courses in music, dance, theatre, film, or visual art, or substantial experience in these fields outside the university. For the consideration of the admissions committee, applicants must submit a portfolio of work in the form of audio or video tapes, scores, slides, films, plays or academic papers. Performing artists may be asked to audition.

Graduate Courses
FPA 811-5 Interdisciplinary Graduate Seminar I
FPA 812-5 Interdisciplinary Graduate Seminar II
FPA 898-10 Master of Fine Arts Graduating Project

Degree Requirements
Master of fine arts candidates must complete a minimum of 40 credit hours, including 30 hours of course work and a project, which is the equivalent of 10 credit hours. In most cases, this project will be an artwork presentation, accompanied by appropriate documentation, completed with an oral defence. The project plus the required interdisciplinary seminars account for 20 credit hours; of the remaining 20 credit hours, 15 will normally be from within the school.

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

Director
O. Underhill BMus (Vic, BC), MA, (NY State)

Graduate Program Chair
I.Garland BS (Ill), MS (Calif)

Faculty and Areas of Research
E.W. Alderson – Interdisciplinary art history and theory, dance theory and aesthetics, cultural theory
S.A. Aloi – 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. Dąwkins – 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. Elst – ballet, modern dance, body therapies, choreography, dance education, dance history
J. Garay – choreography, performance, costume design
I. Garland – choreography, dance history, movement analysis, criticism
M.S. Gottif – electroacoustic music, film-sound design and scoring
R. Groenbecker – film direction, editing and script writing, film production
P. Gruben – directing, scriptwriting, editing; dramatic feature films
G. Harris – lighting and scenic design
H. Hegland – lighting design, stage design, theatre technology, theatre architecture
D.D. Kugler – directing, dramaturgy
J. Levitin* – film production and theory, independent film making, avant garde film and video making
J. Macfarlane – lighting design for the stage, theatre technology
D. MacIntyre – music composition, interdisciplinary composition and performance, collaboration
C. Prophet – choreography and performance
G. Rosenberg – film studies, cultural theory, art history
A. Smith – drumming, jazz, popular music and accomplishment
M. Smith – film and video production
G. Snider – sculpture, installation, public art, contemporary art theory
P. Stella – acting, directing, playmaking, dramaturgy
D.B. 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. Welbey – avant garde film and video making, photography and time-based gallery installations
J. Yoon – installation, photography, multi-media image and text, contemporary theoretical issues concerning representation and cultural politics
D. Zapf – music and interdisciplinary history, critical theory, feminist theory

*joint appointment with Communication
**joint appointment with Communication

Applicants must demonstrate creative competence with a high standing in undergraduate courses in music, dance, theatre, film, or visual art, or substantial experience in these fields outside the university. For the consideration of the admissions committee, applicants must submit a portfolio of work in the form of audio or video tapes, scores, slides, films, plays or academic papers. Performing artists may be asked to audition.

Candidates with deficient qualifications must take undergraduate courses specified by the admissions committee, in a qualifying year, to remedy the deficiency. Foreign students may be required to demonstrate proficiency in the English language, attained by scoring 570 or above in the Test of English as a Foreign Language.

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

Director
O. Underhill BMus (Vic, BC), MA, (NY State)

Graduate Program Chair
I.Garland BS (Ill), MS (Calif)

Faculty and Areas of Research
E.W. Alderson – Interdisciplinary art history and theory, dance theory and aesthetics, cultural theory
S.A. Aloi – 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. Dąwkins – 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. Elst – ballet, modern dance, body therapies, choreography, dance education, dance history
J. Garay – choreography, performance, costume design
I. Garland – choreography, dance history, movement analysis, criticism
M.S. Gottif – electroacoustic music, film-sound design and scoring
R. Groenbecker – film direction, editing and script writing, film production
P. Gruben – directing, scriptwriting, editing; dramatic feature films
G. Harris – lighting and scenic design
H. Hegland – lighting design, stage design, theatre technology, theatre architecture
D.D. Kugler – directing, dramaturgy
J. Levitin* – film production and theory, independent film making, avant garde film and video making
J. Macfarlane – lighting design for the stage, theatre technology
D. MacIntyre – music composition, interdisciplinary composition and performance, collaboration
C. Prophet – choreography and performance
G. Rosenberg – film studies, cultural theory, art history
A. Smith – drumming, jazz, popular music and accomplishment
M. Smith – film and video production
G. Snider – sculpture, installation, public art, contemporary art theory
P. Stella – acting, directing, playmaking, dramaturgy
D.B. 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. Welbey – avant garde film and video making, photography and time-based gallery installations
J. Yoon – installation, photography, multi-media image and text, contemporary theoretical issues concerning representation and cultural politics
D. Zapf – music and interdisciplinary history, critical theory, feminist theory

*joint appointment with Communication
**joint appointment with Communication

Applicants must demonstrate creative competence with a high standing in undergraduate courses in music, dance, theatre, film, or visual art, or substantial experience in these fields outside the university. For the consideration of the admissions committee, applicants must submit a portfolio of work in the form of audio or video tapes, scores, slides, films, plays or academic papers. Performing artists may be asked to audition.

Candidates with deficient qualifications must take undergraduate courses specified by the admissions committee, in a qualifying year, to remedy the deficiency. Foreign students may be required to demonstrate proficiency in the English language, attained by scoring 570 or above in the Test of English as a Foreign Language.

Degree Requirements
Master of fine arts candidates must complete a minimum of 40 credit hours, including 30 hours of course work and a project, which is the equivalent of 10 credit hours. In most cases, this project will be an artwork presentation, accompanied by appropriate documentation, completed with an oral defence. The project plus the required interdisciplinary seminars account for 20 credit hours; of the remaining 20 credit hours, 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 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
FPA 887-5 Selected Topics in Fine and Performing Arts*
FPA 889-5 Directed Study in Fine and Performing Arts*

plus five units selected from upper division or graduate courses outside the student’s main area of concentration or outside the school.

*Work involving substantial investigation of another discipline, an upper division or a graduate course from another department could substitute for FPA 887 or 889, with the supervisory committee’s permission.

Graduate Courses
FPA 811-5 Interdisciplinary Graduate Seminar I
Critical study of contemporary issues in the fine and performing arts, with emphasis on concerns common to diverse artistic disciplines and the interaction between art and society.
FPA 812-5 Interdisciplinary Seminar II
Continuation of FPA 811. Prerequisite: FPA 811.
FPA 883-5 Studio in FPA I
Intensive studio work, concentrated in a particular art discipline, with opportunity to involve interdisciplinary materials and techniques.
FPA 885-5 Studio in FPA II
Continuation of FPA 883. Prerequisite: FPA 883.
FPA 887-5 Selected Topics in Fine and Performing Arts
Study of particular artistic techniques or issues. The topic varies from semester to semester.
FPA 889-5 Directed Study in Fine and Performing Arts
FPA 899-10 Master of Fine Arts Graduating Project
School of Criminology

Graduate Program Director
R. Menzies BA (York), MA, PhD (Tor)

Faculty and Areas of Research
For a complete list of faculty, see Criminology undergraduate section.

G.S. Anderson – forensic, medicolegal and veterinary anatomy
E.O. Boyanowsky – community standards and the law, environment, emotion and behaviour, media and crime, group behavior, police, gangs and juries
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, crime and social patterns, crime and policy evaluations
J. Brockman – feminist jurisprudence, social science evidence in court, self regulation and the sociology of professions, white collar and corporate crime, criminal law, procedure and evidence
B. Burch – penology, corrections, sociology of law, social control, the sociology of juvenile delinquency, police and law, state theory, electronic monitoring of offenders
M. Carter – criminal law, family law, contemporary legal theory
D.E. Chunn – feminism, law and state, law, ideology and the family, sociology of criminology and law, crimes of politicians, police, and judges, historical sociology of crime, criminal law and social welfare, media representations of women, law and the state
R.R. Corrado – comparative juvenile justice, terrorism, evaluation research, administration of justice in Canada
D.F. Cousineau – juvenile justice, deterrence, sociology of criminological research
G. Davies – political violence and terrorism, policing, quantitative methods, communities and crime
E. Elliott – social philosophy of punishment and rehabilitation, 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
E.A. Fattah – punishment, corrections and deterrence, victimology, ecological criminology
W.G. Glackman – research methodology, multivariate statistical techniques, forensic psychology, perceptions of crime
R.M. Gordon – mental health law, young offenders and police, political economy of crime, sociology of law
C.T. Griffiths – corrections, Native American criminality, delinquency 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
D. Lacombe – sociology of law and deviance, gender relations, political sociology
J. Lowman – critical criminology, prostitution, sociology of social control
R.J. Menzies – assessment of dangerousness, sociology of law, critical criminology, 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. Payés – research methodology, evaluation and assessment, decision-making, philosophy of science/sociology of sociology of knowledge
S.N. Verduin-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
S. Boyd, Women’s Studies
J.R.P. Ogloff, Psychology
C.D. Webster, Psychology
C. Yerbury, Distance Education

Degrees Offered
The school’s graduate programs lead to MA and PhD degrees.

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 and deviant behavior
- theories of crime
- criminal justice policy analysis
- methods
- law and social control

Criminology Research Centre
(see Centres and Institutes)

Feminist Institute for Studies on Law and Society
(see Centres and Institutes)

Institute for Studies in Criminal Justice Policy
(see Centres and Institutes)

MA Program

Admission
Students holding a baccalaureate or the equivalent from a recognized institution must meet the general 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 eligible to teach or supervise in the PhD program. Those who meet the GPA requirement and have demonstrated research ability through field criminal justice experience may also be considered on recommendation of at least two faculty members involved in the program. Those so admitted have their status reviewed by the end of the second semester following admission. The graduate program committee determines the candidate’s ability to complete the PhD by direct entry. The student will either be confirmed as an approved candidate for the PhD in criminology or directed to seek admission to the master’s program.

In exceptional circumstances, undergraduate degree holders (or equivalent), may be admitted if they meet general 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 eligible to teach or supervise in the PhD program. Those who meet the GPA requirement and have demonstrated research ability through field criminal justice experience may also be considered on recommendation of at least two faculty members involved in the program. Those so admitted have their status reviewed by the end of the second semester following admission. The graduate program committee determines the candidate’s ability to complete the PhD by direct entry. The student will either be confirmed as an approved candidate for the PhD in criminology or directed to seek admission to the master’s program.

Because many disciplines are allied to criminology, the graduate program committee reserves the right to determine equivalent courses already taken in the...
Graduate Arts – Economics

applicants master’s program. At the time of 
amission, the graduate program committee may 
waive up to 15 credit hours of requirements.
A cheque or money order for $55 (Canadian), made 
payable to Simon Fraser University, must be 
submitted with the application form.
The school must receive the completed application, 
for entrance to the fall semester, by February 1. 
Applicants are informed of the decision immediately 
thereafter.

Note: Those with two consecutive degrees from the 
School of Criminology at Simon Fraser University will 
not normally be admissible to the PhD program.

Degree Requirements
PhD candidates must take a minimum of 33 credit 
hours consisting of

- at least three research methods courses (9 credit 
hours)
- theories of crime I (3 credit hours)
- pro-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. 

Note: While two of the course areas are entitled ‘methods’ and ‘theory,’ methodological and 
theoretical issues are relevant to all core areas.

Dissertation Procedures
In the semester after comprehensive examinations 
are passed, each candidate develops a thesis 
prospectus, based on original research, which 
defines the proposed investigation and demonstrates 
the relationship between it and existing scholarship.
The thesis proposal is presented to the supervisory 
committee and, on approval, is circulated to faculty 
and resident graduate students and presented at a 
colloquium.

The thesis is defended in oral examination by an 
examining committee constituted under the 
provisions of Graduate General Regulation 1.9.3.

Satisfactory Performance
The progress of each candidate is assessed at least 
twice a year by the school (spring and fall). Students who 
perform unsatisfactorily may not continue in the program, 
subject to the procedure for review of unsatisfactory progress described in 
Graduate General Regulation 1.8.2.

Graduate Courses
CRIM 801-3 Theories of Crime I
Intensive exposure to the major streams of 
criminological theory. Topics for in-depth analysis will 
be selected according to the availability and interest of 
specific course instructors 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 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 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 
focus on the development and evaluation of 
the systems approach in criminal justice 
policy planning.

CRIM 830-3 Law and Social Control I
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 may be selected from any 
area of criminal justice practice including: law 
enforcement; the judiciary; court administration; 
corrections; or legal services. The course will 
focus on the development and evaluation of 
the systems approach in criminal justice 
policy planning.

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 qualitative and quantitative techniques. The 
course is intended to establish fundamental research 
skills to be applied in advanced research methods 
seminars, in other core area courses, and in the 
preparation of theses and dissertations.

CRIM 861-3 Research Methods II
This course covers both parametric and non-
parametric statistical techniques with an emphasis on 
parametric analysis. Basic descriptive and inferential 
statistics will be covered; including univariate 
measures, analyses of cross classified data, 
correlation, t-tests, analysis of variance, regression, 
and related measures. Also discussed are the 
experimental and statistical research strategies 
which produce those data. The approach will be 
conceptual and will emphasize the strengths 
weaknesses, selection and application of various 
statistical, experimental and quasi-experimental 
techniques.

CRIM 862-3 Research Methods III
This course will address a range of research 
techniques generally subsumed under the rubric of 
‘qualitative’ research including field research, 
interview techniques, historical and legal research, 
and documentary analysis. Emphasis will be on the 
logic underlying such inquiry, the advantages and 
limitations associated with different sources of 
information and procedures, and the processes by 
which analytical rigour is achieved.

CRIM 863-3 Research Methods IV
Advanced topics, issues and techniques in 
criminological and socio-legal research. The subject 
matter of this course will vary according to instructor 
interests and specialization. Specific areas of 
concentration may include the following: advanced 
univariate statistical techniques, documentary and 
historical methods, evaluative and predictive 
research, participatory observation/ethnography, 
systems analysis, and computer simulation 
modelling. Prerequisites: CRIM 860, 861, 862, or by 
permission of the instructor.

CRIM 870-3 Directed Readings
Intensive readings under the supervision of a faculty 
member, in areas of interest related to the students program.

CRIM 871-3 Selected Topics
Concentrated studies in areas of student 
specialization.

CRIM 872-3 Selected Topics
Concentrated studies in areas of student 
specialization.

CRIM 873-3 Selected Topics
Concentrated studies in areas of student 
specialization.

CRIM 899-0 MA Thesis

CRIM 899-0 PhD Thesis

Department of Economics
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Chair
N.D. Olewiler BA (Col), MA (S Fraser), PhD (Br Col)

Associate Chair
P.E. Kennedy BA (Qu), PhD (Wia)

Graduate Program Chair
(to be announced)

Faculty and Areas of Research
For a complete list of faculty, see Economics undergraduate section.

D.W. Allen – microeconomic theory, industrial 
organization

J. Artlovic – macroeconomics, monetary theory, 
learning and adaptation in economics

L.A. Boland – economic theory and methodology

J.F. Chant – macroeconomics, monetary theory, 
economics of financial markets
J.W. Dean – banking and monetary theory, macroeconomics, international finance
D.J. DeVoretz – development, economic history, demography economics
G. Dow – microeconomic theory, theory of organization
S.T. Eaton – international trade, economic history
B.C. Eaton – microeconomic theory, industrial organization, location theory
J. Friesen – labor
S. Globerman – economic theory and policy
P. Gomme – macroeconomics, quantitative theory
R.R. Grauer* – finance
H.G. Grubel – international trade and finance, economic policy
R.G. Harris – international economics, economic theory
T.M. Heaps – natural resources, regional, mathematical economics
R.A. Jones – monetary theory, macroeconomics, finance
M. Kamstra – econometric theory, applied finance
P.E. Kennedy – econometrics, macroeconomic theory
M.H. Khan – economic development, agricultural economics
M.A. Lebowitz – political economy, economic thought
R.G. Lipsey – economic growth, industrial organization, international trade policy
D.R. Mak – labor economics, statistics
J.M. Munro – transportation, regional and urban economics
G.M. Myers – public economics
N.D. Olewiler – natural resources, environmental economics
K. Pendakur – labor, public finance
C.G. Reed – economic history
N. Schmitt – international trade, theory, industrial organization
R.W. Schwind* – international organization, international trade, public policy toward business
Z.A. Spindler – public choice
Joint appointment with Business Administration, home department – Economics

MA Program

Admission Requirements

University admission requirements are given in the Graduate General Regulations section. In addition, the department requires that for clear admission 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 allows three options. The thesis option – core work plus three ECON or BUEC graduate courses and an original thesis.

Extended essay option – core work plus five ECON or BUEC graduate courses. (including ECON 836-4) and two extended essays.

Project option – core work plus six ECON or BUEC graduate courses, (including ECON 836-4) and a research project.

Normally, every MA program will include the following:

Core Course Work

Students must achieve satisfactory competence in microeconomic theory, macroeconomic theory, quantitative methods and mathematical economics. Except where students have successfully undertaken equivalent work in graduate work at another university, students must complete ECON 802 and 805. Those with an inadequate background in microeconomics or macroeconomics may be required to complete undergraduate courses (no graduate credit) in these subjects before attempting either ECON 835 or ECON 805. The mathematical economics requirement is met by satisfactorily completing ECON 798 in addition to the normal course requirements for the MA degree. Alternatively, students may challenge the course by taking a pre-announced screening examination on the material covered in this course. This examination will normally be written in the first week of the first semester in the program. Grading for ECON 798 is restricted to satisfactory/unsatisfactory (S/U). The quantitative methods requirement will be met by completing ECON 835 or 837.

Area Course Work

Students must complete at least eight (thesis option), 16 (extended essay option), or 20 (project option) additional credits of approved graduate course work which includes ECON 836 if the extended essay or project option is chosen. Other courses may be drawn from ECON and BUEC graduate courses or, with permission of the graduate program chair and senior supervisor, from graduate business administration courses or other subjects.

Research and Writing Ability

Evidence of research and writing ability met by the satisfactory completion of one thesis, two extended essays or one research project is required. The form of these research papers must meet the standards set out in the Graduate General Regulations section.

Oral Examination

An oral examination is required covering the student’s written research in particular, and program in general, as outlined in the Graduate General Regulations section.

Research Workshop

ECON 900 (research workshop) is a required course for all students who are on campus and registering in ECON 990 or 991 (thesis).

PhD Program

Admission Requirements

See the Graduate General Regulations for admission requirements. Also required is an MA with graduate work in the core areas equivalent to ECON 802, 805, 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 core and credit requirements for the MA (60 credits beyond the BA honors is required for such a PhD program).

Degree Requirements

The PhD 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 requirements listed above for the MA in Economics. Students specializing in Economics must include ECON 803, 804 and 806. Students specializing in Economics and Business Administration must include ECON 803 and 804 or 806.

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 20 credits 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 examinations consist of separate examinations in micro and macroeconomic theory and usually encompass the topics and readings covered by ECON 802, 803, 805 and 806. 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 examination in economic theory. The theory examination will cover the topics and guidelines readings of either microeconomics (ECON 802 and 803), or macroeconomics (ECON 805 and 806). A student specializing in economics and business administration will complete three fields, subject to the following: a) at least two field examinations are satisfied by written examinations; b) at least two fields are drawn from accounting, finance, management science, marketing and organization behavior.

2.3 Arrangements for students specializing in Economics and a related discipline or economics and business administration and a related field will be recommended by the student’s supervisory committee and approved by the department’s graduate program committee.

2.4 Normally, full time students write micro/macro theory comprehensive examinations at the first scheduled opportunity after the exam period of their third semester.

3. An original and significant thesis completed by the candidate under supervision of faculty members of the department.

4. ECON 900 research workshop is a required course for all students who are on campus and registering in ECON 990 (thesis).

Dissertation Procedures

A thesis proposal seminar should be given by each candidate at an early stage in the research program. Each candidate produces a written prospectus, makes it available to all interested department members and presents it on a pre-announced date in ECON 900. The candidate’s supervisory committee should attend the presentation and arrange for other interested members of the department to also attend. That committee, along with the candidate, should decide on the future course of research on the thesis, paying due regard to the comments that have been received.

A thesis core and a thesis seminar should be given by each candidate after the supervisory committee agrees that the thesis is substantially complete and before it is formally approved for defence. The thesis core should be a paper that describes the major original contributions of the thesis (preferably in a form appropriate for journal submission) and should be made available to all interested members of the department.

The thesis defence. Procedures for this defence are described in the Graduate General Regulations.

Satisfactory Performance

Each candidate’s progress is assessed at least once a year (fall). Any student who performs unsatisfactorily is subject to the review of unsatisfactory progress described in Graduate General Regulation 1.8.2.
Canadian Institute for Advanced Research

Graduate Courses

**ECON 663-4 The Economics and Management of Aquaculture**
Introduction to the economic theory and management techniques relating to Aquaculture. This course will not carry credit for the MA and PhD degrees in the Department of Economics.

**ECON 798-4 Introduction to Mathematical Economics**
Applications of static optimization techniques, matrix algebra, differential and difference equations in economic models.

**ECON 799-4 Introduction to Microeconomic Theory**
An introduction to the neoclassical theory of prices, resource allocation and distribution.

**ECON 802-4 Microeconomic Theory I**
An examination of the economic theory of market prices with reference to behavior of individual households, firms, and markets. Special emphasis will be placed on the implications of individual 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. Offered once a year.

**ECON 805-4 Macroeconomic Theory**
An examination of contemporary theories of aggregate economic behavior with emphasis on post-Keynesian developments. Prerequisite: ECON 331. Offered once a year.

**ECON 806-4 Advanced Topics in Macroeconomic Theory**
The course subsequent to ECON 805 which covers advanced macroeconomic theory topics including capital and growth theory. Prerequisite: ECON 805. Offered once a year.

**ECON 810-4 Monetary Theory**
An examination of theories of the supply and demand for money in macro- 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. Prerequisite: ECON 805. Offered once a year.

**ECON 811-4 Advanced Monetary Theory**
Selected topics in monetary theory and policy.

**ECON 812-4 Stabilization Policy**
Critical examination of the nature and uses of monetary, fiscal, structural and debt management policy. Emphasis will be placed on careful specification of the kinds of actions involved, their theoretical bases, and their actual effects on the economy under given conditions. Examples will be drawn primarily from Canadian, American, and British experience. Prerequisite: ECON 805.

**BUEC 815-4 Portfolio Theory**
A study of optimum portfolio selections and diversification of financial assets including cash versus different classes of utility functions of final wealth. Also, an examination of the behavior of speculative prices and rates of return. Prerequisite: ECON 331. Offered once a year.

**BUEC 817-4 Theory of Capital Markets**
A study of capital market equilibrium theories, risk allocation, valuation models under perfect and imperfect markets and their empirical testing. Prerequisite: ECON 331, 835. Offered once a year.

**BUEC 818-4 Advanced Topics in Business Finance**
Extensions of advanced topics beyond those covered in BUEC 815 and 817. Prerequisite: BUEC 815, 817.

**BUEC 819-4 Mathematical Programming for Economics and Commerce**
Topics include dynamic programming, linear and non-linear programming, stochastic programming, optimization techniques, game theory. Prerequisite: permission of the instructor.

**BUEC 820-4 Analysis of Dynamic Processes**
Analysis of the operation of dynamic (time-varying) economic/business systems with emphasis on model formulation and optimization procedures. Offered once a year.

**BUEC 823-4 Business and Economic Forecasting**
Concepts of forecasting including trend fitting, time series, regression, econometric survey data, leading indicators. Application to business, economics, population, technology. Prerequisite: BUEC 333.

**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 830-4 Mathmatical Models for Economics**
The mathematical formulation of basic economic concepts. Applications include the use of the calculus in demand and production theory, theory of the firm, and distribution theory. Also the application of difference equation techniques in economic growth and cycle models, and input-output and linear programming formulations of transportation and production models. Prerequisite: ECON 331, 802, 803 and 805.

**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 Activity Analysis**
The theory of activity analysis and its application to problems in production, consumption and exchange. Prerequisite: ECON 331.

**ECON 834-4 Quantitative Methods**
An introduction to econometric theory. Application of econometric methods to 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, errors in variables and heteroscedasticity. The use of dummy and lagged variables, simultaneous equation models. The identification problem. Estimation of over-identified equations. Prerequisite: ECON 835. Offered once a year.

**ECON 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. Prerequisite: ECON 805. Offered once a year.

**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 rate systems, analysis of exchange rate systems, exchange controls and the processes of short and long term capital movements in international trade. Prerequisite: ECON 443 and 446. Offered once a year.

**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. Prerequisite: ECON 443 and 446.
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 trade. Emphasis on costs, demand and pricing of transportation services. Additional topics to be studied include government promotion of transport, transport regulation and the economic effects of transportation improvements. Recommended: ECON 331.

ECON 855-4 Theories of Economic Development
Characterization of non-growing economies; mechanisms 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 805.

ECON 857-4 Studies in Economic Development

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 862-4 Forestry Economics
Economic analysis of forest exploitation. Alienation policies, structure of the forest industry, optimum harvesting criteria, taxation and public policy in the light of achieving efficiency in forest management.

ECON 863-4 Fisheries Economics
Theoretical analysis of fisheries exploitation, emphasizing the characteristics of a common property resource and the economic expression of biological factors. Problems of productivity against the background of national fisheries regulations and international agreements. Public policies in respect of the fisheries, with their social and economic implications.

ECON 864-4 Studies in Economic Fisheries Management
Analysis of economic fisheries management techniques derived from the study of a variety of actual fisheries management projects. Prerequisite: ECON 863, or permission of the instructor.

ECON 865-4 Regional Economic Theory
The theoretical aspects of regional economics, particularly the following topics; the concept of a region, location theory, theories of regional economic growth, and techniques for regional analysis. Prerequisite: ECON 331 recommended. Offered once a year.

ECON 867-4 Regional Development Problems
An applied course in regional economics. Topics include the following: concepts of regional planning, development planning techniques, study of Canadian regional development problems. Prerequisite: ECON 805.

ECON 869-4 Transportation Economics
Emphasis on costs, demand and pricing of transportation services. Additional topics to be studied include government promotion of transport, transport regulation and the economic effects of transportation improvements. Recommended: ECON 331.

ECON 877-4 Methodology in Economic Theory
Topics to be discussed include theories of rationality; social theories involved in the economic concept of equilibrium; the role and status of economic theories and models; methodology versus sociology of economics; theories of economic knowledge; realism of assumptions and value premises in economics.

ECON 878-4 History of Economic Thought 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 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 831. Offered once a year.

ECON 884-4 Industrial Relations

ECON 888-4 The Economics of Legal Relationships
An analysis of the economic effects of contracts improved by common, statute and constitutional law. Topics will include: transaction cost, common property, regulation, negligence and torts, ‘free’ goods, price controls, non-profit agencies, crime and malfeasance, custom, nature of the firm under various legal guises and the anarchy state dichotomy.

ECON 889-4 Seminar in Law and Economics
An enquiry into the resource allocational and distributional implications of current and alternative legal arrangements. The economic rationale for and effects of the development of various legal doctrines will be considered. Topics may include anti-competes value and public regulation, and market regulation for purposes of safety, consumer information and income maintenance of producers.

ECON 890-4 Public Finance
The application of welfare criteria to the theoretical investigation of methods of expenditure determination and approaches to taxation. Consideration of the problems of efficiency, equity, and incidence. Prerequisite: ECON 802, 803 and 805.

ECON 891-4 The Economics of Public Choice
Applies economic theory to the analysis of non-market, political choice. Some of the topics studied will be coalition formation and rational voter behavior; allocations under various property rights systems; optimal constitutions; public sector externalities; federalism; discrimination, nationalism and crime. Prerequisite: ECON 802, 803 and 805.

ECON 893-4 Introduction to Marxian Economics
Examination of Marx’s economic theory, with particular emphasis on capital, theories of surplus value and the Grundrisse.

ECON 895-4 Comparative Economic Systems
Comparative study of capitalist, communist, socialist and mixed forms of national economic organization, with emphasis on the allocation of resources and distribution of income. Prerequisite: ECON 805.

ECON 900-0 Economics Research Workshop
Methodological approaches to research; the selection, planning and conduct of research. The critical evaluation of research reports by students, staff, and invited speakers. Students writing theses and enrolled in ECON 991 or 990 normally are required to participate in this workshop. Grading will be on a satisfactory/unsatisfactory (S/U) basis. Offered each semester.

ECON 911-4 Selected Topics in Economics
Offered by arrangement.

ECON 912-4 Selected Topics in Economics
Offered by arrangement.

ECON 913-4 Selected Topics in Economics
Offered by arrangement.

ECON 921-4 Directed Readings
Supervised reading in a particular field of specialization. Offered by arrangement.

ECON 922-4 Directed Readings
Supervised reading in a particular field of specialization. Offered by arrangement.

ECON 923-4 Directed Readings
Supervised reading in a particular field of specialization. Offered by arrangement.

ECON 990-0 PhD Thesis
ECON 991-0 MA Thesis
ECON 996-0 MA Essays
ECON 999-0 MA Project
Department of English
6129 Academic Quadrangle, (604) 291-3135/4614
Tel, (604) 291-5737 Fax, http://www.sfu.ca/english
Chair
P. Delany BCom (McG), AM (Stam), MA, PhD (Calif), FRSL, FRScan
Graduate Program Chair
D. Stouck BA (McM), MA (Tor)

Faculty and Areas of Research
For a complete list of faculty, see English
undergraduate section
C.M. Banerjee – 18th century English literature, literary criticism
S.A. Black – American literature, literature and psychoanalysis, Shakespearean and Greek tragedy
G. Bowring – Canadian and American literature, contemporary/ avant garde literature
P. Budra – Shakespearean, drama to 1642, Elizabethan and Jacobean poetry and prose, popular culture
R.M. Coe – rhetorical theory and history, contrastive rhetoric, composition theory and pedagogy, literacy, discourse analysis (including public doublespeak and plain language), genre theory, rhetorical approaches to literary criticism, drama
L. Davis – Romantic literature, Scottish, Irish and Welsh literature, literature and nationalism, feminist critiques of Romanticism
P. Delany – twentieth century English literature, ancient literature, literary theory, computers and humanities
S. Delany – Chaucer, medieval comparative literature, middle English, Tudor literature, Marxist criticism, early literature (Old Testament, Middle Eastern and Greek), critical theory, gender in art
H. DeRoo – Old English, Middle English, heroic literature, Old Norse, studies in language
S. Diwa – Canadian literature, modern poetry, literary history, biography
J.E. Gallacher – Chaucer, medieval and Old English literature and language, Tudor studies, history of the English language
C. Gerson – Canadian literature and literary history, women and literature
M.A. Gillies – 19th and 20th century British literature
J. Giltrow – discourse analysis, literacy and composition, children’s literature, travel narrative
T. Grieve – modernism (poetry and fiction), twentieth century literature, nineteenth century poetry; the essay; history and theory of rhetoric; composition
M.D. Harris – Victorian novel, Romantic period, fantasy and science fiction, African fiction, psychological interpretation of literature
P. Keen – Romantic literature, historical literary criticism
M. Linley – Victorian poetry and prose; nineteenth century women poets, literature and visual representation
K. Mezei – Canadian literature, Quebec literature and translation, modern British fiction, especially Virginia Woolf, feminist literary criticism
R.A. Miki – 19th century American literature, modern American poetry, contemporary Canadian poetry
M. Page – contemporary drama, 20th century English literature, Commonwealth literature, Shakespeare
K.F. Paulson – North American immigrant literature, American literature, restoration and 18th century literature, drama
P.M. St. Pierre – Commonwealth literature, Canadian literature
E.A. Schellenberg – Restoration, 18th century literature
M. Steig – Victorian novel, literature and psychology, literary theory, literature and graphic art, children’s literature
D. Stouck – American literature, Canadian literature

MA Program
Admission
In addition to the requirements listed in the Graduate General Regulations section, the department requires evidence of ability in academic writing, in the form of at least two substantial literary essays which are scholarly in format and approach. The papers submitted may be undergraduate essays previously prepared, or ones specially written for this purpose.

Programs
This program develops scholars with a critical and comprehensive awareness of English studies. While offering students the opportunity of specializing in one of the various areas of strength in the department, the program requires them to ground their interest in a wide and flexible understanding of literary history and the possibilities of study. Admission requires a good background in literatures in English. A student with deficient preparation will be required to make it up 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. In option B they take six courses and write a field examination in three of the six courses followed by an oral exam based on the written. Students in either option may have one course as an individually supervised study to pursue a special interest or satisfy a need. Students may enrol in one or two courses per semester. Students also working as teaching assistants will complete the program in six semesters. For further departmental requirements consult the departmental handbook. The department recognizes the special needs of working people who wish to improve qualifications. Students interested in courses in German, Russian or Spanish should consult with the Office of the Dean of Arts.

For further information and regulations, refer to the Graduate General Regulations section 1.

Joint Master’s in English and French Literatures
This program allows students who have already been trained in both literatures to continue studies beyond the undergraduate level. For course requirements, please see the graduate Department of French section.

PhD Program
Applicants to the Department of English’s small PhD program will have a well planned project that integrates into the department’s areas of specialization. Cross disciplinary proposals and innovative studies are encouraged. Students are expected to contribute their input at all stages of the program. The department has expertise in major areas of English literature and language with special strength in the 20th century. The Bennett Library’s contemporary literature collection has the largest single collection of post war experimental and avant garde poetry in Canada. It also contains a substantial Wordsworth collection and William Blake drawings, illuminations and engravings in facsimile.

Admission
For admission to the doctoral program students are required to have an MA degree or equivalent with high standing from a recognized university. Applicants must have a good background in English studies. To fill any academic gaps, extra undergraduate or graduate courses may be required.
To apply, three reference letters, two samples of academic writing, and a one to two page description of the doctoral project are required. This program has been approved for part time status.

Application Deadline
February 1

Residence Requirement
Six semesters

Program Requirements
The first two years of the program provide necessary grounding before students pursue a thesis project; in the third year, students will engage in the research and writing of the dissertation. Upon admission, an advisor is assigned until a supervisor and supervisory committee are selected. The doctoral program has three stages.

Courses
Four courses are completed by the end of the third semester: any three of choice plus ENGL 810/811 graduate professional development seminar, a
Field Exams and Thesis Oral

Students must write field exams by the end of the sixth semester, and complete the thesis oral by the end of the seventh semester.

The Thesis

Students complete their research and proceed with the writing of their thesis. Students have 9-12 semesters to complete their degree.

Individualized Field Exams

Each candidate will write two field exams. The student will take home the examination question and complete the paper within three days. The submitted examination paper should be no more than 30 pages. There will be no oral 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 both 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 exams 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 program 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 consisting of the translation of a literature or criticism passage in that language. A dictionary is permitted.

The Department of French, the Spanish Program, and the Latin American Studies Program offer courses to help graduate students meet language requirements. For German or Russian courses consult the Office of the Dean of Arts.

For further information and regulations, refer to the Graduate General Regulations section (1.)

Graduate Courses

ENGL 801-5 The Theory of Literary Criticism

Experiences some of the basic theoretical problems involved in the reading and interpretation of literature. May treat, among others, epistemological, experiencial, 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-Raphaelitism, post-modernism, etc., 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.

Each of these courses will bring a broadly defined concept or approach to bear on a limited number of texts.

ENGL 810-5 Graduate Professional Development Seminar Part I

The Graduate Professional Development Seminar (ENGL 810) 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 kind 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. Required. Satisfactory/unsatisfactory.

ENGL 811-5 Graduate Professional Development Seminar Part II

Conclusion of 810 consisting of research workshops for students near completion of their research projects. Required. Satisfactory/unsatisfactory.

ENGL 841-5 Directed Readings A

ENGL 842-5 Directed Readings B

ENGL 843-5 Directed Readings C

ENGL 899-0 MA Thesis

ENGL 899-0 PhD Thesis

ENGL 999-0 MA Field Exam

Department of French


Chair

G. Poirier BA (Laval), MA, PhD (McG)

Graduate Program Chair

P. Wrenn BA, MA, PhD (Tor)

Faculty and Areas of Research

For a complete list of faculty, see French undergraduate section.

R. Canac-Marquis – transformational syntax, morpho-syntax, formal semantics, anaphora, second language acquisition

R. Davison – 18th century French literature, correspondence and pedagogy, women writers

M.C. Fauquenoy – French linguistics, sociolinguistics, Creole French dialects

G. Merler – modern and Quebec literatures, methods of discourse analysis, Stendhal, individual psychology and literary analysis, poetry

G. Poirier – Renaissance French literature, 17th century French literature, Quebec literature and paralleliterature, gender studies

S. Steele – medieval French literature, new medievalism, literary theory, 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 of French 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 admission to a PhD program may apply under the special arrangements provisions of graduate general regulation 1.3.4.

The major areas of study are as follows.

Linguistics: Linguistic analysis of French, varieties of French (social, regional and stylistic variations), French creoles, French linguistic theories, French applied linguistics, theoretical approaches to the acquisition of French as a second language. A variety of practical applications of linguistic theory may be envisaged: pedagogy, translation, stylistic analysis, etc.

Literature: This option offers a unique curriculum based on theoretical and interdisciplinary approaches to literature and para-literature: textual, discourse, genre analysis; cultural and gender studies; theory of literary criticism; psychological, sociological criticism, new trends in the history of movements and historical periods, topics in French Canadian literature.
Graduate Arts – French

MA Program

Conditions of Admission
Candidates for admission must satisfy the general admission requirements for graduate studies (1.3.2 and 1.3.8 of the Graduate General Regulations).

Program admission requires a sound background in French literature or French linguistics, as well as a good command of both oral and written French. Candidates lacking these must remedy the deficiency before admission is granted. This may be accomplished through one or two semesters as a qualifying student (Graduate General Regulation 1.3.5).

Upon admission, each student will be assigned a temporary supervisor.

The program’s degree requirements may be completed ‘with thesis’ or ‘without thesis.’ In either case, the student works under a supervisory committee’s direction (Graduate General Regulation 1.6) that has been appointed by the end of the second semester. The course work, thesis topic or area of field examination will be approved by the supervisory committee.

Degree Requirements
The MA program has the following minimum requirements. During the first semester, students must successfully complete one of:

FREN 800-2 Readings in French Linguistics
FREN 801-2 Readings in Literary Theory

plus, during the first or second semester, students must successfully complete:

FREN 802-2 Basic Research Methods

Concentration Requirements
Students must successfully complete an additional 20 credit hours, selected from core and specialized courses for each concentration (either linguistics or literature).

Core Courses
The following courses concern fundamental aspects (in literature and linguistics) of the chosen field of specialization. These are all offered at least once every six semesters. Selection of and need to take any specific course or courses is decided in consultation with the student’s supervisor.

Linguistics
FREN 807-5 Problems in French Phonology
FREN 808-5 Problems in French Grammar
FREN 809-5 Problems in French Semantics and Lexicology

Literature
FREN 820-5 Types of Discourse
FREN 821-5 Theories and Methods of Literary Analysis
FREN 822-5 Socio-cultural Approaches to French Literature

Specialized courses
The courses listed below treat specialized areas with respect to the student’s particular interests or thesis topic. These courses are offered as needed to complete or to enhance a student’s program. Depending upon content and enrolment, they may be offered as directed readings or as seminars rather than lecture courses.

Linguistics/Applied Linguistics
FREN 811-5 Problems in French Dialectology
FREN 812-5 Problems in French Linguistic Theory
FREN 813-5 Problems in the History of French
FREN 814-5 Contrastive Structures of French and English
FREN 815-5 French Creoles
FREN 816-5 Sociolinguistic Approaches to French Studies

FREN 817-5 French Applied Linguistics
FREN 818-5 Phonostylistics of French
FREN 830-5 Canadian French
FREN 831-5 Studies of Bilingualism in the French-Speaking World
FREN 832-5 Theoretical Approaches to the Acquisition of French as a Second Language

Literature
Topics in the following literature courses will vary to meet the interests of both students and faculty.

FREN 823-5 Interdisciplinary Approaches to French Literature
FREN 824-5 Topics in French Canadian Literature
FREN 825-5 Topics in French Literature
FREN 826-5 Monographic Studies

Note: Upon the supervisory committee’s approval, one course from the other concentration may substitute, or one may be taken outside the department. For a linguistics concentration, those demonstrating adequate preparation in general linguistics may take a Department of Linguistics course. For a literature concentration, consider a course in the Department of English. For a French as a second language (FSL) concentration, course selection is subject to the graduate program committee’s approval.

Thesis Option
Students must choose one of the following options.

MA with Thesis
For this option, students complete a thesis of about 100 pages on a topic acceptable to the supervisory committee, defended at an oral examination as described in section 1.9 and 1.10 of the Graduate General Regulations.

MA without Thesis
This option requires successful completion of a further 10 credit hours of graduate work within the Department of French and a written field examination based on three completed courses. These additional courses may be selected from either concentration. Preparation for the field examination will be undertaken on the advice of the supervisory committee.

Language Requirement
Students 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 having successfully completed two courses in that language or by passing an exam, translating of a 250 word text into English.

Joint Master in English and French Literatures
This joint master’s program allows students who have already been trained in both literatures to continue their studies beyond the undergraduate level.

Under this option, students would register in and, if successful, receive a degree from one of two departments, known as the home department. The other department would be 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 to the program.

A home department will be assigned in consultation with the student with the agreement of both departments.

A minimum of 15 upper division undergraduate credits in each discipline is required for admission.

The student, after initial admission and two semesters of course work, will have the option of an MA either with thesis or without, subject to the agreement of both departments.

Supervision
The home department selects a joint supervisory committee of two faculty from the home department and one from the associate department.

Home Department Requirements
either both of
ENGL 810-5 Graduate Professional Development Seminar Part I
ENGL 811-5 Graduate Professional Development Seminar Part II
or both of
FREN 801-2 Readings in French Literature
FREN 802-2 Basic Research Methods

Concentration Requirements
In addition to the home department requirements shown above, students must also complete either the MA with thesis or without thesis option.

MA with Thesis
For this option, students successfully complete another 20 credit hours selected from literature courses in the Departments of French and English, including at least one course from each department (one course from one department and three from the other, or two from each department) and complete a thesis of about 100 pages on a topic acceptable to the supervisory committee, defended at an oral examination as described in Graduate General Regulations 1.9 and 1.10.

MA without Thesis
For this option, students successfully complete another 20 credit hours selected from literature courses in the Departments of French and English, including at least two courses from each department (two courses from one department and four from the other, or three from each department) and a written field exam based on three completed courses. Field exam preparation is undertaken on the advice of the supervisory committee.

Graduate Courses
FREN 800-2 Readings in French Linguistics
A semester of required readings in French linguistic theory. This course, which culminates in an oral examination, will be graded satisfactory/unsatisfactory.

FREN 801-2 Readings in French Literature
A semester of required readings in French literary theory. This course, which culminates in an oral examination, will be graded satisfactory/unsatisfactory.

FREN 802-2 Basic Research Methods
The study of research methods and tools used in French linguistics or French literature. Planning a MA without thesis or without thesis option.

FREN 807-5 Problems in French Phonology
Explores a selection of classic problems of French phonology from different theoretical viewpoints.

FREN 808-5 Problems in French Grammar
Explores a selection of classic problems of French morphology, morpho-syntax and/or syntax from different theoretical viewpoints.

FREN 809-5 Problems in French Semantics and Lexicology
Theories, methods and major research trends in the diachronic and/or synchronic analysis of the lexicon and structures of meaning in French.

FREN 811-5 Problems in French Dialectology
Methods in the study of social and geographical dialects (from fieldwork techniques to the analysis of
data). Linguistic theory (traditional, structural, generative and sociolinguistic) as it applies to French dialectology.

FREN 812-5 Problems in French Linguistic Theory
Studies the contributions of a selection of twentieth century French language linguists to the evolution of various aspects of linguistics and linguistic theory.

FREN 813-5 Problems in the History of French
A diachronic study of a variety of phonological, grammatical or lexical aspects of French presenting descriptive/explanatory challenges.

FREN 814-5 Contrastive Structures of French and English
A contrastive study of the grammatical structures of French and English with emphasis on ‘rank-shift’ across discourse techniques. A variety of practical applications may be envisaged: pedagogy, translation, stylistic analysis, etc.

FREN 815-5 French Creoles
Development, diversity and sociality of French Creoles. Theoretical approaches to the study of the life cycle of creole languages, with special emphasis on French-based Creoles.

FREN 816-5 Sociolinguistic Approaches to French Studies
Language, society and identity in France. Study of social markers in speech, conversational rules, objective versus subjective norms, attitudes towards language variation and their implications among French speakers from an integrative perspective.

FREN 817-5 French Applied Linguistics
Study of the contribution of linguistic theory to the teaching and learning of French as a second language.

FREN 818-5 Phonostylistics of French
The linguistic analysis of paralinguistic features of French and their expressivity in various types of oral discourse.

FREN 820-5 Types of Discourse
A study of the language in use, discourse strategies, the enunciation devices of various types of texts, both traditional and non-traditional genres such as oral or para-literary texts.

FREN 821-5 Theories and Methods of Literary Analysis
A study of a selection of significant works by contemporary French critics (Barthes, Genette, Kristeva). The application of their theories and models to the analysis of specific works. May concentrate on one area, e.g. narratology, semiotics, etc.

FREN 822-5 Socio-cultural Approaches to French Literature
Provides a framework for a detailed study of French literature within its socio-cultural context.

FREN 823-5 Interdisciplinary Approaches to French Literature
Explores the relationships between French literature and other arts or applies concepts and models developed in other disciplines to the study of French literature.

FREN 824-5 Topics in French Canadian Literature
An in-depth study of a theme or an aspect of French Canadian Literature through different literary works.

FREN 825-5 Topics in French Literature
An in-depth study of a topic relating to a period or a movement in French literary history, such as: Middle Ages, Renaissance, Classical Period, Enlightenment, Romanticism, Realism, Naturalism, Existentialism.

FREN 826-5 Monographic Studies
An in-depth study of one writer from a specific theoretical perspective (psychological, historical, linguistic).

Department of Geography
Chair
A.M. Gill BA (Hull), MA (alta), PhD (Manit)
Graduate Program Chair
I. Hutchinson BA (Liv), MSc (McG), PhD (S Fraser)
Faculty and Areas of Research
For a complete list of faculty, see Geography undergraduate section.

FREN 830-5 Canadian French
Advanced study of the linguistic structures and sociolinguistic rules of French in Canada.

FREN 831-5 Studies of Bilingualism in the French-Speaking World
Theories of bilingualism as they apply to French, and the place of French in the world.

FREN 832-5 Theoretical Approaches to the Acquisition of French as a Second Language
New trends and theoretical developments in the acquisition of French as a second language.

FREN 899-0 MA Thesis
FREN 999-0 Field Examination

MA Program
Admission
For admission requirements refer to the Graduate General Regulations.

Admission for MA/MSc students is in the fall semester only, and for PhD students in either the fall or spring semesters. Applications for fall admission should be submitted by February 1 of that year, and applications for spring admission by September 15 of the previous year.

The MA candidate, once admitted, works under the guidance of a faculty advisor, pending the choice of a supervisory committee. The supervisory committee, normally consisting of two faculty members, one of whom may be from outside the department, will be chosen by the second semester.

Degree Requirements
The MA program offers a thesis option and an extended essay option. The former requires the submission of a high quality piece of research which will ordinarily involve the conceptualization of a problem and the collection, analysis and interpretation of empirical data. However, non-empirical research is possible. Extended essay option students submit two essays which are original because they make some distinctive contribution to research literature and ordinarily involve a critical review or synthesis of literature, concepts and/or techniques or the development of hypotheses, possibly to include pilot work. Neither the thesis nor the extended essays should be a modification of a paper completed for course work.

The minimum course requirements for an MA are 12 credit hours (three one-semester courses) or 20 credit hours for the extended essay option and GEOG 700 and 701. Grading for GEOG 700 and 701 will be on a satisfactory/unsatisfactory basis and constitutes a (minimum) requirement in geographic methodology. GEOG 700 and 701 must be taken at the first available opportunity. As part of the 12/20 credit hours, students take either GEOG 704 or 706.

In certain circumstances, with the advisor’s consent, the student can request this requirement be replaced by another course.

Students complete minimum course requirements within the Department of Geography; permission to complete a minimum course requirement outside the department must be obtained from the graduate studies committee. Students with course deficiencies may be asked to complete more courses, including some at the undergraduate level and in other departments. Also, at the supervisory committee’s discretion, students may need to acquire knowledge of a language relevant to their studies.

A written thesis prospectus is submitted to the supervisory committee by the end of the semester’s third week following completion of GEOG 700 and 701: the supervisory committee must approve the proposal prior to starting substantive research. In addition, the candidate must present the research proposal at a colloquium prior to the end of the third semester of residence (or by the end of the semester following completion of GEOG 700 and 701).

Master of Science Program
The department offers a program leading to the MSc degree in the Faculty of Science. See the Geography entry in the Faculty of Science section.
Graduate Arts – Geography

PhD Program
For admission requirements, refer to the Graduate General Regulations. Applicants must have completed the MA or MSc requirements at Simon Fraser University or equivalent. Students admitted to the PhD program without this background may be required to make up specified courses.

Supervisory Committee
The student, upon admission, works under the guidance of a faculty advisor, pending the choice of a supervisory committee. By the beginning of the second semester, a Department of Geography faculty member is chosen as a senior advisor of the supervisory committee plus two or more additional committee members, one of whom may be from outside the department.

Degree Requirements
The advisor, and subsequently the supervisory committee, and the student determine a program of study to suit the background and research objectives of the candidate. No formal course work is required of students. After consultation with the supervisory committee, however, students can elect to take courses in order to acquire knowledge and skills, including language skills, relevant to their research.

Comprehensive Examination
Written and oral qualifying 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 examination may retake each, once, 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 will consist of at least three faculty from the department, (including the senior supervisor who will be the committee chair), plus one faculty member from outside the department.
Written exams comprise four papers jointly agreed upon by the qualifying examination committee. If the supervisory committee agrees, a field problem may be chosen which substitutes for one of the four written papers.
The oral is held by the qualifying examination committee within three weeks following completion of all written examinations. 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 which will be circulated to faculty and resident graduate students. The candidate presents this proposal at a departmental colloquium no later than the end of the fifth semester of residence.
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 candidacy in the degree program.
For further information and regulations, see Graduate General Regulations.

Graduate Courses
GEOG 700-0 Introduction to Graduate Studies: Part I
A required course designed to acquaint new graduate students with the research strengths of the department, research facilities in the University and its vicinity and with the methodologies of the main fields of geography. In addition, problems of both a philosophical and practical nature involved in the design and operationalization of geographic research will be examined.
GEOG 701-0 Introduction to Graduate Studies: Part II
Completion of GEOG 700-0. Grading of GEOG 700 and 701 will be on a satisfactory/unsatisfactory (S/U) basis.
GEOG 704-4 Analytical Techniques for Human Geographers
An examination of qualitative and quantitative techniques and associated software relevant to the compilation of information for human geographic research.
GEOG 706-4 Quantitative Techniques in Physical Geography
An introduction to quantitative methods, statistical and physical modelling, sensitivity and error analysis, research design and data collection, editing and analysis in physical geography. GEOG 700, 704 and 706 are regularly scheduled in the fall semester and GEOG 701 is regularly scheduled in the spring semester. Courses 708 to 781 are scheduled more intermittently dependent, in part, on demand.
GEOG 708-4 Geographic Ideas and Methodology
This is an advanced course that critically examines the contemporary and historical modes of analysis in geography.
GEOG 710-4 Geography and Ideology
An attempt to define the concept ‘ideology’, to recognize its operation in geography and to demonstrate its relevance in historical geography, political geography, and in the study of the symbolic structuring of cultural landscapes.
GEOG 714-4 Computer Cartography
Theoretical, algorithmic and practical components in the application of the computer for mapping.
GEOG 715-4 Geographic Information Systems
Data bases, systems concepts, quantitative techniques, modelling and display in geography, on the basis of computer systems.
GEOG 716-4 Aerial Reconnaissance for Remote Sensing
Theoretical and practical training in the acquisition of airborne multispectral remote sensing data.
GEOG 717-4 Digital Processing of Remote Sensing Data
Theory and applications of analytical processing procedures used with multispectral remote sensing data.
GEOG 718-4 Soil Science
Discussion of special topics in soil science: soil physics, soil chemistry, soil biology and/or forest soils.
GEOG 720-4 Ecological Biogeography
Population, community and ecosystem ecology from a biogeographic perspective; island biogeography.
GEOG 723-4 Climatology
Recent theoretical developments in climatology.
GEOG 726-4 Fluvial Geomorphology
Advanced theory and field measurement in open channel fluid mechanics and fluvial geomorphology.
GEOG 728-4 Advanced Glacial Geomorphology
Critical evaluation of glacial landform-process models focussing on current research problems; field study of glacial landforms and sediments.
GEOG 731-4 Hydrology
This course covers the conceptual and methodological bases of current hydrologic research.
GEOG 733-4 Resources Management
A study of the historical, cultural, economic, social and behavioral aspects of conservation and resource management from an interdisciplinary point of view.
GEOG 736-4 Resources and Environmental Issues in the Growth of Food Production
Concerned with identifying and analyzing constraints to expanding food production within a geographical context.
GEOG 738-4 Water Resources
An examination of various models and methods of water resources development based on case studies from both developed and developing countries.
GEOG 740-4 Geography and the Third World
An examination of the objective geographical conditions in the Third World today and a review of the wide range of theories and suggested solutions of a geographical nature.
GEOG 742-4 Regional Development
Regional development in theory and practice with particular reference to resource based hinterland regions.
GEOG 745-4 Multinational Corporations and Regional Development
An examination of the influence of the policies and structures of multinational corporations on regional economic change.
GEOG 752-4 Cultural Geography
Seminar discussion of selected topics in recent cultural geography, with emphasis on relationships with social theory, current philosophy and research findings in related fields.
GEOG 755-4 Law and the Geographies of Power
An exploration of the emergent literature on law, space and power, this class will consider the social and political construction of law and space, and then track their inter-relations through a number of case studies.
GEOG 756-4 Historical Geography
An examination of the role historical geography plays within the discipline of geography. The course will evaluate the evolution and practical applied aspects of the subject.
GEOG 760-4 Morphogenesis and the Built Environment
This course examines the evolution of built environments in urban contexts. It relates the impetus for morphological change to broad societal processes. Problems of evidence and method are discussed.
GEOG 770-4 Geography, Development Theory, and Latin America
An analysis of geographic aspects of theories of development as they have been applied in Latin America.
GEOG 780-4 Environmental Cognition
Examination of current issues in the study of human understanding and relationships within the (mostly built) environments.
GEOG 781-4 Tactual Mapping: Theory and Practice
An exploration of design principles, production methods, and user training procedures appropriate to thematic and mobility maps for the visually handicapped.
GEOG 791-4 Directed Readings
GEOG 795-4 Selected Topics in Geography
Specialised graduate course on faculty research related topics.
GEOG 797-0 MSc Thesis
GEOG 798-0 MA Thesis
GEOG 799-0 PhD Thesis
Gerontology Program


Graduate Program Chair
Dr. A.V. Wister BA, MA, PhD (WOnT)

Faculty and Areas of Research
Y. Carrière – demography, population health, health promotion and population aging
G.M. Gutman – seniors’ housing, long term care, dementia, health promotion and aging, program evaluation
A.V. Wister – demography, living arrangements and social supports, health promotion and aging, program evaluation

The Gerontology Program offers a master of arts. There are two concentrations offered within the program: aging and the built environment, and health promotion/population health and aging. The MA program prepares students for professional roles with a high level of current knowledge of the field, and substantial competence in the kinds of research tasks necessary to undertake those roles. It also provides focused, interdisciplinary training for individuals in occupations that provide services to older adults. Further, the program will develop an appreciation of the complex ethical issues that are faced by persons working in gerontology.

Each of the concentrations offered deals with specific problems and issues.

The aging and the built environment concentration trains students in the planning, design, research and evaluation of working, living and recreational environments for older persons. Students attracted to this concentration will have backgrounds in architecture, interior design, urban and regional planning, social/human ecology, kinesiology, recreation and leisure studies, occupational therapy, physiotherapy, human factors, human geography, sociology or environmental or social psychology. The health promotion/population health and aging concentration provides students with knowledge that can be used for research, evaluation and critical analysis of our health care system and of specific health promotion strategies. Students with degrees in psychology, sociology, demography, medical geography, social work, nursing, health education, physiotherapy, and physical education or kinesiology would be probable candidates for this concentration.

Students take an integrated sequence of core courses and courses specific to the selected concentration. The program builds upon the expertise, research activities and international reputation of the associated Gerontology Research Centre.

MA Program

Admission

Refer to the Graduate General Regulations for admission requirements. It is recognized that students will enter the program with varying degrees of academic training in the field of gerontology. The gerontology program admissions committee will review each candidate and determine whether they are lacking prerequisite courses or the equivalent. Students may be required to complete courses from the existing post baccalaureate diploma program in gerontology as a condition of admission, or to register as a qualifying student before consideration for admission to the MA program.

The following prerequisites, or their equivalent, are needed for each concentration.

Aging and the Built Environment

One of
GERO 401-3 Aging and the Built Environment
GEOG 490-4 Special Topics*

*when offered as Housing for the Elderly or Geography of Aging

Health Promotion and Aging

GERO 404-3 Health and Illness in Later Life and one of
GERO 402-3 Drug Issues in Gerontology
GERO 403-3 Counselling with Older Adults
GERO 411-3 Health Promotion and Aging
GERO 407-3 Nutrition and Aging

Curriculum and Description

There are five components to the program: core courses, required courses for each concentration, electives, project or thesis, and internship.

Students must complete six courses: two core courses, two required courses from the chosen concentration, and two electives. They must also complete a project. Under special circumstances, students may complete a thesis in lieu of the project (see Project or Thesis Option below).

Core Courses

These courses will be required of all students.
GERO 801-4 Health Policy and Applied Issues in Gerontology
GERO 802-4 Development and Evaluation of Health Promotion Programs for Older Persons

Students who complete a thesis will also complete the following course or any other approved graduate research methods course (see Project or Thesis Option below).

SA 857-5 Research Design Seminar

Areas of Concentration Requirements

These courses are required of students within each concentration.

Aging and the Built Environment

GERO 810-4 Community Based Housing for Older People
GERO 811-4 Institutional Living Environments

Health Promotion/Population Health and Aging

GERO 820-4 Principles and Practices of Health Promotion
GERO 821-4 Epidemiology of Aging

Elective Courses

Students may fulfill elective credit requirements by selecting from the following courses, completing required courses from another gerontology concentration, or from outside the program if approved by the student’s graduate advisory committee.

GERO 830-4 Human Factors, Technology and Aging
GERO 889-4 Directed Studies
GERO 898 MA Project
GERO 899 MA Thesis
SA 886-5 Selected Problems in Social Analysis*

*when offered as Social Policy in a Changing Society

Project or Thesis Option

All students will be initially admitted into the project stream. Students will normally present a written project proposal to a faculty member chosen as a supervisor. After consultation with the project supervisor, a second member is selected to complete the supervisory committee. Examples of projects include: evaluation of programs for older adults; design and implementation of environments or services for elderly persons; and analyses of secondary data. A project report will be evaluated by the supervisory committee and a qualified external reader. The project requirement must meet the guidelines set out in the Graduate General Regulations.

A small number of highly qualified students who wish to prepare for advanced graduate training may be permitted to elect a thesis option after one semester in the program. Students allowed to complete a thesis will replace the two elective courses with SA 857 (or any other approved graduate research methods course). The thesis will provide an opportunity for students to undertake a focused research study 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 set out in the Graduate General Regulations.

Internship

Students lacking prior or concurrent 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 healthy aging.

GERO 810-4 Community Based Housing for Older People

This course presents an indepth examination of theory, research and policy relevant to planning, developing and managing housing for independent and semi-independent older adults.

GERO 811-4 Institutional Living Environments

This course focuses on design issues, theory, research and policy relevant to planning, developing and managing institutional living environments for dependent adults.

GERO 820-4 Principles and Practices of Health Promotion

This course is designed to cover and critically evaluate concepts, models and theories of health promotion and wellness in the aging population. These methods of implementation will be discussed in relation to individual and structural health system issues facing the aged.

GERO 821-4 Epidemiology of Aging

This course is required for students in the health promotion and aging concentration. It examines epidemiological methods and approaches to the study of aging and the care of the aged. Students will survey and critically evaluate current epidemiological literature addressing health and health care issues associated with individual and population aging.

GERO 830-4 Human Factors, Technology and Safety

This course covers theoretical, research and industry literature pertaining to designing home, work, institutional and public environments that are

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Regulations.
ergonomically functional, safe, and satisfying to the older adult.

**GERO 889-D Directed Studies**
This course consists of supervised readings in a particular field of specialization relevant to the selected area of concentration.

**GERO 880-0 MA Project**
**GERO 890-0 MA Thesis**

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**Department of History**

Chair
W.L. Cleveland BA (Dartmouth), MA, PhD (Prin)
Graduate Program Chair
J.I. Little BA (Bishop’s), MA (New Br), PhD (Ott)

**Faculty and Areas of Research**
For a complete list of faculty, see History undergraduate section.

- L. Armstrong – Italian Renaissance
- R.E. Boyer – Latin America
- W.L. Cleveland – Middle East
- J.S. Craig – 16th and 17th century British
- C.R. Day – social/Canada
- R.K. Debo – Russia
- P.E. Dutton – ancient and Medieval
- C.I. Dyck – modern Britain
- M.D. Dellman – United States
- K. Ferguson – 20th century United States
- D. Gagan – hospitals, health care, social classes
- H. Gay – history, philosophy of science
- A. Gerolymatos – Greece and Balkans
- J.F. Hutchinson – social, Russia
- E.R. Ingram – diplomatic, British India
- H.J.M. Johnston – Canada
- J.M. Kitchen – Germany, Socialism
- M. Leier – Canada, labor
- J.I. Little – Canada, French Canada
- T.M. Loo – Canada, law
- D. MacLean – Middle East, Islam, India
- H. Pabel – early modern Europe
- J. Parr – Canada
- M. Prokopow – Anglo-Atlantic colonial world
- D. Ross – Africa
- A. Seager – Canada, labor
- J.P. Spagnolo – Middle East, imperialism
- M.L. Stewart – Europe, social, women’s studies
- J. Stubbs – modern Britain

**Areas of Study**
The Department of History offers opportunities for graduate research leading to the MA and PhD degrees. The major areas of study are Canada, Europe, colonialism and imperialism, the Middle East, the Americas, and Africa. Only those students who wish to specialize in one of the specific fields covered by the list of courses in the case of MA applicants, or PhD areas of specialization in the case of PhD applicants, will be considered for admission to the respective programs. The department reserves the right to accept candidates only when a qualified supervisor is available and the University resources (including library facilities) are deemed adequate for the student’s stated research priority.

**Admission of Graduate Students**
Admission for MA students will be in the fall semester only, and for PhD and part time MA students in either fall or spring semesters. Applications for fall admission should be completed by February 15 of the previous year. Applicants must submit a sample of their written work.

**MA Program**

**Conditions of Admission**
Candidates for the MA degree must satisfy the minimum entrance requirements set by the University: 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 will be assigned a provisional supervisor. For information about the supervisory committee see the Graduate General Regulations section. All candidates for the MA degree must satisfy the following minimum requirements, totalling 30 credit hours.

The Department of History offers a thesis option and a project option. For students choosing the thesis option, 20 semester hours must be in graduate courses in the department. Students choosing the project option will take 30 hours of coursework, (six courses of five semester hours each) of which 20 semester hours must be in graduate courses in the department. Normally, three seminars will be offered each fall and spring semester, including one in conjunction with the University of BC Department of History at our downtown campus. All students in Canadian history will be required to take HIST 806, another seminar of their choice and the research seminar HIST 814. All students in European history will be required to take HIST 810, another seminar of their choice, and the research seminar HIST 814. The remaining course or courses required to complete the degree will be offered as individual study courses (five semester hours each). In HIST 814 each thesis option student will be required to write a paper which will become the basis of his/her thesis prospectus. The thesis prospectus should present a coherent thesis topic and possible field of specialization. Each project option student will be required to write a short research paper which will become the basis of the required research project.

Students with significant financial support from fellowships, scholarships or teaching assistantships will be expected to take a full course load each semester. Those not receiving no financial aid from fellowships, teaching assistantships, etc. may be considered part time students and may take only one course per semester.

Students must complete a thesis of 10 credit hours with a maximum length of 100 pages, or a research project of approximately 35 pages. The student’s thesis/research project must demonstrate capability in scholarly research and procedures as well as independent critical thought. Before the beginning of the third semester, the thesis option student will defend his/her thesis prospectus before an examining committee made up of the supervisory committee and the chair of the graduate program committee, and the project option student will defend his/her research project.

**Language Requirements**
Students will be required to 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. Ability will be 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 the language requirements.

**PhD Program**

**General**
Prospective candidates for the PhD degree should be 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 his/her ability to think critically; and for his/her power to analyse and co-ordinate problems and data from allied fields of study.

A student ordinarily will be admitted to the PhD program after completion of an MA or its equivalent. Applicants with a BA applying directly to the PhD program must have at least a 3.5 GPA or its equivalent. Candidates for the MA degree at Simon Fraser University, may, in exceptional circumstances, be admitted into the PhD program without completing the requirements for an MA, if they have completed 20 hours of course work. Admission from the MA program will be contingent upon a distinguished level of performance, recommendation of directing faculty, scholarly potential, and the available resources of the department.

**Programs of Study**
Upon admission into the graduate program in history, each student will be assigned a faculty supervisor. For information on supervisory committees see Graduate General Regulations. The supervisory committee and the student will determine three fields of study, at least two of which will be chosen from the list printed 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 upon a general list of readings of approximately 45 books (or the equivalent) in each field. Copies of these reading lists must be submitted to the chair of the graduate program committee by the beginning of the second semester. The graduate program committee will approve these lists and place 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. Comprehensive examinations will be based on the reading lists. Comprehensive examinations will be offered twice a year, in the first half of the fall and spring semesters. Written examinations will be administered in weeks five and six of the semester; oral examinations will be scheduled in weeks six through seven of the same semester. Students who miss the first round 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 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 as a whole after the completion of the oral examination. A student who fails at this stage will not be allowed to continue in the program.

**PhD Fields**
Canadian social and cultural history
Canadian political and economic history
gender and history
rural history
Medieval Europe
France since 1789
Germany since the 18th century
Russia since Peter the Great
the British Isles since 1485
European international relations since the early 19th century
European social history
European cultural history
European intellectual history
Great Britain as a great power since 1763
state and society in the nineteenth century Ottoman empire
state and society in the twentieth century Middle East
the Middle East in the international system
the geopolitics of the Indian empire
Islamic India
sub-Saharan Africa since 1800
European settlement in Africa
United States to 1890
United States since 1890
United States cultural history 1830-1890
colonial Latin America
Latin America since Independence

The following courses will normally be offered as directed readings, as faculty availability permits.

HIST 805-5 Western Canada
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 826-5 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 20th Century Middle East
HIST 854-5 Imperialism in the Middle East
HIST 863-5 Colonial Administration in Africa
HIST 864-5 Tropical Africa
HIST 866-5 European Settlement in Africa
HIST 870-5 Culture and Society in China
HIST 871-5 Culture and Society in India
HIST 881-5 Great Britain as a Great Power Since 1763
HIST 889-5 The History of Anthropology
HIST 891-5 The French Experience in North America
HIST 897-5 Supervised Readings

Thesis and project courses follow.

HIST 898-0 MA Thesis
HIST 899-0 PhD Thesis
HIST 900-0 Research Project

Latin American Studies Program

Graduate Program Chair
G. Otero BA (Monterrey), MA (Tex), PhD (Wis)

Faculty and Areas of Research
M. Escudero-Faust – Spanish literature, 17th century colonial literature, Spanish and Latin American modern theatre
G. Otero – political sociology; sociology of agriculture; science, technology and society; Mexico
G. Spurling – anthropology, ethnohistory, the Andes, Canada and Latin America

Associated Faculty
R.E. Boyer, History
J.A.C. Brohman, Geography
A. Ciria, Political Science
M. Gates, Sociology and Anthropology

Changes are being considered that may significantly affect programs in Latin American studies. Students contemplating entering one of the programs offered by this program are advised to check with the graduate secretary regarding the status of the program in which they are interested. The graduate secretary may be contacted at (604) 291-4774.

Admission Requirements
Note: no admissions will be considered until the 1999 fall semester.

 Applicants must satisfy the Latin American studies graduate program committee that they are well prepared academically to undertake graduate level work in Latin American studies. In addition to the University requirements (see General Regulations), the program requires:

• a sample of the candidate’s scholarly work, preferably with a Latin American focus (ie. 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 American, and/or first hand field experience.

Students are reminded that acceptance into the MA program is conditional on the availability of a senior supervisor who may be selected only from Latin American studies and/or associate faculty.

MA Requirements
The student must complete the following minimum requirements.

• Four graduate courses from the course offerings of the Latin American studies program itself, or graduate courses in related disciplines that have been designated by the department as having full Latin American content, or more broadly listed graduate courses in related disciplines that on occasion are specifically focused on Latin America by a particular instructor. Credit for the latter courses is subject to approval by the student’s supervisory committee. One of these four courses must be LAS 800 which will be offered yearly. The remaining courses must be approved by the student’s supervisory committee.

• A written thesis proposal. All students are required to present a written thesis proposal to their senior supervisor which will be examined in an oral defence by the student’s supervisory committee prior to further work on the thesis. The prospectus will normally be defended by the fourth semester in the graduate program.

• A thesis (10 credit hours) giving evidence of independent research and critical abilities. The completed thesis shall 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 courses may be acceptable for inclusion in the Latin American studies MA program. Students should note that permission may be required from the departments in which these courses are offered and that some courses may require prerequisites.

GEOG 845-5 Geography, Development Theory and Latin America
HIST 845-5 Latin America to 1825
HIST 846-5 Latin America since 1825

In addition, some more broadly listed course may be acceptable for inclusion in the Latin American studies MA program if they are focused on Latin America. However, credit for these courses is subject to their designation as full content Latin American courses by
the Latin American studies graduate program committee. Some of these courses are:

- CMNS 845-5 Communication and International Development
- ECON 855-4 Theories of Economic Development
- GEOG 738-4 Resources and Environmental Issues in the Growing World Production
- GEOG 740-4 Geography and the Third World
- GEOG 745-4 Multinational Corporations and Regional Development
- HIST 882-5 Conceptions of Colonialism and Imperialism
- 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 doctoral program in Latin American studies may apply under the Special Arrangements provisions of the Graduate General Regulations section 1.3.4.

Graduate Courses

LAS 800-5 Foundations of Latin American Society and Culture

An annual interdisciplinary seminar taught by selected Latin American studies faculty examining core theoretical and substantive themes in Latin America.

LAS 810-5 Latin America: Development Theory in Transition

An examination of models of social change as applied to the Third World in general and Latin American in particular and the relation of these theories to contemporary strategies of development.

LAS 811-5 Latin America and US Foreign Policy

An analysis of 20th century US policies toward Latin America from both North American and Latin American perspectives.

LAS 812-5 Indigenism in Latin America

A multidisciplinary analytical perspective of cultural duality and its socio-political implications in contemporary Latin America.

LAS 813-5 Agrarian Structure and Political Power

Theories and case studies of agrarian structures, peasant movements, and state intervention in Latin America.

LAS 830-5 Literature and Ideology

Analytical study of ideology in contemporary Latin American literature; form and content.

LAS 831-5 Colonial Discourse

Introduction to the discourse of the conquest, colonial and early independence periods.

LAS 850-5 Selected Topics in Latin American Studies

Course content will vary according to the particular topic and the faculty that will be teaching the course.

LAS 851-5 Directed Readings I 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 852-5 Directed Readings II 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, glsp@sfu.ca E-mail

Director

D. Zapf BMus (III), MA (Vic, BC)

Graduate Program Chair

R.L. Koepke BA (Iowa), MA, PhD (Stan)

Steering Committee

E. Alderson, Contemporary Arts
J.L. Berggren, Mathematics and Statistics
S. Duguid, Liberal Studies, Humanities
M.D. Fellman, History
R.L. Koepke, History
G. Merler, French
A.C. Paranjpe, Psychology
M. Selman, Continuing Studies, Humanities
J. Sturrock, English
S. Wendell, Women's Studies
D. Zapf, Arts

This program, which leads to the degree of master of arts, liberal studies, is designed for adults returning to study on a part-time basis. The program is offered at the University’s Harbour Centre campus during evening and weekend hours.

In the best tradition of liberal education, the program addresses some of the great works of our intellectual and artistic heritage, studies the perennial concerns that have shaped our culture, and explores contemporary perspectives on traditional ideas and values. Small, interdisciplinary seminars provide the opportunity for wide reading, careful reflection, and intense discussion. They are taught by Simon Fraser University faculty chosen for their expertise and teaching excellence, and for their interest in interdisciplinary studies.

Admission

Applicants must satisfy the liberal studies graduate program committee of academic suitability for the program. In addition to fulfilling the normal graduate admission requirements, prospective students must demonstrate readiness for the program through letters of reference, samples of written work, and normally an interview. Exceptionally, the graduate program committee may recommend for admission applicants who do not meet normal requirements, but who by reason of prior experience, strong interest, and demonstrated competence are particularly suited to the program.

Degree Requirements

Students are required to complete six seminar courses, and to submit a) two extended essays for oral examination or b) one project for oral examination or c) complete two additional courses and write a field examination based on material covered in three completed courses. Two of the six required courses are core courses, which normally must be completed in the first two semesters of attendance (LS 800 and 801). The remaining four courses may be selected from among those offered within the program. Students may enrol for one or two courses per semester. Exceptionally, and by agreement of both the graduate program committee and the department involved, a student may be permitted to take one graduate course in another department toward the liberal studies degree.

The extended essays will normally be developed from papers completed for course work. The project, which may make significant use of non-written media, will also be developed from work done in the courses. They will be examined as for the examination of a master’s thesis under 1.10.1 of the Graduate General Regulations. One of the two additional courses under (c) above must be LS 898 and the other may be any course offered by the program other than LS 998 or 999. Preparation for the field examination will be undertaken on the advice of the supervisory committee.

The liberal studies program is designed for students who seek educational breadth at the graduate level. It emphasizes a community of inquiry and discussion over independent research. For this reason, the program entails several special expectations, within the general regulations for graduate study at Simon Fraser University.

Students admitted to the program are required to attend an introductory short-course conducted prior to the beginning of the first core course in the fall semester.

Supervisory committees will be arranged by the chair of the graduate program committee. By approval of the dean of graduate studies, the supervisory and examination process for the extended essays or project requirement may be modified to emphasize collegial exchange.

Students should expect to participate in out-of-class activities, such as pre-class dinners, that are designed to encourage interchange among the participants, and to enhance a sense of intellectual community.

Because the program is designed for individuals having other obligations, and who may for that reason require greater or lesser amounts of time to complete the program, the program has been approved for part-time study. See 1.4.5 of the Graduate General Regulations.

Liberal Studies Courses

Liberal studies courses are designed as intensive seminar courses. The two core courses, LS 800 and 801, will develop a common base of readings for all students in the program. The other six regularly offered seminar courses may vary considerably in approach and in specific content on each occasion of their offering. Each of them, however, 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 the courses are cross-disciplinary in orientation and may draw on faculty from across the University to contribute expertise to the discussions.

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 who on various grounds have cast doubt on this faith in human reason.

LS 810-5 Self and Society

This course will examine some aspects of the relationship between selfhood, as idea and experience, and social organization. Approaches to the topic will vary, but may involve scientific, social scientific, philosophical and aesthetic perspectives.

LS 811-5 Tradition and Modernity

This course will examine ways in which ideas of tradition and traditional societies 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 value implications of science and technology in relation to other forms of human understanding and experience.

LS 813-5 Religious and Secular World Views
This course will deal with the conflicts and continuities of secular and religious approaches to such fundamental issues as the origins of the universe and of the human species, human virtue, and human destiny.

LS 814-5 Liberty and Authority
This course will examine the tension between liberty and authority as expressed in some of the following: political and judicial ideas and systems; conflicting economic ideologies; personal relationships.

LS 815-5 Organizing Social Realities: Gender, Class, Race, Nation
This course will examine how distinctions among people create pattern and conflict, by studying some of the fundamental organizing concepts of society which both unite and divide people.

LS 819-5 Selected Topics
This course provides an opportunity for the occasional offering of a seminar course appropriate to the program but on a topic outside the regular courses.

LS 829-5 Directed Study
This course provides an opportunity for individual study on a topic of the student’s choice, under the guidance of one or more faculty. Arrangements for this course must be approved by the graduate program committee in advance of registration.

LS 898-5 Graduating Seminar
The final seminar for those students in the graduate liberal studies program pursuing the course option MA. The seminar will revisit the themes raised in the two opening core seminars (LS 800 and 801).

LS 898-0 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 899-0 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.

LS 996-4 Directed Research
Many courses are available for graduate study. Please consult the Department of Linguistics for a complete list.

PhD
Admission
Students will have to demonstrate a substantial background in linguistics. It is normally not possible to gain direct admission to the PhD program without an MA in linguistics, or the equivalent.

For general admission requirements, refer to the Graduate General Regulations section (1.).

Areas of Specialization

Credit and Research Requirements
These requirements are to be satisfied beyond the MA course requirements. Students may be required to take specified courses from the MA program requirements as a condition of admission to the PhD program.

Course Work
Students complete at least 16 credit hours of Linguistics courses, approved by the supervisory committee.

Thesis Proposal
Each candidate is required to develop a research proposal for a thesis based on original research. The proposal will define the intended research and the relationship between it and existing scholarship. The proposal will be presented to the supervisory committee for approval and presented as a colloquium.

PhD Thesis
Students must complete the thesis in accordance with regulations.

Language Requirements
Candidates are required to 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 will determine how the student is expected to demonstrate this linguistic competence.

Graduate Courses
LING 800-4 Phonology
LING 801-4 Syntax
LING 802-4 Semantics
LING 803-4 Theory
LING 804-4 Field Methods
LING 805-4 Historical and Comparative Linguistics
LING 806-4 Sociolinguistics
LING 807-4 Computational Linguistics
LING 808-4 History of Linguistics
LING 809-4 Morphology
LING 810-4 Topics in Linguistics I
LING 811-4 Topics in Linguistics II
LING 812-4 Topics in Linguistics III
LING 813-4 Topics in Linguistics IV
LING 820-4 Formal Linguistics
LING 821-4 Phonetics
LING 850-4 Psycholinguistic Aspects of Language Learning
LING 851-4 Research Techniques and Experimental Design
LING 855-4 Applied Linguistics
LING 896-4 Directed Research
LING 897-4 Research Seminar
LING 898-0 MA Thesis
LING 899-0 PhD Thesis
Department of Philosophy

Chair
J.H. Tietz BA (Pacific Lutheran), PhD (Claremont)
Graduate Program Chair
P.P. Hanson BA (Calg), MA, PhD (Prin)

Faculty and Areas of Research
For a complete list of faculty, see Philosophy undergraduate section.

K. Akins – philosophy of mind, philosophy of perception, philosophy of the cognitive sciences
S. Black – social and political philosophy, ethics, history of 17th century philosophy
S. Davis – philosophy of language, philosophy of mind
M. Hahn – philosophy of mind, philosophy of language, history of early analytic and continental philosophy
P.P. Hansen – epistemology, philosophy of language, philosophy of science, philosophy of mathematics, philosophy of mind
P.T. Horban – philosophy of religion
R.E. Jennings – modal logic, conditional logic, philosophy of language
B.T. Ramberg – philosophy of language, continental philosophy, philosophy of mind
J.H. Tietz – metaphysics, history of modern philosophy, history of 19th century German philosophy
D. Zimmerman – ethics, social and political philosophy, philosophy of mind, medical ethics

The philosophy departments of Simon Fraser University and the University of British Columbia cooperate in the administration of their graduate programs. A student enrolled in a graduate program at SFU is supervised by a member of the SFU department, but may count graduate courses at UBC toward degree requirements and have members of the UBC department as other members of a supervisory committee. Since Simon Fraser University operates on a trimester system, and the University of British Columbia on a sessional system, the language adopted for descriptions of course requirements is intended to be neutral as between the two systems. Thus, in what follows, ‘course’ means ‘semester course’ or ‘one term course.’

Application Procedures
The philosophy departments of Simon Fraser University and the University of British Columbia cooperate in the administration of their graduate program applications. Prospective applicants are sent application forms for both universities and may submit them to one or both departments. Applicants who apply to both universities may indicate a preference to enrol at one of them. Applicants who wish to be considered by both departments are asked to submit applications and supporting documents to each department.

Application Fee
An application fee of $55 is charged.

MA Program

Admission
In addition to meeting the minimum university admission requirements (see the Graduate General Regulations section), an applicant for a master’s degree normally must hold, from a recognized university, an honors bachelor’s degree with a cumulative grade point average of 3.33 or a bachelor’s degree with a grade point average of 3.5 in third and fourth year philosophy courses, and must submit references from qualified referees.

A student whose undergraduate work does not satisfy the above conditions may be required to complete additional undergraduate courses as a part of a graduate program, or to register as a qualifying student before consideration for admission to the MA program.

Degree Requirements
A candidate for the MA degree in philosophy must
• complete six courses, one of which may, with permission of the graduate studies committee, be a 300 or 400 level undergraduate course, and the rest graduate courses
• show competence in such foreign languages as the graduate studies committee determines to be required for the proposed research.
• have or acquire competence in formal logic at the level of PHIL 214, or higher when relevant to his or her research.
• either
• submit and successfully defend a thesis, normally no more than 100 pages in length, giving evidence of independent critical ability
or
• complete two additional courses, one of which is an individual directed studies course with the senior supervisor in which the student will review, analyze and revise a paper from a previously completed graduate course to a standard suitable in form and content for submission to a professional journal.

The resulting paper normally shall not exceed 30 pages.

The student must also
• normally attain a cumulative GPA of 3.5
• pass a final examination in which the paper produced in the individual studies course is evaluated and approved by the supervisory committee as conforming to the standard set out above.
• submit and successfully defend a thesis embodying original philosophical research.

Students in the PhD program are required to write and defend a thesis embodying original philosophical research.

PhD Program

Admission
Applications for the PhD degree must have completed
• a bachelor’s degree with first class honors (and a CGPA of 3.67 or equivalent in philosophy courses), or
• a master’s degree (or equivalent), or
• a bachelor’s degree with one year of study in a master’s program, four graduate courses with a CGPA of 3.67 and clear evidence of research ability.

Students entering directly from the bachelor’s degree must, during the first year of graduate study, complete six courses with a CGPA of at least 3.33.

Examinations
Students are required to pass a comprehensive examination, normally by the end of the first semester of the third year of registration in the program. Upon successful completion of the comprehensive exam and an approved thesis proposal, a student is admitted to candidacy for the PhD degree.

Language Requirements
Students are required to demonstrate such competence in foreign languages as the graduate studies committee deems essential to the successful completion of their proposed research.

Formal Logic Requirement
In addition to other course requirements, students are required to either have or acquire competence in formal logic at the level of PHIL 214, or higher when considered relevant to their research.

Thesis Proposal and Seminar
Before the end of the first semester of the third year, a PhD candidate must submit a thesis proposal for approval of an examining committee consisting of the student’s supervisory committee and one further member of the combined graduate department. The proposal must give evidence that the student is acquainted with the literature in the area of the proposed research and must represent a well defined program of investigation.

Before the end of the second semester of the third year, the candidate must make a presentation to a colloquium of faculty and graduate students of the combined department on the subject of the proposed research.

Thesis
Students in the PhD program are required to write and defend a thesis embodying original philosophical research.

Graduate Courses
Courses in the 700 range are offered at the University of British Columbia. The UBC number is given in parentheses. Simon Fraser University students enrolling in these courses register in the course at SFU under the 700 number and enrol in the course at UBC under the UBC number.

Registration must be approved by the department’s graduate studies committee.

PHIL 710-3 [510 (3-12) d] Ancient Philosophy
PHIL 712-3 [512 (3-12) d] Medieval Philosophy
PHIL 714-3 [514 (3-12) d] Early Modern Philosophy
PHIL 716-3 [516 (3-12) d] Modern Philosophy
PHIL 718-3 [518 (3-12) d] 20th Century Philosophy
PHIL 720-3 [520 (3-12) d] Logic
PHIL 725-3 [525 (3-12) d] Philosophy of Language
PHIL 727-3 [527 (3-12) d] Philosophy of Mathematics
PHIL 728-3 [528 (3-12) d] Foundations of Mathematics
PHIL 730-3 [530 (3-12d)] Moral Philosophy
PHIL 731-3 [531 (3-12d)] Political Philosophy
PHIL 732-3 [532 (3-12d)] Ethical Theory and Practice
PHIL 733-3 [533 (3-12d)] Issues in Biomedical Ethics
PHIL 734-3 [534 (3-12d)] Issues in Business and Professional Ethics
PHIL 735-3 [535 (3-12d)] Issues in Environmental Ethics
PHIL 736-3 [536 (3-12d)] Ethical Issues in Social Policy
PHIL 739-3 [539 (3-12d)] Aesthetics
PHIL 740-3 [549 (3-12d)] Epistemology
PHIL 750-3 [550 (3-12d)] Metaphysics
PHIL 751-3 [551 (3-12d)] Philosophy of Mind
PHIL 760-3 [560 (3-12d)] Philosophy of Science
PHIL 761-3 [581–589 (3-12)d] Problems
PHIL 762-3 [581–589 (3-12)d] Problems
PHIL 783-3 [581–589 (3-12)d] Problems
PHIL 784-3 [581–589 (3-12)d] Problems
PHIL 785-3 [581–589 (3-12)d] Problems
PHIL 786-3 [581–589 (3-12)d] Problems
PHIL 787-3 [581–589 (3-12)d] Problems
PHIL 788-3 [581–589 (3-12)d] Problems
PHIL 789-3 [581–589 (3-12)d] Problems

Courses in the 800 range are offered at Simon Fraser University.

PHIL 800-5 Graduate Seminar in Epistemology I
PHIL 801-5 Graduate Seminar in Epistemology II
PHIL 805-5 Directed Studies I
PHIL 810-5 Graduate Seminar in Ethics I
PHIL 811-5 Graduate Seminar in Ethics II
PHIL 815-5 Directed Studies II
PHIL 820-5 Graduate Seminar in Philosophy of Mind I
PHIL 821-5 Graduate Seminar in Philosophy of Mind II
PHIL 825-5 Directed Studies III
PHIL 830-5 Graduate Seminar in Aesthetics
PHIL 840-5 Graduate Seminar in Logic
PHIL 845-5 Directed Studies IV
PHIL 850-5 Graduate Seminar in Philosophy of Language
PHIL 855-5 Directed Studies V
PHIL 860-5 Graduate Seminar in Philosophy of Science
PHIL 870-5 Graduate Seminar in Philosophical Texts I
PHIL 871-5 Graduate Seminar in Philosophical Texts II
PHIL 880-5 Graduate Seminar in Social Philosophy
PHIL 890-0 MA Thesis
PHIL 998-0 PhD Thesis

Graduate Arts – Political Science 311

Department of Political Science
Chair
L.J. Erickson BA, PhD (Alta)
Graduate Program Chair
A. Moens BA (Lethbridge), MA (McM), PhD (Br Col)
Faculty and Areas of Research
For a complete list of faculty, see Political Science undergraduate section.
J. Busumtwi-Sam – international organization and law, conflict management, political economy
A. Ciria – comparative government and politics – Latin America, political theory
L.J. Cohen – comparative government and politics – Soviet Union and Eastern Europe
M.G. Cohen – public policy, women’s studies, economics
T.H. Coie – international relations, Canadian foreign policy
M.A. Covell – comparative ethnic conflicts, African politics, comparative federalism
L. Dobuzinskis – public policy/administration, philosophy of the social sciences, Quebec politics
J.L. Erickson – Canadian politics, political behavior, women and politics, parties
A. Heard – Canadian judicial and constitutional issues, comparative human rights
M. Howlett – public administration and policy, Canadian government and politics
T. Kawasaki – Japanese politics and foreign policy, international relations, theory and international relations in the Asia-Pacific region
D. Laycock – political philosophy and public administration/policy, Canadian government and politics
S. McBride – Canadian politics – public policy, political economy, federalism, comparative public policy
P. Meyer – East Asian international relations, Society and Russian foreign policy, comparative foreign policy
A. Moens – international relations, comparative politics, US politics
D.A. Ross – international relations, strategic studies
P.J. Smith – public policy/administration, Canadian and comparative local government, Canadian government and politics, federalism
P.V. Warwick – research methods, comparative government – Western Europe

Areas of Study
political theory
Canadian government and politics
comparative government and politics
international relations
public administration and public policy

Admission
For general admission requirements refer to the Graduate General Regulations section.

In addition, the department requires students to submit written statements of their current interests and proposed areas of research.

Applications for graduate work will be considered, by and large, with reference to the manner in which the proposed area of the candidate’s research coincides with the teaching and research interests of the faculty.

To 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 degree program may be completed in one of two ways: through a course intensive option or a thesis option. Students are admitted to the course intensive MA program and require the approval of the chair of the graduate program to transfer to the thesis stream.

To fulfill the requirements of the course intensive stream, students must complete POL 801 plus five additional courses from at least two of the five fields of study offered by the department. Students also must pass two written examinations: one in their major and one in their minor field of study.

Upon enrolment, students are assigned a two member advisory committee which has the responsibility for determining, in consultation with the student, the proposed program of study and for ensuring that the student fulfills all degree requirements. The advisory committee must approve all course choices and the selection of the student’s major and minor fields of study.

The advisory committee shall serve as the nucleus of the field examination committee. In consultation with the student, the advisory committee will be expanded to include examiners if necessary.

Any student who fails one of the field examinations, and one only, will be given one opportunity to retake the failed field examination.

Students who wish to transfer to the thesis stream must have the approval of the graduate chair. To be considered for admission to the thesis stream, students must submit first to the thesis supervisory committee and then to the appropriate field committee a thesis proposal outlining a brief summary of the topic, its relevance, the methodology to be followed in the investigation and a chapter by chapter outline of the thesis, a timetable for thesis completion and a select bibliography. The thesis proposal must be approved by the thesis supervisory committee and by the appropriate field committee.

Students in the thesis stream must complete four courses: POL 801 plus three additional courses from at least two of the five fields of study offered by the department. Students also must write a thesis, normally 18,750-25,000 words in length (plus bibliography) and defend it in an oral defence.

PhD Program
Prospective candidates are advised that the department offers specialized research resources in the fields of Canadian politics and public policy, Comparative politics, and international relations with a focus within each field on issues of political economy, public policy and governance. However, the department may offer opportunities for advanced study in other fields of political science, subject to the availability of faculty research expertise.

Admission
In addition to the minimum admission requirements (Graduate General Regulations 1.3.3), the department also requires a completed MA in political science normally with a minimum 3.67 GPA in graduate courses taken towards the MA degree. A written statement of current research interests indicating two areas of proposed specialization, three letters of reference from qualified referees, and a sample of the candidate’s written work are also required. How well the proposed research of the applicant coincides with the department’s focus on political economy, public policy and governance is an important consideration for admission. Any deficiencies in a student’s background must be met by taking appropriate courses in addition to work normally required for the PhD.

Applications for admission are reviewed once each year by the department graduate studies committee. The program commences in September.

Supervisory Committee
In accordance with Graduate General Regulation 1.6, upon admission into the program, the departmental graduate studies committee shall assign a senior supervisor and two second supervisors to each student. This supervisory committee shall be responsible for monitoring, aiding and evaluating the student’s progress through the PhD program. Each supervisory committee will be structured to reflect the department’s focus on issues of political economy, public policy and governance and to ensure that these constitute an integral part of each student’s studies.

Program Requirements
The program leading to a political science PhD degree consists of 30 credit hours of graduate work...
The thesis should not be more than 300 pages in length 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 and 1.10.

Performance Evaluation
In accordance with Graduate General Regulation 1.8 the progress of each student towards the PhD degree shall be reviewed periodically by the graduate studies committee. At least once each year, the student’s supervisory committee shall submit a written report on the student’s progress to the graduate studies committee to aid its deliberations. Students judged to have maintained unsatisfactory progress by the graduate studies committee may be asked to withdraw from the program.

Time Limits
Although Graduate General Regulation 1.12 establishes an eight year time limit for the PhD, it is the expectation of the department that the PhD program may be completed within three to five years of entrance.

Graduate Courses
POL 801-5 The Scope and Methods of Political Science
Students with credit for POL 813 may not take this course for further credit.

POL 829-5 Internship
POL 890-0 PhD Seminar
POL 891-0 Master’s Seminar
POL 893-5 Readings in Political Science
POL 894-5 Readings in Political Science II
POL 896-0 PhD Comprehensive Exam
POL 897-0 Field Examinations in Major Areas of MA Concentration
POL 898-0 Master’s Thesis
POL 899-0 PhD Thesis Research

Political Theory
POL 812-5 Political Theory
POL 814-5 Normative Political Theory

Canadian Government and Politics
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

Comparative Government and Politics
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 Governments and Politics of Industrialized Countries
POL 839-5 Government and Politics of Developing Countries

POL 861-5 Issues in Political Development

Students with credit for POL 857-5 may not take this course for further credit.

International Relations
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

Public Administration and Public Policy
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 Classroom Complex, (604) 291-3354 Tel, (604) 291-3427 Fax, http://www.sfu.ca/psychology

Chair
S.D. Hart BA, MA, PhD (Br Col)

Graduate Program Chair
W.R. Krane BA (Windsor), MA, PhD (York)

Faculty and Areas of Research
For a complete list of faculty, see Psychology undergraduate section.

B.K. Alexander – psychology of addiction, history of psychology, temperament mentality

E.W. Ames – infant development, development of information aids

K. Barholomew – adult attachment, parent-child relationships, intergenerational transmission of interpersonal patterns

B.L. Bayerstein – 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

E.M. Coles – psychopathology, classification and diagnosis, forensic issues

D.N. Cox – behavioral therapy, health psychology, sport psychology, psychology and law

M.C.B. Crawford – evolutionary psychology of anorexic behavior and sex biased parental investment in humans and animals

C.M. Davis – physiological, psychophysiology

R.J. Freeman – neuropsychology, experimental psychopathology, psychosomatics

S. Hart – psychology and law, psychopathy, mentally disordered offenders, violence predictions, wife assault, psychological assessment, models of personality and personality disorder.

P.K. Kerig – development, psychopathology, child and family relationships, marital discord and divorce, gender, cross-cultural research

M. Kimball – women and achievement, women and aging, women’s friendships, theories of gender

J.E. Koepke – infancy and early development, family development

R.F. Koopman – measurement, multivariate methodology, numerical methods

W.R. Krane – multivariate statistics, psychological scaling, measurement theory, experimental design

D.L. Krebs – moral development, altruism, self-serving cognitive biases

R.G. Ley – forensic psychology (criminal) PTSD adolescent psychopathology and delinquency, psychodynamic psychotherapy

M.D. Maran – personality measurement, statistics, philosophical underpinnings of empirical investigation

J.E. Marcia – psychosocial developmental theory, ego identity, psychotherapy

C.G. McFarland – social cognition, social memory, mood and social judgment, social comparison processes

R. Mistrberger – biological rhythms, sleep, feeding, physiological psychology

V. Modigliani – memory and cognition, evolution and development of language, learning, experimental

M.M. Moretti – self-representation and development, psychopathology in adolescents and adults, intergenerational transmission of psychopathology
J.R.P. Ogloff – psychology and law, including ethics, jury decision-making, forensic psychology, the insanity defence, jail mental health, and the impact of law on people
A.C. Parang – theoretical psychology, theories of person, self and identity, indigenous contributions to psychology from Eastern intellectual traditions, theories of prejudice and intergroup relations
G.D. Poole – psychological consequences of medical procedures and hospital stays, nonverbal behavior, social cognition, introductory psychology, social psychology, health psychology
R.M. Roesch – psychology and law, including forensic assessment, jail mental health, and competency to stand trial
J.N. Strayer – emotional and social-cognitive development, child psychopathology, empathy, developmental issues in childhood and adulthood
A.E. Thornton – adult clinical neuropsychology, neurocognitive models of memory and executive functions, encoding and retrieval processes in cognitively impaired patients
W. Turnbull – social psychological pragmatics, conversation analysis, social cognition
N.V. Watson – neural control of reproductive behavior, sexual differentiation, serotonin psychopharmacology, human neuropsychology, neuroendocrinology and animal behavior, psychology C.D. Webster – psychology and law, prediction of violence, forensic psychology, treatability, impulsivity, motivation
B.W.A. Whittlesea – cognition, memory, perception, concept formation, attention
R.D. Wright – visual attention, visual perception and motion perception

Associate Members
J. Anderson, Crawford Research Laboratory
R.R. Corrado, Criminology
B.M.F. Galdikas, Archaeology
A. Horvath, Education
R. Steinberg, Counselling
P.H. Winne, Education
R.C. Ydenburg, Biological Sciences

The Psychology Department offers graduate work leading to the MA and PhD degrees. Specialization is possible in three areas: experimental, clinical, and law and psychology. Students wishing to apply for admission to these programs should contact the graduate program assistant in the department for current application requirements. Students must submit the results of the graduate record examination aptitude and advanced test in psychology with their application.

Application and Admission Requirements
Applicants for the experimental, clinical, and law and psychology programs are admitted only in the fall semester. Students seeking admission must submit all supporting documentation in one complete package (i.e. completed application form, covering letter, official transcripts [one copy] of all post-secondary course work, three academic letters of reference, and the $45 application fee) by the preceding February 1st. GREs and TOEFL scores can be submitted separately. Application packages that are not complete will not be accepted. The department reserves the right to admit only those students for whom research space and appropriate faculty supervisors are available.
Applicants must have accumulated at least 24 credit hours of courses in the experimental areas of psychology and a course in statistics in order to apply for admission. Up to six hours of related courses deemed acceptable by the department may be counted towards the 24 hours of psychology.

For further admission requirements, refer to the Graduate General Regulations, and the psychology programs described below.

Application as Special Student
Admission requirements for special students are outlined in the Graduate General Regulations.

Application as a special student must be submitted to the graduate program assistant in the department. 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 graduate courses in psychology must obtain a minimum grade of B- in each course taken during a given semester in order to be admitted as a special student in subsequent semesters.

Supervisor
The department will appoint an initial faculty supervisor for each incoming student in his or her area of interest. Students must select a senior supervisor from the available faculty in the department by the end of their first semester.

Satisfactory Performance
The progress of each student will be assessed at least once a year. A student must maintain a grade point average of 3.0 (see Graduate General Regulations). In addition, a course grade of less than B is not considered satisfactory at the graduate level. Any student who obtains a grade of less than B in two or more courses may be required to withdraw from the program. MA students are expected to complete their MA thesis within two years of entrance to the MA program. PhD students are expected to complete their PhD thesis within four years of entrance to the PhD program.

Program in Experimental Psychology
The PhD program in experimental psychology provides students with specialized training in the areas of biological, cognitive, developmental, and social psychology. However, other programs may be tailored to meet the specific interests of individual students.

Admission
All applicants are required to submit scores on the graduate record examination (verbal, quantitative, analytical, advanced psychology sections), official transcripts, three letters of academic reference and a statement of purpose. Students admitted with a bachelor’s degree must complete the master’s program requirements (first two years) prior to admission to the PhD program. Students transferring from other graduate programs may petition the department for credit for equivalent courses.

Degree Requirements
Students admitted to the experimental program with a bachelor’s degree are required to achieve satisfactory performance in PSYC 824, PSYC 910, PSYC 911, and four subject courses, viz., PSYC 925, PSYC 950, PSYC 960, PSYC 980, and to complete an MA thesis (PSYC 898). In the first year of the program, students are expected to complete PSYC 824, 910, 911, and at least two of the four subject courses, and to initiate work in PSYC 898. The remaining subject courses and PSYC 898 should be completed in the second year. In addition, students may elect or be required by their supervisor to take other courses.

Experimental Graduate Program Course Table

<table>
<thead>
<tr>
<th>Year One</th>
<th>Fall</th>
<th>Subject Course(s)</th>
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<tbody>
<tr>
<td></td>
<td>PSYC 910-3 Research Design I: Experiments</td>
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<td>PSYC 911-3 Research Design II: Research Studies</td>
<td></td>
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<tr>
<td></td>
<td>PSYC 824-3 Research Issues in Psychology</td>
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</tr>
<tr>
<td></td>
<td>PSYC 898 MA Thesis</td>
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<td></td>
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<td>PSYC 824-3 Research Issues in Psychology</td>
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</tr>
<tr>
<td></td>
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<th>Subject Course(s)</th>
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<tr>
<td></td>
<td>PSYC 911-3 Research Design II: Research Studies</td>
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<td>PSYC 824-3 Research Issues in Psychology</td>
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<th>Subject Course(s)</th>
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<tr>
<td></td>
<td>PSYC 910-3 Research Design I: Experiments</td>
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</tr>
<tr>
<td></td>
<td>PSYC 911-3 Research Design II: Research Studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSYC 824-3 Research Issues in Psychology</td>
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<table>
<thead>
<tr>
<th>Year Five</th>
<th>Fall</th>
<th>Subject Course(s)</th>
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<tr>
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<td>PSYC 910-3 Research Design I: Experiments</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSYC 911-3 Research Design II: Research Studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSYC 824-3 Research Issues in Psychology</td>
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<table>
<thead>
<tr>
<th>Year Six</th>
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<tr>
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</tr>
<tr>
<td></td>
<td>PSYC 911-3 Research Design II: Research Studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSYC 824-3 Research Issues in Psychology</td>
<td></td>
</tr>
</tbody>
</table>

All subject courses, as well as all other courses numbered 915 or higher, will cover specific topics in depth within a general area, and may vary in content from year to year, reflecting the major issues in the different areas. For this reason, students may register for each course more than once. For example, PSYC 925 may appear three times on a transcript: once as PSYC 925 Cognitive Processes (Human Memory), again as PSYC 925 Cognitive Processes (Categorization Processes), and again as PSYC 925 Cognitive Processes (Problem Solving).

Note: Students are permitted to substitute for one, and only one, of the required MA subject courses. The substitute course must be a) another approved graduate course offered by the Department of Psychology, or b) an approved graduate course from another department or institution. Requests for substitution must be supported by the student’s senior supervisor, and must be submitted in advance for approval to the department graduate program committee.

After successful completion of these courses and the MA thesis, students may then be admitted to the PhD program. PhD students are required to take two subject courses (in addition to those taken for the MA degree), two offerings of PSYC 715 Proseminar in Measurement (including one on Psychometrics), comprehensive examinations and a doctoral dissertation. The required courses must be completed within two years of entrance to the PhD program. Normally, the two subject courses will be in the student’s area of specialization. Students admitted to the PhD program after having completed their MA at another university may be required to take additional courses, as specified by their supervisory committee.

Supervisory Committees
For the MA thesis, students must establish a supervisory committee before the end of their first semester in the program. The MA supervisory committee will consist of at least two faculty members from the Department of Psychology, one of whom will be the senior supervisor and chair of the
committee. 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 admission to the PhD program. Students are required to choose a faculty member in the Department of Psychology 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 a member of the Department of Psychology. One committee member must be able to act as advisor with respect to measurement and design aspects of the dissertation research.

MA Thesis
The master’s thesis is expected to be research of high quality. Ordinarily the research will involve the collection and analysis of empirical data. However, on occasion, non-empirical research of special merit will be accepted. In such cases, the graduate studies committee should be informed in writing of the intent. All students are required to present a written thesis proposal to their senior supervisor before the end of their fourth semester in the program. After the thesis has been submitted, an oral defence will be scheduled. This defence will focus on the problems, methods, results of the research, and the relation of its finding to major trends and current theoretical problems in psychology. Students are expected to have completed their MA thesis by the end of their second year in the program. For further information and regulations, refer to the Graduate General Regulations.

PhD Comprehensive Examination
A committee consisting of the candidate’s PhD supervisory committee and faculty members in areas related to the candidate’s major interests will set a written PhD comprehensive examination (PSYC 999) appropriate to the candidate’s particular program. The examination must be completed within two years of admission to the PhD program. It may be retaken only once.

PhD Dissertation
Before starting dissertation research, the candidate will present a formal proposal for evaluation. The presentation will be made at a meeting open to all members of the department. The candidate must present a dissertation proposal before the end of the third year in the program, and is expected to complete the PhD dissertation within four years of entrance to the program. The completed dissertation will be defended in oral examination. Judgement will be made by an examining committee. For further information and regulations, refer to the Graduate General Regulations.

Program in Clinical Psychology
The PhD program in clinical psychology is accredited by the Canadian Psychological Association and the American Psychological Association. It is based upon a scientific-professional model of clinical training.

Admission
All applicants are required to submit graduate record examination scores (verbal, quantitative, analytical, advanced psychology sections), official transcripts, three letters of academic reference and a statement of purpose. Top ranked candidates will be interviewed in person or by telephone prior to final selection. Students admitted with a bachelor’s degree must complete the master’s program requirements (first two years) prior to admission to the PhD program. Students transferring from other graduate programs may petition the department for credit for equivalent courses.

Degree Requirements
Requirements for completing the clinical program are summarized in the following course table. Students registered in the clinical program are required to complete satisfactorily the following: PSYC 602, 744, 770, 819, 822/823, 824, 880 (practical), 910, 911, and 898. Normally, students will complete these courses in the first two years of the program. After successful completion of the MA courses, students may then be admitted to the PhD program and complete the remaining three years of the program (see table). (Note: students will not be permitted to register in PhD course work beyond the fall semester of the third year of the program until the MA thesis is complete.) Students are required to enrol in PSYC 825 (ongoing clinical training) at least two out of three semesters or any semester in which they are involved in the Clinical Psychology Centre. General supervision of clinical students is exercised by the clinical program.

Clinical Psychology Program Course Table

### Year One

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>Fall</td>
<td>PSYC 744-5</td>
<td>Proseminar in Psychopathology</td>
</tr>
<tr>
<td>Fall</td>
<td>PSYC 820-6</td>
<td>Seminar in Individual Assessment</td>
</tr>
<tr>
<td>Spring</td>
<td>PSYC 821-4</td>
<td>Practicum in Individual Assessment</td>
</tr>
<tr>
<td>Fall</td>
<td>PSYC 825-2</td>
<td>Intervention (ongoing)</td>
</tr>
<tr>
<td>Spring</td>
<td>PSYC 820-6</td>
<td>Seminar in Individual Assessment</td>
</tr>
<tr>
<td>Summer</td>
<td>PSYC 821-4</td>
<td>Practicum in Individual Assessment</td>
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### Year Two

<table>
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<tbody>
<tr>
<td>Fall</td>
<td>PSYC 770-5</td>
<td>Proseminar in Personality Psychology</td>
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<td>Fall</td>
<td>PSYC 822-6</td>
<td>Seminar in Intervention</td>
</tr>
<tr>
<td>Spring</td>
<td>PSYC 823-4</td>
<td>Practicum in Intervention</td>
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<td>Fall</td>
<td>PSYC 825-2</td>
<td>Intervention (ongoing)</td>
</tr>
<tr>
<td>Spring</td>
<td>PSYC 822-6</td>
<td>Seminar in Intervention</td>
</tr>
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<td>Summer</td>
<td>PSYC 823-4</td>
<td>Practicum in Intervention</td>
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<tr>
<td>Summer</td>
<td>PSYC 890-3</td>
<td>Practicum (if not completed in year I)</td>
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### Year Three

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<thead>
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<tr>
<td>Summer</td>
<td>PSYC 715-1.5</td>
<td>Proseminar in Measurement (psychometrics)</td>
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<tr>
<td>Spring</td>
<td>PSYC 825-2</td>
<td>Intervention (ongoing) elective*</td>
</tr>
<tr>
<td>Spring</td>
<td>PSYC 715-1.5</td>
<td>Proseminar in Measurement</td>
</tr>
<tr>
<td>Summer</td>
<td>PSYC 825-2</td>
<td>Intervention (ongoing) elective*</td>
</tr>
</tbody>
</table>

### Year Four

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>Fall</td>
<td>PSYC 825-2</td>
<td>Intervention (ongoing) PhD proposal elective*</td>
</tr>
<tr>
<td>Spring</td>
<td>PSYC 825-2</td>
<td>Intervention (ongoing) elective</td>
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### Year Five

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<tr>
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</tr>
<tr>
<td>Spring</td>
<td>PSYC 886-9</td>
<td>Internship</td>
</tr>
</tbody>
</table>

*electives can be taken from existing courses in the department or, with prior permission, in other departments in this University or at other universities. The elective courses include the current advanced topics courses: PSYC 806, 807, 808, 809.

**two PSYC 715 courses are required at the PhD level; one must be in psychometrics.

Supervisory Committee
For the MA thesis, students must establish a supervisory committee before the end of the first semester in the program. The MA supervisory committee consists of at least two faculty from the Department of Psychology, one of whom will be the student’s supervisor and chair of the committee. Other faculty outside the department who are considered necessary by the student and senior supervisor may serve on the committee.

The PhD supervisory committee should be established by the end of the first semester following PhD program admission. Students must choose a faculty member in the Department of Psychology as the senior supervisor and chair of their supervisory committee and two or more additional members. At least one of the additional members must be members of the Department of Psychology. One committee member must be able to act as advisor with respect to measurement and design aspects of the dissertation research.

MA Thesis
The master’s thesis is expected to be a piece of research of high quality. Ordinarily the research will involve the collection and analysis of empirical data. However, on occasion, non-empirical research of special merit will be accepted. In such cases, the graduate studies committee should be informed in writing of the intent. All students are required to present a written thesis proposal to their senior supervisor before the end of the fourth semester in the program. After the thesis has been submitted, an oral defense will be scheduled. This defense will focus on the problems, methods, results of the research, and the relation of its finding to major trends and current theoretical problems in psychology. 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.

PhD Dissertation
Before starting dissertation research, the candidate will present a formal proposal for evaluation. The presentation will be made at a meeting open to all members of the department. The candidate must present a dissertation proposal before the end of the third year in the program, and is expected to complete the PhD dissertation within four years of entrance to the program. The completed dissertation will be defended in oral examination. Judgement will be made by an examining committee. For further information and regulations, see Graduate General Regulations.

Program in Law and Psychology
This program offers unique research and applied experiences in the growing field of law and psychology and is broken down into two streams: law and psychology stream and clinical forensic psychology stream. Although related in scope, course work and other requirements, the foci of the two streams are quite different.

Experimental psychology program students enrol in the law and psychology stream, and develop research and applied policy skills in law and psychology.
Clinical psychology students enrol in the clinical forensic stream and undertake specialized research and clinical training in forensic psychology.

Law and Psychology Stream
This stream is based on the traditional experimental psychology graduate training model which is enhanced with additional course work, research, and applied experiences.

Admission
Admission requirements are the same as those for the program in experimental psychology (see above).

Program and Requirements
Most of the requirements are the same as for the experimental program (i.e. course work, MA thesis, PhD comprehensive examination and PhD dissertation). In addition, students must complete PSYC 892 Research/Policy Practicum in Law and Psychology and PSYC 897 Research Project in Law and Psychology/Forensic Psychology. Also, an oral comprehensive examination must be taken prior to completion of the program requirements which are summarized in the table below.

After successful completion of MA courses and thesis, students may then be admitted to the PhD program. Those who completed their MA at another university may be required to take additional courses as specified by their supervisory committee.

Law and Psychology Stream Course Table

<table>
<thead>
<tr>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
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</thead>
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<td>fall</td>
<td>fall</td>
</tr>
<tr>
<td>PSYC 790-3 Proseminar in Law and Psychology</td>
<td>PSYC 990-3 Research Design I</td>
<td>PSYC 897-3 Research Project in Law and Psychology/Forensic Psychology</td>
<td>PhD proposal</td>
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<td>PSYC 892-15 Proseminar in Measurement (psychometrics)</td>
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<td>PSYC 893-3 Research Issues in Psychology</td>
<td>PSYC 893-3 Research Issues in Psychology</td>
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<td>PSYC 815-3 Mental Health, Law and Policy</td>
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<td>MA proposal</td>
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<td>subject course*</td>
<td>MA defense</td>
<td>MA defense</td>
</tr>
<tr>
<td>subject course*</td>
<td>subject course*</td>
<td>PSYC 815-3 Mental Health, Law and Policy</td>
<td>MA defense</td>
<td>MA defense</td>
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Year Three

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<tr>
<td>PSYC 892-15 Proseminar in Measurement (psychometrics)</td>
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<td>&quot;Research Design I&quot;</td>
<td>&quot;Research Design I&quot;</td>
</tr>
<tr>
<td>summer</td>
<td>summer</td>
</tr>
<tr>
<td>PSYC 896-3* Seminar in Law and Psychology</td>
<td>PSYC 898-3 PhD Thesis</td>
</tr>
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<td>PSYC 896-3* Seminar in Law and Psychology</td>
<td>PSYC 898-3 PhD Thesis</td>
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</tr>
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<td>PSYC 899 PhD Thesis</td>
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<tr>
<td>subject course*</td>
<td>subject course*</td>
</tr>
</tbody>
</table>

*three subject courses must be chosen from the following: PSYC 925, 950, 960, 980.
**these courses may be taken out of sequence, based on availability.

In addition to the above requirements, students are encouraged to complete their MA and PhD thesis in the area of law and psychology. Students may also wish to augment their training by completing courses in the School of Criminology at Simon Fraser University as well as the Faculty of Law at the University of British Columbia (by special permission).

Clinical Forensic Psychology Stream
This stream is based on the scientist-practitioner model and includes research, course work and practical training. The first two years of training are completed as part of the program in clinical psychology. After the completion of the MA program, students are admitted to the PhD program and complete courses in the clinical forensic stream. This stream may require an additional year to complete doctoral training.

Admission
Admission requirements are the same as those for the program in clinical psychology (see above).

Program and Requirements
After successful completion of MA courses and thesis, students may then be admitted to the PhD program. Those who completed their MA at another university may be required to take additional courses as specified by their supervisory committee.

Most of the program requirements are the same as for the clinical program (i.e. course work, MA thesis, PhD comprehensive examination and PhD dissertation). In addition, students must complete PSYC 892 Research/Policy Practicum in Law and Psychology and PSYC 897 Research Project in Law and Psychology/Forensic Psychology as part of the PhD program. Also, an oral comprehensive examination must be taken prior to completion of the program requirements which are summarized in the table below.

After successful completion of MA courses and the MA thesis, students are admitted to the PhD program. (Note: students will not be permitted to register in PhD course work beyond the fall semester of the third year of the program until the MA thesis is complete.) Students in the third year and beyond maintain a clinical case load and/or engage in other clinical work (e.g. program evaluation) under the supervision of clinical faculty.

Clinical Forensic Stream Course Table
Note: the first two years are completed as part of the program in clinical psychology.

<table>
<thead>
<tr>
<th>Year Three</th>
<th>Year Four</th>
<th>Year Five</th>
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</thead>
<tbody>
<tr>
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<td>fall</td>
<td>fall</td>
</tr>
<tr>
<td>PSYC 790-3 Proseminar in Law and Psychology</td>
<td>PSYC 825-2 Intervention (ongoing)</td>
<td>PhD proposal</td>
</tr>
<tr>
<td>PSYC 715-1.5** Proseminar in Measurement (psychometrics)</td>
<td>PhD proposal</td>
<td>PSYC 825-2 Intervention (ongoing)</td>
</tr>
<tr>
<td>PSYC 815-3 Proseminar in Social Psychology and Law</td>
<td>&quot;Research Design I&quot;</td>
<td>PSYC 825-2 Intervention (ongoing)</td>
</tr>
<tr>
<td>spring</td>
<td>spring</td>
<td>spring</td>
</tr>
<tr>
<td>PSYC 825-2 Intervention (ongoing)</td>
<td>PSYC 825-2 Intervention (ongoing)</td>
<td>PhD proposal</td>
</tr>
<tr>
<td>&quot;Research Design I&quot;</td>
<td>&quot;Research Design I&quot;</td>
<td>&quot;Research Design I&quot;</td>
</tr>
<tr>
<td>summer</td>
<td>summer</td>
<td>summer</td>
</tr>
<tr>
<td>PSYC 815-3 Proseminar in Social Psychology and Law</td>
<td>&quot;Research Design I&quot;</td>
<td>&quot;Research Design I&quot;</td>
</tr>
<tr>
<td>MA proposal</td>
<td>MA proposal</td>
<td>MA proposal</td>
</tr>
<tr>
<td>subject course*</td>
<td>subject course*</td>
<td>subject course*</td>
</tr>
</tbody>
</table>

*these courses may be taken out of sequence, based on availability.
**two PSYC 715 courses are required at the PhD level; one must be in psychometrics.
***as part of the requirements for clinical training, students are required to take one assessment and one therapy course for these two electives.

Graduate Courses

<table>
<thead>
<tr>
<th>PSYC 600-5 Biological Bases of Behavior</th>
<th>PSYC 601-5 Cognitive and Affective Bases of Behavior</th>
<th>PSYC 602-5 Developmental and Social Bases of Behavior</th>
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<tbody>
<tr>
<td>PSYC 603-5 Individual Differences</td>
<td>PSYC 700-5 Professional Issues in Psychology</td>
<td>PSYC 705-5 Proseminar in History and Systems</td>
</tr>
<tr>
<td>PSYC 715-1.5 Proseminar in Measurement</td>
<td>PSYC 720-5 Proseminar in Learning</td>
<td>PSYC 725-5 Proseminar in Cognition</td>
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<td>PSYC 730-5 Proseminar in Perception</td>
<td>PSYC 740-5 Proseminar in Motivation</td>
<td>PSYC 744-3 Proseminar in Psychopathology</td>
</tr>
<tr>
<td>PSYC 750-5 Proseminar in Developmental Psychology</td>
<td>PSYC 760-5 Proseminar in Social Psychology</td>
<td>PSYC 770-5 Proseminar in Personality</td>
</tr>
<tr>
<td>PSYC 780-5 Proseminar in Physiological Psychology</td>
<td>PSYC 785-5 Proseminar in Animal Behavior</td>
<td>PSYC 790-3 Proseminar in Law and Psychology</td>
</tr>
<tr>
<td>PSYC 804-3 Seminar in Evaluation</td>
<td>PSYC 806-3 Advanced Topics in Assessment</td>
<td>Prerequisite: PSYC 820, 821, 822, 823, 824, or permission of the instructor</td>
</tr>
<tr>
<td>PSYC 807-5 Advanced Topics in Intervention</td>
<td>Prerequisite: PSYC 820, 821, 822, 823, 824, or permission of the instructor</td>
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</tr>
<tr>
<td>PSYC 808-5 Advanced Topics in Evaluation</td>
<td>Prerequisite: PSYC 820, 821, 822, 823, 824, or permission of the instructor</td>
<td></td>
</tr>
<tr>
<td>PSYC 809-5 Advanced Topics in Applied Psychology</td>
<td>Prerequisite: PSYC 820, 821, 822, 823, 824, or permission of the instructor</td>
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<tr>
<td>PSYC 810-3 Seminar in Social Psychology and Law</td>
<td>Prerequisite: PSYC 790</td>
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<tr>
<td>PSYC 815-3 Mental Health Law and Policy</td>
<td>Prerequisite: PSYC 790</td>
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<tr>
<td>PSYC 819-3 Ethics and Professional Issues</td>
<td>Prerequisite: graduate program standing. Graded on a satisfactory/unsatisfactory basis</td>
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<tr>
<td>PSYC 820-6 Seminar in Individual Assessment</td>
<td>PSYC 821-4 Practicum in Individual Assessment</td>
<td>Prerequisite: PSYC 880 (Practicum); registration in PSYC 820, graduate standing in the clinical program, or permission of the instructor</td>
</tr>
<tr>
<td>PSYC 822-6 Seminar in Intervention</td>
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Graduate Arts – Publishing

PSYC 823-4 Practicum in Intervention
Prerequisite: PSYC 880 (Practicum), registration in PSYC 822, graduate standing in the clinical program, or permission of the instructor. Graded on a satisfactory/unsatisfactory basis.

PSYC 824-3 Research Issues in Psychology
Prerequisite: PSYC 910, 911 or permission of the instructor.

PSYC 825-2 Intervention
Clinical practicum course. Prerequisite: admission to the clinical program. PSYC 820, 821, 822, 823 and 880. Graded on a satisfactory/unsatisfactory basis.

PSYC 830-6 Seminar in Child Evaluation and Treatment Formulation
Prerequisite: PSYC 750, 820.

PSYC 831-4 Practicum in Child Evaluation and Treatment Formulation
Prerequisite: PSYC 750, 820. Corequisite: PSYC 830.

PSYC 835-3 Special Topics in Civil Forensic Psychology
Prerequisite: PSYC 790, 815.

PSYC 836-3 Special Topics in Criminal Forensic Psychology
Prerequisite: PSYC 790, 815.

PSYC 880-3 Practicum
Full-time clinical work for four months in an approved setting. Prerequisite: PSYC 744, 770, 820, 821, 910, 911. Graded on a satisfactory/unsatisfactory basis.

PSYC 886-9 Internship
Full-time clinical work for 12 months in an approved setting. Prerequisite: equivalent of the MA clinical program, three PhD level courses, successful completion of the PhD comprehensive examinations. Graded on a satisfactory/unsatisfactory basis, and successful defense of the PhD research proposal. Registration in PSYC 886 must be continued for a total of three consecutive semesters.

PSYC 890-3 Practicum in Clinical Forensic Psychology
Prerequisite: PSYC 790, 835 or 836.

PSYC 892-3 Research/Practicum in Law and Psychology
Prerequisite: PSYC 790.

PSYC 897-3 Research Project in Law and Psychology/Forensic Psychology
Prerequisite: PSYC 790.

PSYC 898-0 MA Thesis
PSYC 899-0 PhD Thesis
PSYC 905-5 Seminar in History
PSYC 910-3 Research Design I: Experiments
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.

PSYC 911-3 Research Design II: Research Studies
Focuses on multivariate regression and correlation models. Deals with ways of answering questions when direct experimental manipulation is not feasible, and emphasizes new applications.

PSYC 912-1.5 Research Seminar
PSYC 913-1.5 Research Seminar
PSYC 914-1.5 Research Seminar
PSYC 915-5 Seminar in Measurement
PSYC 916-1.5 Research Seminar
PSYC 917-1.5 Research Seminar
PSYC 918-1.5 Research Seminar
Research seminars are designed specifically to enable graduate students in Psychology to plan, execute, and analyze research including that leading 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 eseach seminar courses are graded on a satisfactory/unsatisfactory basis.

PSYC 920-5 Seminar in Learning
PSYC 925-5 Seminar in Cognitive Processes
PSYC 930-5 Seminar in Perception
PSYC 935-5 Seminar in Sensation
PSYC 940-5 Seminar in Motivation-Emotion
PSYC 944-5 Seminar in Psychopathology
PSYC 950-3 Seminar in Developmental Psychology
PSYC 960-5 Seminar in Social Psychology
PSYC 965-5 Seminar in Psycholinguistics
PSYC 970-5 Seminar in Personality
PSYC 980-5 Seminar in Biological Psychology
PSYC 985-5 Seminar in Animal Behavior
PSYC 990-3 Seminar in Law and Psychology
Prerequisite: PSYC 790.

PSYC 997-3 Directed Studies
PSYC 999-0 PhD Comprehensive Examination
All students in the experimental and clinical psychology PhD programs are required to successfully complete the comprehensive exam.

Publishing Program


Director
R.M. Lorimer BA, MA (Manit), PhD (Tor)

Teaching Faculty
J. Cowan BA, MA, PhD (Br Col) – editing, Canadian publishing
J.J. Douglas LLB (S Fraser), retired publisher, Douglas and McIntyre
V. Firth BA, MA, PhD (Tor) – editing, history of the book
R.M. Lorimer BA, MA (Manit), PhD (Tor) – publishing policy
P. Hancox Dip. (Regent St. Polytechnic, London), PDMI, Neiman Fellow (Harv), Professional Fellow – management editorial
P. Heyer BA (Sir G Wms), MA (New Sch Soc Res), MPhil, PhD (Rutgers) – history of communication and print
R. Woodward BA (Miami, Ohio), MA (Oregon) – design and production

Associate Members
A.C.M. Beale, Communication – history of communication
T. Bose, English – editing
B. Budra, English – sixteenth century book production, editing Shakespeare
R.M. Coo, English – rhetoric and composition
A. Cowan, Continu ing Studies – publishing education, editing and production
S. Delany, English – medieval/rennaissance and contemporary publishing
C. Gerson, English – history of Canadian publishing
M.A. Gillies, English – Victorian publishing
P. Heyer, Communication – history of communication and print production
C.M. Mambuch, Education – composition
G.A. Mauser, Business Administration – marketing
M. Page, English – definitive and fluid drama texts
P.M. St. Pierre, English – publication and authorship
J.O. Stubbs, History – newspaper history
J. Zaslove, English – literacy and literature reception

Adjunct Professors
R. Barnes, MA (Camb) – economics, marketing consultant

J.J. Douglas, LLD (S Fraser) – retired publisher, Douglas and McIntyre
V. Firth BA, MA, PhD (Tor) – editing, history of the book
D. Gibson, MA (St. Andrews), MA (Yale) – publisher, McClelland and Stewart
C. Good, BA, MA (Tor) – publisher, Penguin Canada
P. Milroy, BA (Ont) – Director, University of British Columbia Press
S. Osborne, BA (Br Col) – managing partner, Vancouver Desktop Publishing
K. Siegler, BA, MA (S Fraser) – publisher, Talon Books
P. Whitney, BA (Sask), MLS (Br Col) – chief librarian, Burnaby Public Library

The Program in Publishing offers a program of study leading to a master of publishing (MPub) within the Faculty of Arts and History program designed for full time and part time study by persons in or intending to enter the publishing industry. It is based on a set of courses plus a project performed in an applied setting. The program encompasses the full range of publishing activities including business, design and editing.

Admission Requirements
The normal admission requirement to the MPub program is a bachelor's degree with a minimum 3.0 average from a recognized university or the equivalent. In addition, applicants will be required a) to have some demonstrated familiarity with the publishing industry, b) to be familiar with the operation of both Apple and IBM compatible microcomputers, and c) to demonstrate a suitable level of competence in English composition.

Entering students are expected to have a minimum knowledge of publishing which will be assessed through interviews, an evaluation of documents and experience, and in some areas, an examination. Should candidates be found not to have the knowledge, understanding and skills necessary for entry, they will be advised that they may gain those skills by successfully completing the following courses or their equivalents.

BUS 251-3 Financial Accounting I
BUS 254-3 Managerial Accounting I
BUS 343-3 Introduction to Marketing
CMNS 371-4 The Structure of the Publishing Industry
CMNS 372-4 The Publishing Process

The following courses are valuable background as a foundation for editing.
ENGL 370-4 Studies in Language
ENGL 375-4 History and Principles of Rhetoric
ENGL 430-4 Writing and Response in the Research Genres
ENGL 431-4 Technical and Professional Literacies: Theory and Practice

Degree Requirements
Course Work
MPub candidates are required to complete 33 hours of course work, an internship worth five credit hours, and the five credit course Internship Project Report. An appropriate level of documentation and reporting is required. Typically, internships last four months.

Internship
A key component of the MPub program is an internship and project which integrates the knowledge gained during the student’s graduate studies with the demands of an applied setting. This internship is to be performed in the work place, typically in industry, public institutions or government. Typically, internships last four months.
During the internship the student will receive academic supervision as required from the student's senior supervisor at the university. Day to day supervision will be the responsibility of designated industry supervisors. These professionals will have appropriate qualifications and will be appointed by the University. In very small companies, alternative arrangements may be made for supervision.

The internship will focus on a specific project. The project will be initiated by the student, by one or more members of the student’s supervisory committee or by the industry supervisor. The student submits an outline that defines the scope of the project, plans for documentation and reporting, anticipated activities, schedule and conclusion. The outline will be approved by the student’s supervisory committee and the director of the program.

Commitment of the company or institution, the industry supervisor and the University will be formalized by an exchange of letters.

The student must 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. The latter will serve as a record and interpretation of the project.

The supervisory committee and director will assess the student’s project on the basis of the conduct of the project, quality of work, and quality of reports. There is no oral examination, however, a project report will be submitted in accordance with 1.10.6 of the Graduate General Regulations.

Graduate Courses

PUB 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
A consideration of the theory, principles, traditions and current trends in publication design as applied to print and electronic publishing. Students will undertake design exercises in addition to learning the relationship between design, costing and print production. (2-0-3) Prerequisite: admittance to the program.

PUB 605-3 Book Publishing Project
Students are assigned to groups (simulated book publishing companies) and are given a company profile for which they develop a season’s titles. They form a team based on industry roles: publisher, editor, subrights manager, production manager, art director, promotion and marketing manager. Each team produces the editorial profile, costing and marketing plans for the list, designs the covers and makes a final presentation to an industry panel. (0-0-3)

PUB 606-3 Magazine Publishing Project
Students are assigned to groups and form a team based on common roles in the industry: publisher, comptroller, editor, production manager, art director, advertising director, marketing and distribution manager. In consultation with faculty and industry speakers the team develops a magazine concept, creates a business plan including cost projections, identifies the readership demographics and potential. Design mockups are produced and a final presentation made to an industry panel. (0-0-3)

PUB 607-3 Multimedia and Other Publishing Projects
Students participate in the administration of the CCSP web site, create their own home pages and produce the concept and prototype for a multimedia publishing project in a team environment. Students may also participate in the production of actual publications of the Canadian Centre for Studies in Publishing and the master of publishing program, e.g. the CCSP newsletter. (0-0-3)

PUB 800-4 Text and Context
An examination of the contemporary state and developing trends in the Canadian publishing industry. Emphasis is placed on book publishing, business dynamics, government policy, and international trade. Attention is also given to magazine and multimedia publishing and comparisons with other countries are drawn. (3-0-0) Prerequisite: admittance to the program.

PUB 801-4 History of Publishing
A consideration of publishing from the time of Gutenberg to the present day including discussion of the medium of print and its influence on human expression and thought. Emphasis will be placed on the role of publishing and publishing policies in society. (3-0-0) Prerequisite: admittance to the program.

PUB 802-4 Technology and the Evolving Form of Publishing
An examination of the nature of technology and the social, cultural, legal, economic and political implications of evolving publishing business forms, publication formats, markets, policies and especially technology. Opportunities for Canadian publishing in domestic and global markets will be emphasized. (3-0-0) Prerequisite: admittance to the program.

PUB 898-5 Internship Project Report
Supervision and Evaluation
Students complete their internship project report and work with their supervisory committee to bring it to a final acceptable form.

PUB 899-5 Publishing Internship or Project
Students are placed in an applied setting. The work they undertake must be of sufficient depth and breadth to allow the student the opportunity to demonstrate his or her acquired knowledge and skills. Students will be required to produce two reports; the first, a work report which will be an appraisal of the student’s work experience, and the second, a project report which will be an investigation and analysis of a particular problem or case. Prerequisite: admittance to the program.

Department of Sociology and Anthropology

Graduate Arts – Sociology and Anthropology 317

Faculty and Areas of Research
For a complete list of faculty, see Sociology and Anthropology undergraduate section.

H. Adam – political sociology, critical theory, nationalism, migration, Germany, southern Africa
I. Angus – contemporary social theory (especially phenomenology and neo-Marxism), ecological thought

M. Boelshcer-Ignace – practice theory, language and culture, aboriginal resource management, aboriginal peoples of northwestern North America
D. Culhane – critical anthropology, anthropologies of and/ against colonialism, anthropology of and law, First Nations, contemporary ethnography, visual anthropology
P. Dossa – critical anthropology, feminist ethnography, anthropology of diaspora and migration, Muslim minorities, Muslim women, disability, aging
N. Dyck – aboriginal peoples and social policy, anthropology of contemporary life, childhood and sport
K. Froschauer – Canadian social issues, social policy, political economy, development studies
M. Gates – development studies, agricultural policy and practice, environmental anthropology, NAFTA, Latin America, Mexico
E. Gee – demography, sociology of aging, sociology of the family, social policy, gender
M. Howard – development studies, cultural anthropology, ethnicity, mining, southwest Pacific, southeast Asia
M. Kenny – anthropology of psychiatry (memory as a political issue in child abuse, amnesia and multiple personality), 19th century American social history
D. Lacome – sociology of religion; democracy, citizenship and community; critical legal studies; pornography
A.T. McLaren – sociology of women, education and the family
G. Otero – political sociology; political economy of development; sociology of agriculture; science, technology and society; NAFTA, Mexico and Latin America
S. Pigg – contemporary anthropological theory, transnational cultures and postcolonial social relations, anthropology of medicine, anthropology of development, Nepal
J. Pulkingham – social policy, feminist political economy, gender, sociology of the family (especially family law)
H. Shah – Marxism, development studies, revolutionary movements, labor, nation building among Canadian aboriginal peoples, south Asia
G.B. Teeple – political economy of Canada, Hegelian and Marxist philosophy, sociology of arts, neoliberalism and the global division of labor
J. Whitworth – contemporary social theory, transnational theory, postcolonial social studies; pornography
R.W. Wylie – sociology of religion, sociology of leisure, tourism, medical sociology, west Africa (especially Ghana and Gambia)

Admission

The Department of Sociology and Anthropology offers programs of advanced learning and research leading to the MA and PhD degrees in sociology and anthropology.

For general admission requirements applicants should refer to the Graduate General Regulations section. The department requires the student, in addition, to produce a written statement about his/her current interests and prospective research. How well the proposed research of the applicant coincides with the research and teaching interests of faculty in the department is an important consideration for admission.

PhD applicants must submit a sample of their work from earlier or ongoing graduate studies.

Applications for admission into the program are normally considered once each year at the end of January; the program commences in September.

Prospective applicants should contact the department’s graduate program chair or secretary for further information about the program.
Areas of Study
- sociological theory, anthropological theory, and the philosophy of the social sciences (European intellectual history, holistic, comparative and historical perspectives)
- Canadian society (ethnic relations, demographic issues, social inequality, political economy)
- social and cultural anthropology (with emphasis upon the anthropology of modern life)
- development studies (especially the Third World, including studies of tourism)
- politics and sociology (with emphasis on political economy, ethnic relations and social movements)
- religion and society
- minority indigenous peoples (particularly Canadian Native peoples)
- social policy issues (gender relations, aging, government administration of native peoples)

Degree Requirements
For both the MA and PhD degrees, formal course work and a thesis are required. The minimum requirements are as follows.

- four one semester courses
- two of these must be SA 850 or SA 870, and SA 857. (In the event that a doctoral student has completed an MA in the department, course requirements remain the same as for other doctoral students, but special arrangements will be made by the department's graduate program committee to ensure that SA 850 or SA 870 is not repeated.)
- the remaining two courses will be chosen from: SA 886; SA readings courses; a course in another department or university. (The option of the readings courses and the extra-departmental courses must be approved by the student's supervisory committee and the departmental graduate program committee. Any student with deficiencies may be asked to complete more courses.)
- prior to commencing work on the thesis, the student will defend a written prospectus on the thesis in an oral examination.
- a thesis (see the departmental handbook for guidelines).
- for the PhD only: a written qualifying examination in theory and methodology is required before the oral examination on the thesis prospectus.

These requirements, except for the thesis, can reasonably and normally be completed within three or four semesters.

Graduate Seminar (SA 840-2, SA 841-0)
All graduate students (MA and PhD) are required to attend and actively participate in the graduate seminar during the first two semesters of their program. In subsequent semesters, attendance and registration is voluntary.

Language Requirement
Although the department recognizes that a knowledge of French or foreign languages is desirable for advanced degree studies, it does not have prescribed language requirements. However, where it is evident that a language other than English is necessary for the candidate’s field work or reading, the student will be required to attain the necessary proficiency.

Graduate Courses
SA 840-2 Graduate Seminar
SA 841-0 Graduate Seminar
SA 850-5 Advanced Sociological Theory
SA 853-5 Readings in Sociology I
SA 854-5 Readings in Sociology II
SA 857-5 Research Design Seminar

SA 870-5 Advanced Anthropological Theory
SA 871-5 Readings in Anthropology I
SA 872-5 Readings in Anthropology II
SA 885-5 Selected Problems in Social Analysis
SA 890-0 MA Thesis
SA 899-0 PhD Thesis

Department of Women’s Studies

Chair
M. Griffin Cohen BA (Iowa Wesleyan), MA (NY), PhD (York)

Graduate Program Chair
A. Lebowitz BA (New Rochelle), MA (Wis)

Faculty and Areas of Research
- M. Griffin Cohen, BA, Political Science – feminist economics, public policy
- A. Lebowitz – 19th and 20th century British literature, feminist literary criticism, nature writing
- M. Kimball, Psychology – feminist theories of gender, feminist critiques of science, feminist psychoanalytic theories, women and achievement

J. Levitin, Contemporary Arts – women and film: theory and production, women and comedy, Third World film and women

M. MacDonald, Women’s Studies — feminist critiques of science, engineering and technology, feminist perspectives on science and environmental education, eco-feminism, women and population dynamics/evolutionary theory

M.L. Stewart, History – women in Europe, French fashion and beauty industry

S. Thobani, Women’s Studies – race, class and gender, women and globalization

S. Wendell, Women’s Studies – feminist social and political theory, feminist ethics, feminist epistemology, disability studies

H. Zaman, Women’s Studies — women and work in comparative perspective, gender and development, feminist research methods, women of colour and Canadian feminism, Third World

Associate Members
- B. Burtch, Criminology
- H. Dawkins, Contemporary Arts
- P. Dossa, Sociology and Anthropology
- K. Faith, Criminology
- H. Gay, History
- A.T. McLaren, Sociology/Anthropology
- K. Mezei, English
- B. Pitman, Geography

The master’s program in women’s studies is an interdisciplinary program and it is possible, therefore, for the master’s student, in co-operation with the women’s studies graduate committee, to create an individualized program of studies to suit the student’s scholarly interests and goals.

The program is designed to lead to a strong academic research degree. Students will be expected to develop and demonstrate intellectual and analytical skills within a specific area of study. The program recognizes the special needs of persons already working who may wish to improve their qualifications. Some graduate courses may be offered at night, and part time students are permitted.

Admission Requirements
Applicants must satisfy the women’s studies graduate program committee that they are prepared academically to undertake graduate level work in women’s studies.

In addition to University requirements, listed in the Graduate General Regulations section, the program requires
- a sample of scholarly work in the form of a substantial essay which is scholarly in format and approach. The paper submitted may be an undergraduate essay previously prepared, or one specially written for this purpose.
- a short statement of interests and goals in women’s studies; normally students will be expected to present a definite proposal for their research.
- a short description of previous relevant course work and/or employment. Previous work should include both specialized disciplinary training and broader interdisciplinary work concerned with women.

Qualified students will be accepted into the MA program only if a suitable senior supervisor is available and willing to supervise the student. Senior supervisors will be selected only from joint appointees in women’s studies and continuing faculty members on the co-ordinating committee of the Department of Women’s Studies.

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 program relevant to her/his 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 seminars, 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. For further information, see the Graduate General Regulations section.

Supervisory Committee
Following enrolment by the student in the program, a supervisory committee will be formed, which shall have the responsibility for determining, in consultation with the student, the projected program of study, selecting appropriate research topics, and ensuring that the candidate fulfills all degree requirements. The senior supervisor will be selected from joint appointees in women’s studies and continuing faculty members on the co-ordinating committee. Other faculty outside the department who are considered necessary by the student and her/his supervisors may also be added to the committee.

Graduate Courses
WS 800-5 Methodology in Women’s Studies Research
An interdisciplinary seminar in methods of research in women’s studies. Students will examine theoretical issues in women’s studies methodology and study
examples of research and criticism from women’s studies in history, art/literary criticism, philosophy, psychology and social and natural sciences. Emphasis will be placed on developing a rigorous and creative interdisciplinary approach to problems. Students will apply methods studied in the course to their own areas of concentration.

**WS 820-5 Graduate Seminar in Women’s History**
This course will examine one or two critical issues in the history of women. Canada, England and France are of special interest in this course, but students, with the permission of the instructor, may focus their work on North America and/or Europe generally.

**WS 821-5 Graduate Seminar in Psychology of Women**
This course will consist of an in depth exploration of both traditional and feminist theories of the development of female personality. Special consideration will be given to the impact of social and economic factors on women’s psychology and the extent to which such factors are or are not taken into account.

**WS 822-5 Graduate Seminar in Feminist Theory**
This course will analyse and compare major feminist social and political theories, including those that have emerged from liberal, socialist and radical feminist traditions. The relationship among theories of sexism and political goals and practices will be discussed.

**WS 823-5 Graduate Seminar in Feminist Art/Literary Criticism**
This course will examine the development of feminist aesthetic theories with particular reference to literary, cinematic and/or art forms. The fundamental assumptions of feminist literary and/or art criticism as well as the principles of art forms will be discussed.

**WS 824-5 Graduate Seminar on Women and Social Policy**
This course will focus on one or more social issues and policies in such fields as law, health, economics, social welfare, and science and technology.

**WS 825-5 Graduate Seminar in Women, Technology and Social Change**
This course will focus on relationships between changes in the technological and scientific bases of a society and changes in other major aspects of that society, particularly as they affect women’s roles and ideas about women. Emphasis will be on Europe and North America.

**WS 830-5 Selected Topics Graduate Seminar I**
**WS 831-5 Selected Topics Graduate Seminar II**
**WS 840-5 Directed Studies**
**WS 898-0 MA Thesis**
Faculty of Business Administration

Dean
J.H. Waterhouse BSc, MBA (Alta), PhD (Wash)
Associate Dean
L.T. Pinfield BSc (Leeds), MS (Carnegie Tech), PhD (Stan)

Master of Business Administration Program
Director
J.L. Zaichkowsky BHE (Br Coll), MSc (Guelph), PhD (Calif)

Executive Master of Business Administration Program
Director
D.M. Shapiro BA (Calg), MA, PhD (C'nell)

Faculty and Areas of Research
For a complete list of faculty, see undergraduate Business Administration.

M.F. Abdel Magid – accounting
N.A. Abramson – international business, comparative management
A. Bick – investments and asset pricing
G.W. Blazenko – business finance
G.R. Bushe – organizational development, strategic human resource management
E.W. Bukszar, Jr. – business strategy, business, government and society
E.U. Choo – management science
P.M. Clarkson – accounting
C.M. Collins-Dodd – retailer decision-making, price expectations
K.T. Dirks – organizational behavior
C.P. Egri – organizational power and politics, innovation, leadership
C.E.N. Emby – accounting
D.R. Finley – accounting
M.R. Fizzell – accounting
J.N.P. Francis – international and strategic marketing, negotiations, advertising
A.M.G. Gelardi – accounting
I.M. Gordon – accounting
R.R. Grauer* – business finance
J.L. Zaichkowsky – marketing
*joint appointment with Economics

Graduate Degree Offered
Master of Business Administration

Graduate Programs
The Faculty of Business Administration offers two programs leading to the MBA degree: the executive MBA program and the MBA program. The executive MBA program is a weekend or weeknight program for mid-career managers or executives who want to continue working while studying in a collegial environment. The program takes a general management perspective; it focuses on organizational and decision making processes that cut across functional divisions. The MBA program is a daytime program designed primarily for recent graduates who desire more concentrated exposure to a specific field of business study and development of applied research skills. Recent graduates with a business degree move directly to study in an area of concentration. Non-business graduates are required to complete two semesters of study in general business courses before proceeding to their area of specialization. Such students will normally select their area of specialization by the end of their second semester of study.

MBA Program
The MBA program has a subject specialization focus in the following fields of concentration:

- accounting
- finance
- human resource management
- International business
- management science/information systems
- marketing
- policy analysis

Additional fields of concentration are available with the approval of the student’s supervisory committee. For example, students can take supporting courses in such disciplines as resource management, economics, computing science, criminology, and engineering science.

Admission: Students with Undergraduate Business Administration Degrees
For clear admission to the program a student must have a bachelor’s degree from a recognized university with a concentration in business administration (or its equivalent). The student should have normally completed course work in differential calculus,* statistics, managerial economics (or micro economics), accounting, management science (or operations research), finance, marketing, human resource management, and business policy (or business and society). Students admitted without all of these courses may be required to make up the deficiency without graduate credit.

The maximum number of students directly admitted in any one year to an area of concentration is expected to be 30. The minimum undergraduate grade point average required for admission is 3.0 (or equivalent). Criteria for admission, in addition to undergraduate grades, include acceptable scores on the GMAT test (see Application Process), strong letters of reference, 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 is designed for students with an undergraduate business/commerce degree. Students may begin in September, January or May. Courses are sequenced through the three semesters: fall, spring and summer. The normal course load is three courses per semester. In this manner, it is possible to complete the program in one year; although many students require four semesters to finish their research project. Students choosing the thesis option may expect to take one additional semester in order to complete BUS 900. Students holding teaching assistantships will take two courses per semester as a normal workload. Thus, the completion time for a student holding a teaching assistantship over their whole program is typically five or six semesters. In certain cases, students may be admitted to the program in other semesters.

*Integral calculus is also required for specializations in finance, management science and information systems, and marketing. It is recommended for specialization in accounting.

Admission: Students with Undergraduate Degrees Other than Business Administration
Students with bachelor’s degrees in disciplines other than business administration are normally required to have completed courses in probability and statistics, an introduction to computer programming, and differential and integral calculus. At Simon Fraser University appropriate courses are BUEC 232, BUEC 333, CMPT 100, MATH 157 and MATH 158.

Students with a bachelor’s degree in disciplines other than business administration will, upon admission, be required to complete the following eight courses prior to proceeding to the 800 level subjects.

Fall Semester
BUS 507-4 Managerial Economics
BUS 527-3 Financial Accounting
BUS 536-4 Quantitative Methods in Management
BUS 543-4 Introductory Graduate Marketing

Spring Semester
BUS 512-4 Introduction to Business Finance
BUS 528-3 Managerial Accounting
BUS 572-4 Organizations and Human Resources Management
BUS 578-4 Strategic Management
Students entering the program with an equivalent course to any of those specified above will be granted an exemption.

It is expected that approximately 30 students per year will be admitted to the 500 level courses. The minimum undergraduate grade point average considered for admission, in addition to undergraduate grades, include acceptable scores on the GMAT test (see Application Process), strong letters of reference, 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. Students entering the program without Business degrees are expected to complete the 500 level courses in two semesters. As the University operates on a trimester system students may immediately begin 800 level courses in the summer semester.

Application Process
Students must submit the following documentation when applying:
- Simon Fraser University graduate application form
- Faculty of Business Administration supplementary application form
- official transcript of undergraduate grades (mailed directly from the granting institution)
- three confidential letters of reference (mailed directly from the references), at least two of which come from faculty members at universities. (Forms are supplied for references.)
- score on the graduate management admissions test (GMAT)
- Students whose first language is not English and whose undergraduate degrees have not been obtained at an institution in Canada, the United States, the United Kingdom, Australia or New Zealand where English is the language of instruction, require scores on the test of English as a foreign language (TOEFL) and the test of written English.

Financial Assistance
The Faculty of Business Administration is able to offer most qualified graduate students teaching assistantships in business administration. Remuneration is normally $4,434 per semester. For students holding a teaching assistantship, it is expected two courses will constitute a full load. 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.

Information on other university scholarships and awards available to graduate students is included in the Financial Aid and Awards section of this Calendar.

Degree Requirements
To qualify for the MBA degree under this program, the candidate must complete the requirements under one of two available options: the project option or the thesis option.

For the project option the student must complete a minimum of three courses in a field of concentration and a minimum of at least one course in a supporting field and one course in research techniques. A total of eight courses are required for the project option. Of these, four must be taken as supporting or research courses. In addition, the student must complete a written research project equivalent to one course. A project will generally represent successful original research with regard to some practical problem. While the student is expected to conduct a literature search with respect to 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 must complete a minimum of three courses in a field of concentration as well as taking at least one course in research techniques and BUS 900, Research Methodology. A total of six courses are required in the thesis option. In addition, the student must complete a written research thesis equivalent to three courses. In general, a thesis represents a major research effort in which the student, working closely with the supervisory committee, demonstrates a comprehensive knowledge of the literature on some aspect of a discipline and successfully completes original research which represents a contribution to knowledge in the area.

The requirements and options for each of the areas are detailed below.

Fields of Concentration: 3 course minimum

Accounting
- BUS 871-4 Seminar in Financial Accounting
- BUS 872-4 Seminar in Managerial Accounting
- BUS 873-4 History of Accounting Thought

Another 3 credits must be selected from other accounting courses.

Management Science and Information Systems
- BUS 821-4 Analysis of Inventory and Queuing Systems
- BUS 822-4 Decision Theory

Another 3 credits must be selected from other operations research courses.

Human Resource Management
- BUS 831-4 Industrial Relations
- BUS 836-4 Human Resource Management I
- BUS 837-4 Human Resource Management II

Another 3 credits must be selected from other human resource courses.

Finance
- BUET 815-4 Portfolio Theory
- BUET 817-4 Theory of Capital Markets

Another 3 credits must be selected from other finance courses.

Human Resource Management
- BUS 884-4 Comparative Management
- BUS 885-4 International Human Resource Management

Another 3 credits must be selected from other human resource courses.

International Business
- BUS 862-4 Contemporary Topics in International Business
- BUS 875-4 International Accounting

Another 3 credits must be selected from other international business courses.

Marketing
- BUS 845-4 Marketing Measurement
- BUS 846-4 Marketing Theory and Models

Another 3 credits must be selected from other marketing courses.

Policy Analysis
- BUS 850-4 Theoretical Issues in Strategic Management
- BUS 852-4 Researching the Corporation in Canadian Society

Another 3 credits must be selected from other policy analysis courses.

Supporting Courses
The academic supervisor will select the supporting courses in consultation with the student. The selections may be either from business administration or from other fields of study (e.g., economics, resource management, computing science, psychology).

Research Courses
Project option students must take at least one course in research techniques (BUS 801 or equivalent). Thesis option students take BUS 900 in addition to a minimum of six courses in research techniques.

The academic supervisor will select the research courses in consultation with the student. Students taking BUS 900 should complete their other research courses first.

Co-operative Education Program
The co-operative education option is available to qualified students in the master of business administration program 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. They must also have a CGPA and previous semester GPA of at least 3.0. Students may maintain grade levels to continue in the MBA co-op option.

Students entering the MBA program with a degree other than in business normally must complete all 500 level courses before beginning a co-op practicum. Students entering the MBA program with a business/commerce degree must complete a minimum of one semester with at least two courses at the 800 level before beginning a co-op practicum.

Course Requirements
To qualify for a master of business administration degree with a co-operative education designation, students must complete two co-op practicum semesters (BUS 725 and 726) and satisfy other MBA graduation requirements. Some students may take a third co-op practicum semester (BUS 727) under some circumstances. 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 a co-op co-ordinator. The grade will be based on an evaluation of a work term report and assessment of the student’s work performance by both the supervisor and co-op co-ordinator.

MBA Program Courses
- BUS 507-4 Managerial Economics
- BUS 512-4 Introduction to Business Finance
- BUS 527-3 Financial Accounting
- BUS 528-3 Managerial Accounting
- BUS 536-4 Quantitative Methods in Management
analyses are performed by themselves or by a technical specialist. The course is intended for students with diverse interests and background who nevertheless have a common objective of enhancing their abilities to confront complex management decisions in a practical fashion. Prerequisite: introductory statistics/computing/mathematics, or permission of the instructor.

BUS 543-4 Introductory Graduate Marketing
The marketing of products and related services to business and other non-consumer sector buyers. Prerequisite: introductory statistics/computing/mathematics, or permission of the instructor.

BUS 572-4 Organizations and Human Resource Management
This course introduces students to theories of organizational behavior and organization theory. The student will be expected to develop an understanding of issues in the management of people and work and the design and functioning of organizations. The course will cover concepts of motivation, leadership, decision-making, power and politics, structure, environments and organizational effectiveness. The course will align the students to the major professional fields in organizational behavior, industrial relations, personnel, and organizational development. Prerequisite: introductory statistics/computing/mathematics, or permission of the instructor.

BUS 578-4 Strategic Management
The course focuses on the managerial tasks of developing and implementing organizational strategy and the processes involved. Prerequisite: BUS 507, 527, 536, 543.

BUS 725-0 MBA Co-op Practicum I
First semester of work experience. This course is open only to MBA students. The co-op education program co-ordinators must be contacted prior to registration for this course. Prerequisite: students must be enrolled as a graduate student in the MBA program, and must have a CGPA and previous SGPA of at least 3.0. Students entering the MBA program with a degree other than in business normally must complete all 500 level courses before beginning a co-op practicum. Students entering the MBA program with a business/commerce degree must complete a minimum of one semester with at least two courses at the 800 level before beginning a co-op practicum.

BUS 726-0 MBA Co-op Practicum II
This is the second semester of work experience. This course is open only to MBA students. The co-op education program co-ordinators must be contacted prior to registration for this course. Prerequisite: BUS 725. Students must be enrolled as a graduate student in the MBA program, and must have a CGPA and previous SGPA of at least 3.0.

BUS 727-0 MBA Co-op Practicum III
This is the third 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, 726. 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 821-4 Analysis of Inventory and Queuing Systems
The design and control of inventory and queuing systems. Approaches include analytical and numerical models, algorithms for optimizing such systems and simulation for large, complex systems. Prerequisite: BUEC 333 or equivalent.

BUS 822-4 Decision Theory
An examination of prescriptive (Bayesian) theory of decision making under uncertainty and critical investigation of the theory. Prerequisite: BUS 333, MATH 157, or permission of the instructor.

BUS 831-4 Industrial Relations
Negotiation, arbitration, collective agreements, work stoppages, labor-management co-operation.

BUS 836-4 Human Resource Management I
Topics covered include human resource planning, recruiting, selection, organizational entry, and training. Prerequisite: permission of the instructor.

BUS 837-4 Human Resource Management II
Topics covered include performance evaluation, pay equity, and compensation/reward systems. Prerequisite: BUS 839 or permission of the instructor.

BUS 839-4 Organizational Assessment and Planned Change
Current theory, research and practice in organizational diagnosis and planned change. Prerequisite: advanced undergraduate course work in micro and macro organizational behavior.

BUS 845-4 Marketing Measurement
The generation and analysis of non-accounting information from sources both internal and external to the firm, with the purpose of understanding the use of such measurements in marketing segmentation. Prerequisite: BUS 801.

BUS 846-4 Marketing Theory and Models
The construction, analysis and application of models of marketing phenomena. Prerequisite: BUS 801.

BUS 847-4 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 547, 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-competes, utility regulation, patent policy, and other policies directed at market failure. Prerequisite: ECON 200, or 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 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,
Because executive MBA students pursue full-time careers, classes meet either two nights a week (weeknight program) or alternate weekends all day Friday and Saturday (weekend residential program). All classes are held at Simon Fraser University at Harbour Centre centrally located in downtown Vancouver. Students in the weekend residential program have Friday night accommodation provided as part of tuition. Students take two courses per semester, completing the course work in two years. Both programs begin in September. There is a one month break between semesters. Immediately following acceptance in May, all students participate in a preparatory skills module that includes Numeracy and the Electronic University. At the same time, students with no microeconomics training should review our recommended self-study guide.

**Admission Requirements**

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 (e.g., CA, CMA, CGA, FCmg)*
- 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 skills. Students may also wish to 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 program requirements, see Grad Faculty of Business Administration in the Graduate Studies section.

For more information, phone (604) 291-5013, fax (604) 291-5122 or e-mail emba_program@sfu.ca.

**Degree Completion Requirements**

Students must complete 12 courses, two of which are electives, with a minimum B grade average, and should expect to spend 25-30 hours a week on their studies. Electives in the past two years have included: managing information systems; managing innovation; conflict management; negotiations; managing new ventures; and a leadership and group development laboratory. In place of the 600 level MBA course offerings listed below, students may substitute, with the prior consent of the executive MBA program committee, equivalent graduate course work from any department at Simon Fraser University. Prior approval is not required for students to substitute 800 level BUS or BUEC courses as electives. In extraordinary circumstances, and with the prior permission of the executive MBA program committee, students may alter the course load of two courses per semester.

**Weeknight and Weekend Residential Program Schedule**

**Semester 1 fall**

- MBA 651-5 Managerial Economics
- MBA 681-5 Interpersonal Behavior in Organizations

**Semester 2 spring**

- MBA 632-5 Operations Research
- MBA 603-5 Organization and Management

**Semester 3 summer**

- MBA 670-5 Accounting for Decision Making and Control

**Semester 4 fall**

- MBA 606-5 Financial Management
- MBA 615-5 Marketing Management

**Semester 5 spring**

- MBA 607-5 Business Policy
- MBA 691-5 Business, Government and Society

**Semester 6 summer**

- MBA 696-5 Seminar in Strategic Analysis

**Executive MBA Program Courses**

- MBA 603-5 Organization and Management
- MBA 606-5 Financial Management
- MBA 607-5 Business Strategy

**Elective**

- MBA 604-5 Organizational Change and Development
- MBA 610-5 Directed Studies in Business Administration
- MBA 611-5 Directed Studies in Business Administration
- MBA 612-5 Directed Studies in Business Administration
- MBA 615-5 Marketing Management
- MBA 621-5 Management Information Systems
- MBA 622-5 Operations Research
- 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 5 years of monthly data or 12 years of quarterly data on the variable to be forecast. Generally, the paper
written for this course will provide the basis for the MBA project.

MBA 651-5 Managerial Economics
The application of modern microeconomic theory to problems of managerial decision-making. The importance of both economic models and quantitative applications are explained. Topics include demand, cost and productivity analysis; the analysis of market structure and firm strategy; international competition and trade; organizational economics; and the analysis of risk, uncertainty and information.

MBA 660-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 661-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 662-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 663-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 670-5 Accounting for Decision Making and Control
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 Interpersonal Behavior in Organizations
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
The purpose of the course is to survey what is – and should be – the relationship between government and private market agents. The course examines market failures as a rationale for public intervention into markets, and introduces public choice theories of political decision-making (the theory of government failure). Alternate public policies to influence market behaviour are surveyed. The use of techniques such as cost-benefit analysis to measure the effectiveness of government intervention is reviewed.

MBA 695-5 Methods of Research
Methods and aims of business research and how it contributes to effective management.

MBA 696-5 Applied Project 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. Prerequisites: MBA 607, MBA 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.

Joint Master in Business Administration and Natural Resource Management
For information about this program, see the School of Resource and Environmental Management in the Graduate Studies section.

Graduate Diploma in Business Administration
This program is available for students who have already completed a bachelor degree from a recognized university in an area other than business administration or commerce. Under exceptional circumstances, applicants with significant experience plus a recognized post-secondary certification may be accepted into the program.

The program consists of eight courses totalling at least 27 credit hours from the courses listed below. The courses will generally be offered to cohort groups on site or through electronic delivery, and students will be expected to proceed through a specified set of courses with their cohort group.

Students who do well in the program may consider applying to the master of business administration program. The normal application procedure for that program will apply. At the discretion of the MBA program, equivalent 500 level courses may be waived for students who have completed this graduate diploma program.

Graduate Diploma Program 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 Behaviour
Issues in the behaviour of people in organizations, and human resource management practices that influence employee behaviour.

BUS 558-3 Special Topics
BUS 559-4 Special Topics
Faculty of Education

8655 Multi Purpose Complex, (604) 291-4787 Tel, (604) 291-4320 Fax
http://www.educ.sfu.ca/gradprogs

gradprogs@sfu.ca

Dean
R. Barrow BA, MA (Oxf), PhD (Lond)

Graduate Program Director
S. Richmond CertEd (Alsager), MEd (Nott), PhD (Calg)

Faculty and areas of research
For a complete list of faculty, see Education undergraduate section.

H. Bai – philosophy of education, ethics and moral education, theories of knowledge, eastern thoughts
S. Bain – drama education, philosophy of education, aesthetic education, critical thinking
R. Barrow – philosophy of education, moral philosophy, curriculum theory, teacher education
J.D. Beynon – multi-cultural/anti-racist education; Canadian education of First Nations, minority group students; canonical aspirations of minority students (with special emphasis on teaching); social context of education; preparation of teachers, administrators to work with students of diverse cultural background; development and implementation of multi-cultural, anti-racist curriculum.
J. Blaney – higher education, program development, management
R. Case – social studies, curriculum, critical thinking, curricular integration, law-related education, global/development 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, multilingualism, applied sociolinguistics, literacy, ethnography, educational change
A.J. Dawson – mathematics education
J. Dawson – history of education, history of childhood, children’s literature
S.C. deCastell – literacy, critical theory, gender equity, gender and technology cultural studies, socio-cultural theory
K. Egán – curriculum, intellectual development
R.D. Geibbach – educational play, instructional theory
P.P. Grimmett – teacher education and teacher development, curriculum development and implementation, educational leadership, teacher research
A.O. Hanvath – family and couple’s counselling, therapeutic relationships, attributional processes
L. Kanevsky – education of gifted children, educational psychology
C.B. Kenny – First Nations education, cultural studies, multicultural counselling, music therapy, human development and the arts, phenomenological and qualitative research
L. LaRoque – community, collaboration, ethics of caring, leadership, district-school relations, implementation of change, school reform, educational policy, teacher education
I.J. 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
C.M. Manchur – theory and curriculum development, secondary English, the writing process, development of pre/in service training programs, learning styles, integration of drama, literature and narrative writing
M. Manley-Casimir – socio-legal context of educational policy and practice, specifically, the impact of the Charter of Rights and Freedoms on educational policy, normative structure of teaching, use of discretion in administrative decision-making, judicial use of US case law in post-Charter educational litigation in Canada, judicial decisions, legal norms and professional compliance in schools
J. Martin – psychology of education, counselling psychology, theoretical psychology
M. McClaren – environmental education, science education, problem solving and decision making, especially in context of environmental problems. Impact of new information technologies and changing work/recreational patterns on schooling and adult education
A.A. O’Shea – mathematics education including curriculum development, problem solving, applications, and evaluation, large scale assessment and test development, teacher in-service education
S. Richmond – visual arts education, aesthetic education
G.P. Sampson – teaching English as a second language; the origin and development of the scientific registers of the English language
J. Scott – reading and language development, vocabulary instruction, cognition, early literacy, teacher education
Y. Senyshyn – philosophical analysis applied to creative live musical performance and aesthetic theory, problem of language applied to music, education and musical criticism
S. Smith – physical education, phenomenological inquiry, pedagogical theory, and children’s play interactions
J. Thompson – counselling, close relationships, career development
K. Toohey – minority language education, ethnography, socio-cultural theory, language and social context
S. Wassermann – teacher education, curriculum and instruction, emphasis on curriculum and program development, instructional strategies, teaching for thinking, teaching by the case method
M.F. Weiden – science education, curriculum evaluation and implementation, in-service and change in education, teacher education
P. H. Winne – educational psychology, particularly self-regulated learning, adaptive computer technologies in education
B.Y.L. Wong – intervention research on connections between reading and writing, social problems in LD adolescents, metacognition and motivation
R. Zazkis – mathematics education
M. Zola – language and language learning: the language arts, literature for children and young people, literacy criticism, writing for children, learning and teaching, phenomenological inquiry

Graduate Degrees Offered

Master of Arts
Master of Education
Master of Science
Doctor of Education
Doctor of Philosophy

The Faculty of Education offers graduate programs leading to MEd, MA, MSc, EdD and PhD degrees in select fields of scholarly and professional studies. The nature of and requirements for degrees vary by degree and by field of study.

The MEd is a professional degree signifying the acquisition of advanced knowledge about and advanced training in educational practice. Minimal requirements for MEd coursework/comprehensive exam programs is the completion of 35 credit hours in required and elective courses, plus a final comprehensive examination. The content 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 are degrees signifying the acquisition of advanced knowledge in the student’s field of specialization and advanced competence in conducting significant and original research in education.

Minimal requirements for the MA and MSc degrees are successful completion of 33 credit hours of graduate work divided between required and elective courses (at least 23 credit hours) and EDUC 898 master’s Thesis (10 credit hours).

Minimal requirements for the PhD degree are successful completion of 30 credit hours of graduate work beyond requirements for a MA or MSc, consisting of 20 credit hours divided among required and elective courses and EDUC 899 doctoral Thesis (10 credit hours).

The EdD in educational leadership is a professional degree signifying the acquisition of advanced knowledge and expertise in educational leadership.

Minimal requirements for the EdD degree are successful completion of 44 credit hours of graduate work, consisting of 34 credit hours divided among required and elective courses and EDUC 899 Thesis (10 credit hours).

Admissions
Refer to the Graduate General Regulations, section 1.3 for the University’s admission requirements. Under exceptional circumstances, applicants who do not meet these general requirements may be considered for admission if they demonstrate superior scholarly or professional achievements.

In addition to criteria for admission as a graduate student to the University, applicants to graduate programs in the Faculty of Education are judged on the following criteria:
• academic excellence
• knowledge or demonstrated expertise in areas relevant to the chosen program of study
• communicative competence
• capacity for self directed study
• personal commitment to completing the program in a timely manner

In addition to the University’s and the Faculty of Education’s application forms, applicants must submit:
• a 500-word essay explaining why they wish to pursue graduate work in their chosen program
• one recent academic paper that involves sustained argument
• three letters of reference completed by scholars or professionals who know the applicant’s potential to complete graduate studies successfully
• a $55 graduate studies application fee payable to Simon Fraser University

A student also may be required to have an interview and, in special circumstances, may be required to provide additional proof of eligibility.
Admission to graduate study in the Faculty of Education is granted to undertake a specific program of study and is competitive within each program. Applications for all programs are reviewed once each year, in March and early April. The application package must be complete and received by February 15 preceding the September in which the graduate program begins. Decisions are available on April 15 or the first business day thereafter. Information packages describing programs and their individual requirements are available from Graduate Programs, Faculty of Education Simon Fraser University Burnaby, BC, V5A 1S6 (604) 291-4787 Tel, (604) 291-4320 Fax http://www.educ.sfu.ca/gradprogs

Admission to an Individual Program
A limited number of applicants wishing to undertake graduate studies in an area that can not be addressed in a regularly offered graduate program (see Programs of Study, following) may apply for admission to an individual program. An Individual Program leads to the MA or the MEd with project. Applications for admission to an individual program must include the individual study and research plan. The plan specifies a curriculum of required and elective courses. It will involve at least three regular scheduled courses (special topics courses are only included if specific permission is given via the director) and instruction by three different SFU Faculty of Education professors. A member of the Faculty of Education must approve and sign the Plan, thereby agreeing to serve as senior supervisor of the student’s program and the project or thesis. Because consultation with a member of the Faculty may involve revisions to an initial plan and proposal, applicants are encouraged to begin the application process well in advance of the deadline for receipt of applications, February 15.

Supervision
Upon admission to a program, a pro-temp advisor will be appointed by the director of graduate programs. The pro tem advisor offers counsel regarding elective course work 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.

Research Competence Requirement
MA students must demonstrate research competence appropriate to the proposed research to the satisfaction of their supervisory committee. Such competence can be demonstrated in different areas, e.g. research design, quantitative and/or qualitative analysis, conceptual analysis, legal analysis, historiography, and criticism. In cases where the supervisory committee deems it necessary, the committee may require the student to acquire adequate competence through prescribed means (such as a course).

Residence Requirements
Refer to the Graduate General Regulations, section 1.7.

Examining Procedures
MEd Comprehensive Examination
The comprehensive examination will be based on three essay questions set by associated faculty in consultation with the student. A follow up oral examination may be required at the discretion of the reading committee. The results of the examination will be made available to students prior to the end of the semester in which the examination is taken. Students who fail the examination will be asked to take it again. A student who fails a second time will be required to withdraw.

MEd Project
Before the end of the fourth semester in residence, the student will normally present a written project proposal to the pro-temp advisor or the chosen senior supervisor. Following consultation, the student will seek a second member to complete the supervisory committee. A project report will be read by both members of the supervisory committee. Three outcomes are possible.
• The project may be passed.
• The project may be judged marginally inadequate. In this case, the student will be required to undertake specific supplementary work (such as providing an alternative analysis of evidence or data, incorporating further information) and resubmit the project. If the revised project is judged adequate by the supervisory committee, the project will be passed.
• The project may be failed, and the candidate required to withdraw from the University.

MA and MSc Thesis
A thesis proposal normally is submitted before the end of the fourth semester in residence or the second registration in the thesis, the student will normally present a written thesis proposal to the pro-temp advisor or the chosen senior supervisor. Following consultation, the student will seek a second member to complete the supervisory committee. Once the thesis proposal is approved by the full supervisory committee, the student proceeds to complete the thesis. The thesis will be examined as prescribed in the Graduate General Regulations, sections 1.9 and 1.10.

PhD Comprehensive Examination
Normally, students in a PhD program must write a comprehensive examination after completing required courses and before enrolling in EDUC 899 PhD Thesis. The examination consists of written responses to questions set by the student’s proposed thesis supervisory committee and covering three areas: theory, research methods, and the student’s field of specialization. Students write the examination in a seven day period with the sole prohibition governing the examination being that the student may not consult with any person about the examination during the examination period. Each of the student’s responses to the areas examined is evaluated on a pass or fail basis by all members of the student’s proposed thesis supervisory committee plus one other faculty member designated by the director of graduate programs. Readers annotate the student’s examination paper, fully justify their mark, and sign the examination paper. An area failed by two or more readers is considered a failed area. All three areas must be passed to receive a pass on the comprehensive examination.

If the student passes the comprehensive examination but results indicate minor deficiencies in specific areas, the student will be required to remedy these to the satisfaction of the senior supervisor through further course work (such as an additional readings course). A student who fails one or more areas on a first comprehensive examination may take a second examination covering the failed area(s). Students will write the second examination in a two day period with the sole prohibition governing the examination being that the student may not consult with any person about the examination during the examination period. A student will be required to withdraw after a second failure of the comprehensive examination.

PhD Thesis
Normally before the end of the sixth semester in residence, the student will present a written thesis proposal to the pro-temp advisor or the chosen senior supervisor. Following consultation, the student will seek other members to complete the supervisory committee, which must consist of at least three members. A thesis proposal seminar is then scheduled. Members of the candidate’s supervisory committee attend this seminar, and they and the student arrange for other interested students and faculty to attend as well. The supervisory committee, along with the candidate, will review the future course of the thesis research in light of comments and criticisms forthcoming at this seminar. Upon approval of the supervisory committee, the completed thesis will be examined as prescribed in the Graduate General Regulations, sections 1.9 and 1.10.

EdD Comprehensive Examination
Students in the EdD program must write a comprehensive examination after completing required courses, i.e. normally at the end of their second year, and before enrolling in EDUC 899-10. The examination consists of written responses to questions set by the student’s proposed thesis supervisory committee addressing three areas: theory, research methods, and the student’s field of specialization.

EdD Thesis
Normally before the end of the seventh semester, the student will present a written thesis proposal to the pro-temp advisor or the chosen senior supervisor. Following consultation, the student will seek other members to complete the supervisory committee, which must consist of at least three members, one of whom will normally be a suitably qualified professional educator from the world of practice. The supervisory committee, along with the candidate, will review the future course of the thesis research in light of comments and criticisms forthcoming at this seminar. Upon approval of the supervisory committee, the completed thesis will be examined as prescribed in the Graduate General Regulations, sections 1.9 and 1.10.

Graduate Off-Campus Programs
Grounded on the integration of knowledge with professional practice, graduate programs offer MEd (course work/comprehensive examination) degrees in the areas of administrative leadership, and curriculum and instruction. Classes occur every second weekend during a given semester and students attend classes on campus for two summer sessions. The program is based in various communities around the province and combines recognition of local needs with the demands of regular graduate program courses. Groups and individuals interested in the program should contact Geoff Madoc-Jones, (604) 291-4188 or e-mail Geoffrey_Madoc-Jones@sfu.ca
Programs of Study for a Master's Degree

Administrative Leadership
This program leads to the MA or MEd degree. It is a late afternoon-evening program offered to practising and prospective educational administrators. It is usually pursued as a general program that promotes the acquisition of the knowledge and skills needed to function effectively in increasingly complex educational settings.

Students must complete the following required course for either degree option.
EDUC 813-5 Organizational Theory and Analysis in Education

MEd Requirements
Students will normally be admitted to the MEd course work/comprehensive exam option. This option requires the completion of 36-40 credit hours or eight courses in total.

Students will choose five courses from the following.
EDUC 803-5 Educational Program Supervision
EDUC 815-5 Administrative, Legal and Financial Bases of Education
EDUC 817-5 The Political and Social Environmental of Public Education
EDUC 818-5 Administrative Leadership of Educational Personnel
EDUC 830-5 Implementation of School Programs
EDUC 831-5 Seminar in Philosophy and Educational Theory
EDUC 838-5 Judgment in Administrative Decision-Making

In addition, MEd students may choose two electives to complete course work requirements prior to the comprehensive exam.

MA Requirements
Student admitted to the MEd course work/comprehensive exam option may, on the explicit recommendation of the senior supervisor, transfer into an MA program. The MA route requires EDUC 813 and a minimum of four courses drawn from the above list followed by the completion of a research thesis. In the MA route, students will be required to demonstrate appropriate research competence; this may necessitate taking course work in research methods:
EDUC 863-5 Quantitative Methods in Educational Research
EDUC 864-5 Research Designs in Education
EDUC 867-5 Qualitative Methods in Educational Research

Curriculum and Instruction
This program leads to the MA or MEd course work/comprehensive exam degree. It is a late afternoon-evening program offered to students who wish to study current literature and research in education, and to use schools and classrooms as learning laboratories in which to apply and test this knowledge. The program also offers teachers opportunities to update their knowledge base in their subject or grade level, and fields of specialization.

This program can be pursued as a general program or can focus on an area of specialization. Areas of specialization include, for example, French education, second language education, learning disabilities and reading. Each specialization area is defined by a particular selection and sequence of course work lodged within the general structure for graduate studies in curriculum and instruction.

Students are required to take at least three of the following courses. Only one of EDUC 863, 864 or 867 may be counted towards the three courses.
EDUC 861-5 Developing Educational Programs
EDUC 820-5 Educational Objectives and Teaching Strategies
EDUC 821-5 Philosophical Issues in Classroom Practices
EDUC 822-5 Evaluation of Educational Practice
EDUC 823-5 Curriculum and Instruction in an Individual Teaching Specialty
EDUC 830-5 Implementation of School Programs
EDUC 863-5 Quantitative Methods in Educational Research
EDUC 864-5 Research Design in Education
EDUC 867-5 Qualitative Methods in Educational Research

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 825-5 Non-Traditional Education
EDUC 827-5 Individual Differences in Learning Disabilities
EDUC 829-5 Contemporary Issues in Learning Disabilities
EDUC 832-5 Teaching Composition: Research and Practice
EDUC 851-5 Computer-based Learning
EDUC 857-5 Issues and Topics in Environmental Education
EDUC 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). Students may move to the MA after completing four courses.

Students are required to complete a minimum of 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 Education
EDUC 868-5 Curriculum Theory and Art Education
EDUC 869-5 Music Education as Thinking in Sound
Electives
Students must complete one course from the Faculty of Education or from the School for the Contemporary Arts. These include the following.
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.

Comprehensive Examination/Thesis
A final comprehensive exam is required for MEd students. A thesis is required for MA students.

Secondary Mathematics Education
This program leads to the MSc (thesis) degree or MEd (course work/comprehensive exam) degree in the teaching of secondary school mathematics. It is offered jointly by the Faculty of Education and the Department of Mathematics and Statistics. The program is designed for a cohort of students.

For the MSc (thesis) degree, as well as writing a thesis which will be supervised by a member of the Faculty of Education or the Department of Mathematics and Statistics, students are required to complete 25 credit hours of course work noted below. Students pursuing the MEd (course work) option will, in addition to taking the 25 credit hours of course work noted below, take a minimum of 10 credit hours of graduate electives in Education and/or Mathematics, and a comprehensive examination. Students will select which degree option they prefer, 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. The program is intended to meet the needs of practising teachers, who have assignments in the elementary and intermediate grades. The requirements for the MA in mathematics education include course work with a minimum of 25 credit hours in education and mathematics and a master’s thesis (10 credits). MEd students are required to complete a minimum of 35 credit hours of which 25 are core courses, with a minimum of 10 hours of electives in education and/or mathematics and a comprehensive examination. After the first four program 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 in the Department of Mathematics and Statistics.

Counselling Psychology
This program leads to the MA degree. It is offered to 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 program must complete a minimum of 34 hours of course work and a thesis or project. All students must complete the core requirements listed below. In addition, students must complete a minimum of two courses from methodology and/or specialization.

MA Core
EDUC 811-5 Fieldwork I
EDUC 812-5 Fieldwork II
EDUC 862-3 Individual Assessment Procedures
EDUC 870-5 Theories of Counselling
EDUC 874-5 Counselling Skills and Strategies

Students must also complete one methodology research course selected by the senior supervisor in consultation with the student.

MA Methodology
EDUC 822-5 Evaluation of Educational Practice
EDUC 861-3 Educational Measurement Theory and Application
Graduate Education

EDUC 864-5 Research Designs in Education
EDUC 865-5 Advanced Topics in Educational Data Analysis
EDUC 867-5 Qualitative methods in Educational Research

MA Specialization
EDUC 860-5 Contemporary Instructional Psychology
EDUC 871-5 Family Counselling
EDUC 873-4 Vocational Counselling
EDUC 875-5 Therapeutic Instruction
EDUC 876-5 Cognitive Intervention Research

Another option of the counselling psychology program leads to the course work/comprehensive exam professional MED degree designed for students who wish to become counsellors in the public school system. The program consists of three parts: seven core courses, four elective courses chosen from a specified list, and a comprehensive exam.

MED Core
Students must complete all of the following:
EDUC 811-5 Fieldwork I
EDUC 812-5 Fieldwork II
EDUC 882-3 Individual Assessment Procedures
EDUC 884-5 Research Designs in Education
EDUC 870-5 Theories of Counselling
EDUC 874-5 Counselling Skills and Strategies
EDUC 877-5 Contemporary School Counselling

MED Electives
Students must complete four courses, selected with an advisor, from the following:
EDUC 803-5 Educational Program Supervision
EDUC 805-5 Social Development in the Primary School Context
EDUC 819-5 Studies in Teacher-Student Interaction
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 880-5 Contemporary Instructional Psychology
EDUC 883-5 Qualitative Methods in Educational Research
EDUC 887-5 Quantitative Methods in Educational Research

Applying for Educational Programs
Students admitted to the program is available from the Graduate Programs Office, Faculty of Education. Students are strongly encouraged to draw additional courses from related departments outside the Faculty of Education.

Psychology of Education

This program leads to the PhD degree. It is designed for students interested in studying theories, basic and applied research, and research methods in the psychology of education. The program is not designed to prepare students for registration with the BC College of Psychologists. A brochure describing the program is available from the Graduate Programs Office, Faculty of Education. Students may apply for transfer credit if the course is deemed acceptable to the degree. Exact equivalence of transfer credit is not required, providing the courses are assessed as such.

Core
Required courses:
EDUC 840-0 Graduate Seminar
EDUC 860-5 Contemporary Instructional Psychology
EDUC 864-5 Research Design in Education

Theory
EDUC 805-5 Social Development in the Primary School Context
EDUC 826-5 The Reading Process
EDUC 827-5 Individual Differences in Learning
EDUC 829-5 Contemporary Issues in Learning Disabilities
EDUC 847-4 Teaching and Learning Mathematics
EDUC 851-5 Computer-Based Learning
EDUC 870-5 Theories of Counselling

Application
EDUC 811-5 Fieldwork I
EDUC 828-5 Instructional Practices in Reading
EDUC 871-5 Family Counselling
EDUC 873-4 Vocational Counselling
EDUC 875-5 Therapeutic Instruction
EDUC 876-5 Cognitive Intervention Research
EDUC 971-5 Advanced Topics in the Psychology of Education

Methodology
EDUC 822-5 Evaluation of Educational Practice
EDUC 861-3 Educational Measurement Theory and Applications
EDUC 882-3 Individual Assessment Procedures
EDUC 883-5 Quantitative Methods in Educational Research
EDUC 885-5 Advanced Topics in Educational Data Analysis
EDUC 886-5 Advanced Qualitative Research in Education
EDUC 887-5 Qualitative Methods in Educational Research

Programs of Study for a Doctoral Degree

Arts Education
This program leads to the PhD degree. This program is designed for persons interested in becoming scholars and leaders in art education. Students are required to complete the following courses:

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 credit beyond the requirements for the MA, MSc or MED.

EDUC 901-5 Seminar in the History of Education Theory

EdD in Educational Leadership
This program leads to an EdD degree. It is designed for educational administrators who are working full time hence classes are held on long weekends and during the summer. This degree looks beyond the...
notion of educational leadership as the application of generic management techniques; its curriculum seeks to prepare leaders for situations where technique is insufficient. The intent of this program is to prepare educational leaders to deal with issues that are currently pressing and to understand the deeper ethical, political, socio-cultural, technological, and educational matters involved.

Courses are divided into four strands of required courses as follows.

**Intellectual Foundations** (10 credit hours)
- EDUC 901-5 Seminar in the History of Educational Theory
- EDUC 902-5 Interdisciplinary Seminar in Contemporary Education Theory

**Professional Foundations** (18-20 credit hours)
- EDUC 960-5 Doctoral Seminar: Ethics, Law and Professional Leadership
- EDUC 961-5 Doctoral Seminar: Educational Governance, Reform and Diversity
- EDUC 962-5 Organizational Leadership, Accountability, and the Public Interest and one elective (3 or 5 credit hours)

**Research Methods Seminars** (6 credit hours)
- EDUC 950-3 Educational Research Paradigms A
- EDUC 951-3 Educational Research Paradigms B

**Thesis** (10 credit hours)
- Thesis Preparation Seminars (no credit)
- EDUC 840-0 Graduate Seminar Thesis
- EDUC 899-10 Thesis

**Graduate Courses**

**EDUC 702-2 Directed Readings**
**EDUC 703-3 Directed Readings**
**EDUC 704-4 Directed Readings**
**EDUC 705-5 Directed Readings**
**EDUC 710-3,4,5 Special Topics**
**EDUC 711-3,4,5 Special Topics**
**EDUC 712-3,4,5 Special Topics**
**EDUC 713-3,4,5 Special Topics**
**EDUC 714-3,4,5 Special Topics**
**EDUC 720-3,4,5 Special Topics**
**EDUC 721-3,4,5 Special Topics**
**EDUC 722-3,4,5 Special Topics**
**EDUC 723-3,4,5 Special Topics**
**EDUC 724-3,4,5 Special Topics**

**EDUC 803-5 Educational Program Supervision**
The course systematically examines school based variables amenable to administrative manipulation and associated with student achievement.

**EDUC 804-5 Selected Problems in Educational Technology**
**EDUC 805-5 Social Development in the Primary School Context**

**EDUC 806-5 Selected Problems in Higher Education**
**EDUC 809-5 Graduate Seminar**
**EDUC 811-5 Fieldwork I**
**EDUC 812-5 Fieldwork II**
**EDUC 813-5 Organizational Theory and Analysis in Education**

Students examine relevant conceptual and empirical material drawn from the field of organizational theory, including the nature of formal and informal organizations, basic models in organizational analysis, organizational goals, organizational control, maintenance and change, decision making, communication and organizational effectiveness.

**EDUC 815-5 Administrative, Legal and Financial Bases of Education**

Students examine the role of local, provincial and federal governments in education in terms of administrative, legal and financial dimensions with emphasis on present delivery services, constraints and strategies.

**EDUC 816-5 Developing Educational Programs**

Students analyse theories and learn how to apply techniques for planning, developing, and implementing programs in schools and other institutions.

**EDUC 817-5 The Political and Social Environment of Public Education**

Students analyse the social and political structure of education in the light of political science theory, including the relationship of the school to the social structure.

**EDUC 818-5 Administrative Leadership of Educational Personnel**

Students examine the leadership role of the educational administrator as it relates to instructional program development, personnel selection and development, supervision and evaluation of teaching personnel, educational change and school evaluation, student personnel services and community relations.

**EDUC 819-5 Studies in Teacher-Student Interaction**

Consideration of systems for analysing teacher interaction and their use in analysing the student's own classroom teaching. The course will also deal with models of instruction designed to achieve various categories of educational objectives.

**EDUC 820-5 Educational Objectives and Teaching Strategies**

Focuses on the development of appropriate teaching strategies to achieve particular educational objectives.

**EDUC 821-5 Philosophical Issues in Classroom Practices**

Philosophical examination of assumptions underlying practical problems in classroom teaching. Some of the main issues examined include: distinguishing teaching, indoctrination, and conditioning; the use of compulsion, manipulation, and discipline; student/teacher relationships; child-centered education; alternative education; punishment and behavior modification. It also focuses on assumptions underlying such practices as play, learning by discovery, individualized instruction, and open education.

**EDUC 822-5 Evaluation of Educational Practice**

Consideration of procedures used in educational evaluation; of published test and other measurement devices; and political, social and philosophical issues relating to the evaluation of educational programs.

**EDUC 823-5 Curriculum and Instruction in an Individual Teaching Specialty**

An intensive examination of developments in a curriculum area selected by the student. In addition the course will deal with major philosophical and historical factors that influence the present state and future directions of curriculum and instruction.

**EDUC 824-5 Seminar in English as a Second Language**

Students examine the principles underlying curriculum design and evaluation materials based on various teaching methods. Students will design curricula for non-native speakers of English.

**EDUC 825-5 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 or equivalent.

**EDUC 827-5 Individual Differences in Learning**

Students will examine current conceptions of individual differences that characterize the heterogeneity of students' abilities in school. Educational implications will also be addressed.

**EDUC 828-5 Instructional Practices in Reading**

The history of reading materials and methods will be discussed, and past and present instructional practices in reading evaluated in terms of state-of-the-art knowledge of instructional research; methods of analysing reading materials will be critiqued. Prerequisite: EDUC 826 or consent of the instructor.

**EDUC 829-5 Contemporary Issues in Learning Disabilities**

Selective issues important and current in the learning disabilities field are examined in depth. The objective is to enable students to master a significant body of knowledge in the learning disabilities field, and to identify areas of interest for their eventual thesis research. Prerequisite: EDUC 422 and 864.

**EDUC 830-5 Implementation of School Programs**

The problems and practices associated with innovation implementation. Among the concerns to be discussed are the nature of change in a school context; the roles of teachers, administrators, change agents, and evaluators during implementation problem solving processes and possible strategies for action.

**EDUC 831-5 Seminar in Philosophy and Educational Theory**

Philosophical examination of issues related to the school as an educational institution with social and political connections. Issues examined include: the education/schooling/training distinction; the justification of education; compulsory curriculum; freedom and authority in education; equality of educational opportunity; legal-moral questions central to educational administration; teachers' parents'/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 relativity of knowledge thesis defensible? Are the claims of sociology of knowledge sound? What is meant by: objectivity/knowledge/belief/truth? In what
sense can 'rationality' be defended as a central educational objective?

EDUC 837-5 Seminar in Education, Social Philosophy, and Sociological Theory
An in-depth study of selected topics in education and social philosophy and sociological theory.

EDUC 838-5 Judgment in Administrative Decision-Making
Students examine the exercise of judgment (discretion) as a key element in administrative decision-making, and investigate the various dimensions of the exercise of discretion: conceptual, empirical, normative and prescriptive using perspectives drawn from diverse administrative contexts.

EDUC 839-5 Studies in the History of Childhood and Education in the Western World
This course will consist of a study of origins of 20th century concepts of childhood and their relationship to child-rearing and education in Europe and North America.

EDUC 840-0 Graduate Seminar
EDUC 841-3 Graduate Seminar
EDUC 844-5 The Research Basis of Mathematics Education
An examination of critical issues, current research and research practices in mathematics education.

EDUC 845-4 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 critical ideas in aesthetics to questions concerning the nature, purpose, and provision of the arts (visual art, music, drama, dance, literature) in education.

EDUC 849-5 Artists, Society and Arts Education
A major survey of the educational theories and practices of musicians and artists generally from medieval times to the present. The special focus will be on modern responses of musicians and artists to modern demands for mass arts education. Material will be drawn from Europe, North America, Asia, and other parts of the world where mass arts education provision occurs.

EDUC 850-5 Creativity and Education
This course involves an exploration of the concept of creativity used in educational theory and practice. Through an examination of philosophical writings, psychological studies, first hand accounts of creators, biographical and historical material, and works of art and science themselves, an attempt will be made to come to grips with some of the problems which surround this concept and thereby to evaluate views about creativity put forth in theoretical accounts and exhibited in educational practice.

EDUC 851-5 Computer-Based Learning
Examines the roles of computers in education with an emphasis on computer based learning using microcomputers.

EDUC 852-5 Education and Dramatic Art
This course involves an exploration of basic issues and questions which underlie the nature and provision of drama education in the schools. It includes a critical examination of the claims made in the theoretical literature regarding the nature and aims of drama education and an exploration of the implications for drama education curriculum and pedagogy.

EDUC 855-5 Multicultural and Race Relations Education: Policy Development and Program Implementation
Theory, research, policy development and program implementation in multicultural and race relations education encompass a wide spectrum of areas of educational inquiry.

EDUC 857-5 Issues and Topics in Environmental Education
Examines the origins of environmental education, the range of program offerings, and the educational concepts which appear to underlie them. Prerequisite: consent of the instructor.

EDUC 858-5 Contemporary Research and Classroom Practices in French Immersion
Students examine studies, reports and articles relating to French Immersion methodology, curriculum and program exploration. Students derive classroom applications and curriculum changes from these studies. Prerequisite: EDUC 481.

EDUC 860-5 Contemporary Instructional Psychology
Critical analysis and synthesis of recent theoretical and empirical research in instructional psychology and cognate areas. Emphasis will be given to designing effective instructional environments using principles gleaned from behavioral, cognitive, and phenomenological perspectives.

EDUC 861-3 Educational Measurement Theory and Applications
Theories about measuring variables in education. Technical approaches to designing measuring instruments for norm-referenced and criterion-referenced contexts. Methods for identifying and relieving problems of measurements in education such as setting standards and bias in selection and classification. Students who have taken EDUC 872 in previous semesters may not take this course for credit.

EDUC 862-3 Individual Assessment Procedures
Methods for gathering and validly interpreting assessments of individuals in educational settings. Intelligence and achievement testing, interview methods, observational procedures, case study methodology. Students who have taken EDUC 872 in previous semesters may not take this course for credit.

EDUC 863-5 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 Designs in Education
Designing and interpreting research about education. Introduction to survey techniques, correlational designs, classic experimental and evaluation designs for investigating causal relations, case study methods, interpretive approaches to research. Students with credit for EDUC 814 may not take this course for further credit.

EDUC 865-5 Advanced Topics in Educational Data Analysis
Advanced methods for analysing multivariate data in educational research: concepts which underlie methods; frailties in methods and means for identifying them in analyses; using mainframe and microcomputer programs and interpreting output from them, illustrations from educational research are used throughout. Prerequisite: EDUC 864 and 865.

EDUC 866-5 Advanced Qualitative Research in Education
Students will study in depth various qualitative methodological approaches to educational research, will develop competencies 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 875-5 Therapeutic Instruction
An exploration of the role of emotions in learning. The course will detail ways in which the affective domain can be accommodated in the context of teaching and learning to secure a holistic balance within the instructional framework. Prerequisite: EDUC 860.

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 860.

EDUC 877-5 Contemporary School Counselling
This course is designed to examine the complex role of the school counsellor at various levels of the public school system. Responsibilities of school counsellors, as well as the knowledge and skills
required to discharge these will be investigated. Topics will also include background knowledge such as legal and ethical issues, structure of the school and social services systems, and child development. Specific social and psychological issues of particular relevance to school counsellors will be covered (e.g. conflict resolution, conducting parent interviews, social skills training, helping teachers deal with children with a variety of behavioral challenges such as hyperactivity and aggressive behavior, the impact of divorce on children, etc.).

EDUC 881-5 Master’s Project
The project is a study that may take a variety of different forms including a survey, case study, extended essay, curriculum development project inter alia; central to its character is a concern with the application of relevant academic knowledge to professional practice. The project should normally be completed and approved in two semesters.

EDUC 883-0 MEd Comprehensive Examination
The comprehensive examination is the final evaluative component of the coursework/comprehensive MEd and is graded on a satisfactory/unsatisfactory basis.

EDUC 898-10 Masters Thesis
The thesis is a research investigation designed to generate and/or examine critically new knowledge in the theory and/or practice of education. The thesis should normally be completed and approved in three semesters.

EDUC 899-10 PhD Thesis
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 practice.

EDUC 902-5 Interdisciplinary Seminar in Contemporary Educational Theory
Contemporary educational theories and theories from supporting disciplines (e.g., psychology, sociology, philosophy) will be examined and analysed. The relationships among contemporary theories, current practice and educational change will be focal.

EDUC 903-5 Research Apprenticeship
The apprenticeship is designed to provide the student with practical experience in scholarly inquiry in close co-operation with a faculty member in the student’s area of specialization.

EDUC 904-5 Fieldwork III
EDUC 905-5 Fieldwork IV
EDUC 907-5 Selected Topics
EDUC 908-5 Selected Topics
EDUC 910-5 Directed Readings
EDUC 911-5 Colloquium in Curriculum Theory (I)
EDUC 912-5 Colloquium in Curriculum Theory (II)
EDUC 945-5 Doctoral Seminar in Arts Education
The course provides a broad theoretical overview of problems and ideas associated with the nature and provision of arts education in the schools.

EDUC 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 leadership. In addition, 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. (2-3-0)

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 The Problems of Practice: Seminar in Problem Based Learning
This seminar will use problems based learning (Bridges & Hallinger, 1992) as the heuristic and pedagogy for focusing students on the systematic investigation of a practical problem of their own choosing. This approach will require the collection and application of relevant knowledge and skills to resolve problems encountered in the professional workplace. (1-2-2)

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
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.
Faculty of Science

Graduate Degrees Offered

- Master of Pest Management
- Master of Science
- Doctor of Philosophy

General Regulations

For admission requirements, registration, residence requirements and time limit for completion of degrees, see Graduate General Regulations.

Admissions

Requirements for the MSc Degree

The minimum requirements for the masters degree are those stated in the Graduate General Regulations. Any additional requirements imposed by the supervisory committee must be satisfied. Individual departments may require additional courses at the graduate level. Students who, in the opinion of the supervisory committee, lack certain prerequisites for graduate courses may be required to include some undergraduate courses in their programs.

Requirements for the PhD Degree

A PhD candidate must present a thesis embodying the results of his/her original research. In addition, the PhD program requires a minimum of 20 credit hours of course work beyond the BSc degree. Of these 20 hours, at least 15 are to be in graduate courses numbered in the 800s and the remaining five may be chosen from courses at the graduate or upper division undergraduate level within the candidate’s department or an ancillary department.

These are minimum requirements within the faculty. Individual departments may have additional requirements.

Full-Time Study

Full-time study for the MPM, MSc, and PhD degrees normally is defined as a period of intensive work, during which time 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, refer to the Graduate General Regulations.

Thesis

The thesis must be presented and lodged in the University Library. Details concerning the final form for binding are available from the Library.

PhD Examinations

Examinations may be oral and/or written and all members of the committee must certify the results.

For further information and regulations, see Graduate General Regulations.

Research Facilities

The research programs of the Faculty of Science are housed in modern research laboratories and are serviced by a wide range of facilities and equipment.

Applied and Computational Mathematics Program


Chair

J.L. Berggren BSc, MSc, PhD (Wash)

Graduate Program Chair

R.A. Lockhart BSc (Br Col), PhD (Calif)

Faculty and Areas of Research

G.N. Bojadjiev – differential equations; population dynamics, control dynamics

J.M. Borwein – optimization, tomography, convex analysis, nonlinear analysis

R. Choksi – calculus of variations, partial differential equations, and applications to material science

A. Das – variational techniques; interior solutions in general relativity

G.A.C. Graham – viscoelastic solid mechanics

M.C.A. Kropinski – numerical solutions of non-linear differential equations; fluid dynamics

R.W. Lardner – computational fluid dynamics:

oceanography, asymptotic methods, nonlinear waves

E. Pechlaner – relativistic continuum mechanics: approximation methods, self-similarity

K. Promislow – partial differential equations, nonlinear waves, invariant manifolds

R.D. Russell – numerical analysis; numerical solution of differential equations, dynamical systems

C.Y. Shen – electromagnetic scattering; large-scale scientific computing

E.M. Shoemaker* – environmental mathematics: glaciology, plasticity

M. Singh* – nonlinear stability and perturbation methods

T. Tang – computational fluid dynamics, numerical partial differential equations

M.R. Trummer – numerical analysis: differential equations, integral equations

*emeritus

This program is one of the graduate programs offered by the Department of Mathematics and Statistics.

Admission

For admission requirements, refer to the Graduate General Regulations.

Applicants are normally required to submit scores in the aptitude section and an appropriate advanced section of the Graduate Record Examinations of the Educational Testing Service.

Applicants with backgrounds in areas other than mathematics, for example, a bachelor’s degree or its equivalent in Engineering or Physics may be considered suitably prepared for these programs.

Degree Requirements

MSc Program

A candidate for the MSc degree will normally be required to obtain a total of 28 credit hours of credit for course work beyond courses taken for the bachelor’s degree. These 28 hours will consist of a core program containing the six courses listed below together with a further four hours of credit which may be at the graduate level or at the 400 undergraduate level. The six core courses are

- MATH 900-4 Advanced Mathematical Methods I
- MATH 901-4 Advanced Mathematical Methods II
- MATH 920-4 Numerical Linear Algebra
- MATH 922-4 Numerical Solution of Partial Differential Equations
- MATH 930-4 Fluid Dynamics
- MATH 935-4 Mechanics of Solids

In addition to this course requirement the student will be required to complete a project which will normally involve a significant computational component and to submit and successfully defend a report on that project. This project is intended to be completed within about one semester.

PhD Program

A candidate for the PhD degree will be required to obtain at least a further 8 credit hours of credit for course work in graduate level courses beyond the requirements for the MSc degree. Candidates who are admitted to the PhD program without completing a MSc degree will be required to obtain credit or transfer credit for an amount of course work equivalent to that obtained by students who first complete a MSc degree.

Candidates for the PhD will normally pass a general examination consisting of two stages. In the first stage students will be required to pass an examination covering a broad range of senior undergraduate material in applied and computational mathematics. In the second stage students will be required to present to their supervisory committee a written thesis proposal and then to defend this proposal at an open oral defence. The supervisory committee will evaluate the thesis proposal and defence and either pass or fail the student. A candidate ordinarily will not be allowed to take either
stage of the general examination more than twice. Both stages must normally be completed within six full time semesters of initial enrolment in the PhD program.

A candidate for the PhD degree will be required to submit and defend a thesis based on his or her own original work and which will embody a significant contribution to mathematical knowledge.

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.

MATH 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. Recommended: MATH 419

MATH 901-4 Advanced Mathematical Methods II

MATH 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 866 may not take MATH 902 for further credit.

MATH 903-4 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.

MATH 910-4 Ordinary Differential Equations
The solutions and properties of ordinary differential equations and systems of ordinary differential equations in the real and complex domains. Prerequisite: MATH 415 or equivalent. Students with credit for MATH 842 may not take MATH 910 for further credit.

MATH 912-4 Partial Differential Equations
An advanced course on partial differential equations. Topics covered usually will include quasi-linear first order systems and hyperbolic, parabolic and elliptic second-order equations. Prerequisite: MATH 901 or permission of the instructor. Students with credit for MATH 845 may not take MATH 912 for further credit.

MATH 920-4 Numerical Linear Algebra
Direct and iterative methods for the numerical solution of linear systems, factorization techniques, linear least squares problems, eigenvalue problems. Techniques for parallel architectures. Prerequisite: students with credit for MATH 850 may not take MATH 920 for further credit.

MATH 921-4 Numerical Solution of Ordinary Differential Equations
Study of the practical numerical methods for solving initial and boundary value problems for ordinary differential equations. Prerequisite: students with credit for MATH 851 may not take MATH 921 for further credit.

MATH 922-4 Numerical Solution of Partial Differential Equations
Analysis and application of numerical methods for solving partial differential equations. Finite difference methods, spectral methods, multidgrid methods. Prerequisite: students with credit for MATH 852 may not take MATH 922 for further credit.

MATH 923-4 Numerical Methods in Continuous Optimization
Numerical solution of systems of nonlinear equations, and unconstrained optimization problems. Newton’s method, Quasi-Newton methods, secant methods, and conjugate gradient algorithms. Prerequisite: students with credit for MATH 853 may not take MATH 923 for further credit.

MATH 929-4 Selected Topics in Numerical Analysis
Study of a specialized area of numerical analysis such as computational fluid dynamics, approximation theory, integral equations, integral transforms, computational complex analysis, special functions, numerical quadrature and multiple integrals, constrained optimization, finite elements methods, sparse matrix techniques, or parallel algorithms in scientific computing.

MATH 930-4 Fluid Dynamics
Basic equations and theorems of fluid mechanics. Incompressible flow. Compressible flow. Effects of viscosity. Prerequisite: MATH 361 or equivalent. Recommended: MATH 462

MATH 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: MATH 930 or permission of the instructor.

MATH 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 may not take MATH 935 for further credit. Recommended: MATH 468.

MATH 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: MATH 935 or permission of the instructor.

MATH 940-4 Mathematical Elasticity

MATH 941-4 Plasticity
An introduction to the mathematical theory of plasticity. Topics normally will include yield criteria and flow rules, torsion and bending, plane strain solutions and limit load analysis. Students with credit for MATH 890 may not take MATH 941 for further credit.

MATH 948-4 Continuum Mechanics
General introduction to modern theories of the mechanics of continuous media. Topics may include linear and non-linear elasticity, viscoelasticity, Newtonian and non-Newtonian fluids and multipolar materials. Students with credit for MATH 881 may not take MATH 948 for further credit.

MATH 950-4 Tensor Analysis on a Differentiable Manifold
A first graduate course dealing with the following topics: tensor algebra, tensor fields on differentiable manifolds, differential forms, invariant problems in the calculus of variation, metric field theory and Einstein’s equations.

MATH 960-4 Mathematical Foundations of Quantum Mechanics I
Historical introduction; Minkowskian space-time and Lorentz group; brief review of multilinear algebra; representation of Lorentz group in tensor spaces; representation of Lorentz group in spinor spaces; irreducible representations of Lorentz group; relativistic wave equations. Study of Lie group generated by elements of Lorentz group in neighborhood of identity. Students with credit for MATH 885 may not take MATH 960 for further credit.

MATH 961-4 Mathematical Foundations of Quantum Mechanics II
Hilbert space; closed linear manifolds; operators in Hilbert space; eigenvalue problems; Hilbert space representation of Lorentz group, quantized fields. Statistical interpretation; uncertainty principle, measurement processes. Students with credit for MATH 886 may not take MATH 961 for further credit.

MATH 964-4 General Relativity I
Historical introduction; review of tensor calculus in pseudo-Riemannian space. The world function w(X,X1) and chronometry; pseudo-Riemannian space-time; the material continuum and Einstein’s field equations. Differential and integral conservation laws and equations of motion; universes with spherical symmetry and application to planetary systems; statical universes; stationary universes. Students with credit for MATH 887 may not take MATH 964 for further credit.

MATH 965-4 General Relativity II
Further studies of pseudo-Riemannian geometry; tetrad formalism and Ricci rotation coefficients; Petrov’s classification of special Einstein spaces X4. Gravitational radiations; coupled electro-gravitational universes; combined Klein-Gordon-Maxwell-Einstein field equations; comments on geometrodynamics. Students with credit for MATH 888 may not take MATH 965 for further credit.

MATH 990-4 Selected Topics in Applied Mathematics
MATH 603, 604 and 605 are offered as part of the graduate program in mathematical education, MSc. These three courses are not available for credit towards the MSc or the PhD degrees in the Faculty of Science.

Graduate Program Chair
M.J. Smith BSc (St Mary’s, Calif), PhD (Br Col)
Chair
F. Breden BA (S Florida), MS (Georgia), PhD (Chic)
Graduate Program Chair
F. Breden BA (S Florida), MS (Georgia), PhD (Chic)
Faculty and Areas of Research
For a complete list of faculty, see Biological Sciences undergraduate section. See also Centre for Pest Management.
L.J. Albright – marine microbiology, fish diseases
D.L. Baillie – genetics, developmental biology
A.T. Beckenbach – population genetics, biometrics
L.J. Bendall-Young – fate and effects of contaminants on aquatic and terrestrial systems
J.H. Borden – forest entomology, phenomenes
P.B. Brandhorst – developmental biology, molecular biology
F. Breden – population genetics, evolution of social behavior
R.C. Brooke – plant ecology, physiological ecology
A.H. Burr – biophysics, photobiology, neurobiology
E.G. Cooch – population biology and evolutionary ecology
Admission – MSc and PhD
For admission requirements, refer to the Graduate General Regulations.
For admission to the Master of Pest Management program, refer to the Centre for Pest Management section.

Biochemistry and Molecular Biology
Students wishing to undertake graduate studies in molecular biology or biochemistry should refer to the Molecular Biology and Biochemistry Program in the Graduate Studies section of the Calendar.

Biophysics
Students who wish to undertake interdisciplinary work in biophysics, may apply to the Department of Biological Sciences or the Department of Physics. Those who wish to work in biophysics under special arrangements, should refer to the Graduate General Regulations.

Post Baccalaureate Diploma in Environmental Toxicology
A post baccalaureate diploma is offered in environmental toxicology. Please see the Biological Sciences undergraduate section for details.

Degree Requirements for MSc and PhD
All MSc and PhD programs require a thesis based on original research. Each PhD student is required to pass an oral candidacy examination prior to the end of the fourth semester in the program or second semester after transfer from the MSc program. The examination will concentrate on the student’s area of research and will follow submission of a written PhD research proposal. The examination will be graded acceptable/unacceptable. Students whose examination is graded unacceptable will be required to pass a second examination within six months; a student receiving a second unacceptable rating will normally be required to withdraw from the PhD program.

The PhD program requires a minimum of three courses totalling not less than eight credit hours of course work beyond any masters degree to be taken while the student is enrolled in a PhD program at Simon Fraser University. Of these eight hours, at least six are to be in graduate courses numbered in the 800s, and the remaining hours may be chosen from courses at the graduate or upper division undergraduate level within the candidate’s department, or in an ancillary department. Where approval is obtained in advance, a PhD student may take up to one-half of the above course requirement at another university for credit toward the PhD degree at Simon Fraser University.

For PhD students, the thesis examining committee will include one or more public examiners [see Graduate General Regulations 1.9.3(c)].

For detailed information on graduate programs in biological sciences, 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 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 821-3 Biology of Visual Photoreceptors
Physiological and biochemical aspects of photoreception.

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 832-3 Marine Microbiology
The relationship of marine microbes to the biological, chemical and physical parameters of the oceanic environment. Prerequisite: permission of the department.

BISC 834-4 Marine Plant Ecology
Lectures and student projects on the relationships of marine plants to their physical and biological environments. Benthic algae will be stressed.
BISC 838-3 Population Biology
Consideration of the ecological and genetic processes acting at the population level. (3-0-0)

BISC 841-3 Plant Disease Development and Control
An examination of the major factors that lead to development of soil-associated and foliar plant diseases in cultivated crops. The major areas of emphasis are ecology and the control of soil borne plant pathogens, and the nature and utilization of host resistance for the control of plant diseases.

BISC 842-3 Insect Development and Reproduction
Analysis of hormonal factors that influence growth, development, and reproduction in insects, with emphasis on the use of hormone analogues and anti-metabolites for population management.

BISC 843-3 Applied Behavioral Ecology
Concepts and methods from behavioral ecology and population dynamics are used to solve problems of an applied nature (e.g. pest management, harvesting policies, management of human diseases). Model building and analysis feature prominently.

BISC 844-3 Biological Controls
Principles, theory, and practice of the use of living organisms in the natural regulation and the control of organisms. Emphasis will be on parasitic insects, and include host specificity, genetics, genetic controls, and the evolution of host-parasite associations.

BISC 846-3 Insecticide Chemistry and Toxicology
The chemistry of insecticides, with emphasis on their toxicology, metabolism and fate in the environment.

BISC 847-3 Pest Management in Practice
Status and special problems of pest management programs in different kinds of ecosystems; organization, special characteristics, practices, and problems of pest management agencies; interactions and communication.

BISC 848-3 Nematology
A study of the concepts of host-parasite relationships as exemplified by nematode parasites of plants and insects. Special problems associated with the nematode organism and its way of life and their relevance to crop production. Prerequisite: permission of the department.

BISC 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 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 880-3 Special Topics in Behavioral Ecology
A consideration of advanced special topics in the field of behavioral ecology.

BISC 881-3 Special Topics in Cell and Molecular Biology
A student participation seminar course focusing on recent literature on selected topics in cellular, developmental and molecular biology. Prerequisite: permission of the instructor.

BISC 883-3 Special Topics in Environmental Toxicology
Special topics course with emphasis on recent developments in environmental toxicology.

BISC 884-3 Special Topics in Pest Ecology and Management I
A specific topic in the field of pest ecology and management, not otherwise covered in depth in regularly scheduled courses.

BISC 885-3 Special Topics in Animal Physiology
Special topics in comparative vertebrate and invertebrate functional mechanisms and adaptations. Prerequisite: undergraduate course in animal physiology.

BISC 886-3 Special Topics in Marine and Aquatic Biology
Special topics course emphasizing recent developments in the area of aquatic and marine biology.

BISC 887-3 Special Topics in Plant Biology
Advanced treatment of selected topics or specialized areas in plant biology. The special topics to be discussed will vary from semester to semester.

BISC 888-1 Directed Readings in Biology
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 889-2 Directed Reading
Intended to cover the same ground as a normal graduate course, it may be given to one or two students when a lecture/seminar is inappropriate.

BISC 890-3 Directed Readings in Biology
Advanced study of selected topics or specialized areas in biology. The special topics to be discussed will vary from semester to semester.

MASC 503-3 Special Topics
Courses offered, as opportunities arise, by distinguished scientists who are visiting the Bamfield Marine Station and are prepared to offer a course extending over a 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 505-6 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 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


Chair
R.G. Korteling AB (Hope), PhD (Calif)

Graduate Program Chair
S. Holdcroft BSc (Salf), PhD (S Fraser)

Faculty and Areas of Research
For a complete list of faculty, see Chemistry undergraduate section.

G. Agnes – analytical chemistry
A.J. Bennet – organic chemistry
T.J. Borgford – biochemistry*
R.B. Cornell – biochemistry*
R.J. Cusheley – physical biochemistry*
J.M. D’Auria – nuclear chemistry
F.W.B. Einstein – inorganic chemistry
I.D. Gay – physical chemistry
R.H. Hill – inorganic chemistry

S. Holdcroft – polymer chemistry
C.H.W. Jones – radiochemistry
E. Kiehlmann – organic chemistry
R.G. Korteling – nuclear chemistry
G.W. Leach – physical chemistry
S.K. Lower – physical chemistry
G.L. Malli – theoretical chemistry, chemical physics
A.C. Oehschlager – bio-organic chemistry
P.W. Percival – physical chemistry, nuclear chemistry
L.K. Peterson – inorganic chemistry
B.M. Pinto – organic chemistry
R.K. Pomeroy – inorganic chemistry
W.R. Richards – biochemistry*
D. Ser – biochemistry*
K.N. Slessor – bio-organic chemistry
D. Sutton – inorganic and organometallic chemistry
E.J. Wells – physical chemistry
S. Wolfe – organic chemistry
Z.G. Ye – materials chemistry

Associate Member
D.H. Boal, Physics

*joint appointment with Biochemistry

Degrees Offered
The department offers courses leading to the MSc and PhD degrees.
Graduate Science – Chemistry

MSc Program

Admission
Refer to the Graduate General Regulations.

Degree Requirements

Course Work
The minimum requirement for the master's degree consists of 12 credit hours of graduate course credit, including CHEM 801 and 805. CHEM 805 must be taken at the first opportunity following registration in the program.

Research
A major portion of the master's degree program will be devoted to original research. A thesis describing this research must be submitted and defended at the conclusion of the degree program.

PhD Program

Admission
Refer to the Graduate General Regulations.

Degree Requirements

Course Work
For students entering with a BSc or equivalent: 20 credit hours of graduate course credit, including CHEM 801, 805 and 806. CHEM 805 must be taken at the first opportunity following registration in the program. CHEM 806 must be taken at the first opportunity following three semesters registration in the graduate program.

For students entering with a masters degree: 12 credit hours of graduate course credit, including CHEM 805 and 806. CHEM 805 must be taken at the first opportunity following registration in the program. CHEM 806 must be taken at the first opportunity following three semesters registration in the program. CHEM 801 is optional.

Research
The major portion of the PhD program will be devoted to original research. A thesis embodying new and significant results must be presented and defended at the conclusion of the degree program.

Transfer from the MSc to the PhD Program
Transfer from the MSc program to the PhD program without submitting an MSc thesis must satisfy University requirements, and include CHEM 805. Evidence of research potential will be judged by the graduate program committee.

Biochemistry
Students wishing to undertake graduate studies in biochemistry should refer to the description of the Molecular Biology and Biochemistry Program in the Graduate Studies section.

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. Those who want to work in chemical physics under special arrangements should refer to the Graduate General Regulations.

Co-operative Education Program
The Department of Chemistry offers a co-operative education option in its graduate program in order to allow students to gain work experience outside the academic sphere. Students who are currently enrolled in the department's MSc program may apply for registration in CHEM 881 and 882. This option is only tenable after the completion of an MSc thesis and defense but before formal graduation. Registration in these courses required the approval of the graduate program committee.

Graduate Courses

CHEM 750-3 Advanced Organic Chemistry
An advanced treatment of mechanism and structure in organic chemistry and the use of physical methods as probes of structure, stereochemistry and conformation.

CHEM 751-3 Advanced Organic Chemistry II

CHEM 752-3 Advanced Bio-organic Chemistry
An advanced treatment of the use of enzymes in organic synthesis, the use of stable and radio isotopes in the study of enzymatic processes, and the design of enzyme inhibitors.

CHEM 753-3 Photo-organic Chemistry
Discussion of energy transfer, electron transfer, excited states, photophysics, and mechanism and synthetic aspects of photochemistry in solution.

CHEM 754-3 Carbohydrate Chemistry
A detailed treatment of the structure and reactions of monosaccharides, the use of carbohydrates as chiral templates in organic synthesis, advances in glycoside synthesis, the occurrence, chemistry, and conformational analysis of complex carbohydrates and their role in biological systems.

CHEM 801-3 Student Seminar
Discussion of recent literature in chemistry through student seminars.

CHEM 805-3 MSc & PhD Research Thesis Proposal
Critical evaluation of written and oral thesis research proposals.

CHEM 806-3 PhD Thesis Research Seminar
Critical evaluation of written and oral thesis research reports. Prerequisite: CHEM 805. To be evaluated on a satisfactory/unsatisfactory basis and counted toward the minimum course requirement.

CHEM 811-3 Crystal Structure Analysis I
Point groups, space groups, periodic structures with atoms in general and special positions. The crystal as a 3-dimensional diffraction grating; the Laue conditions; Bragg’s Law. Single crystal methods with X-rays. Electron density as the transform of structure amplitudes. Fourier maps. An introduction to the phase problem. Structure refinement and accuracy assessment.

CHEM 812-2 Crystal Structure Analysis II
The phase problem and its solution by direct and vector space techniques. Neutron and electron diffraction. Application of these techniques to problems of the solid state.

CHEM 823-3 Selected Topics of Special Biochemical Interest
CHEM 824-3 Physical Biochemistry
Modern physical methods applied to biomacromolecules; structure of nucleic acids, proteins and membranes.

CHEM 825-3 Bioenergetics
A discussion of the most important processes for biological energy transduction. Structure-function relationships of membrane components and/or other interacting macromolecular systems.

CHEM 832-3 Advanced Inorganic Chemistry
An advanced treatment of the synthesis, structures, reactions and spectroscopic identification of inorganic compounds.

CHEM 833-3 Recent Advances in Main Group Chemistry
Important developments in main group chemistry in recent years will be examined in the context of the basic chemistry of the elements involved; not every element or group will necessarily be discussed.

CHEM 834-3 Recent Advances in Transition Metal Chemistry
Developments in the chemistry of simple and complex transition metal compounds emphasizing current theories of electronic structure, stereochemistry and bonding.

CHEM 853-3 Recent Advances in Organometallic Chemistry
A review of recent progress in this area, including metal alkyls, metal carbonyls and their derivatives, complexes with delocalized ring systems and related compounds.

CHEM 856-3 Special Topics in Inorganic Chemistry I
An advanced, in-depth treatment of a specialized area of inorganic chemistry.

CHEM 837-3 Special Topics in Inorganic Chemistry II
An advanced, in-depth treatment of a specialized area of inorganic chemistry.

CHEM 841-3 Advanced Nuclear Chemistry I
Review of deuterium and nuclear-nucleon scattering, a study of nuclear models, and a detailed description of nuclear spectroscopy.

CHEM 842-3 Selected Topics in Radiochemistry
Theory and practical techniques of the current uses of radioactive isotopes in systems of chemical interest.

CHEM 843-3 Advanced Nuclear Chemistry II
A thorough discussion of the theories of nuclear reactions and the mechanism of fission. Additional topics on nuclear models and elementary particles.

CHEM 856-3 Selected Topics in Organic Chemistry
An advanced treatment of specific topics related to the study of organic compounds. Topics which will be discussed will vary from one semester to the next.

CHEM 860-3 Advanced Physical Chemistry
A review of basic concepts in physical chemistry, spectroscopy and chemical kinetics.

CHEM 861-3 Photochemistry and Chemical Kinetics
Chemical kinetics with emphasis on the reactions of free radicals and excited species. Basic principles of photochemistry and their application. CHEM 861 may not be taken for credit by students who have completed CHEM 865.

CHEM 862-3 Macromolecular Chemistry
Physical properties and characterization of macromolecules. Relationship between structure and properties. Kinetics of polymerization. CHEM 862 may not be taken for credit by students who have completed CHEM 867.

CHEM 863-3 Magnetic Resonance
Principles, techniques and applications of NMR and ESR.

CHEM 869-3 Selected Topics in Physical Chemistry
A specialized area of physical chemistry will be selected from a list of topics.

CHEM 871-3 Quantum Chemistry
Non-relativistic quantum mechanics. Atomic and molecular structure, perturbation theory, variation method.

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 electing to write a thesis in chemical education, are 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 included for credit towards the PhD degree in chemistry if the student transfers into the PhD program.

CHEM 899-0 PhD Thesis

Earth Sciences Program


Director
M.C. Roberts BSc (Lond), MA (Tor), PhD (Iowa), PGeo

Graduate Program Chair
J.A. MacEachern BSc, MSc (Regina), PhD (Alta)

Faculty and Areas of Research
For a complete list of faculty, see Earth Sciences undergraduate section.

D.M. Allen – hydrogeology
A. Calvert – geophysics
E.J. Hicken – fluvial geomorphology and sedimentology
J.A. MacEachern – ichnology and sedimentology
P.S. Mustard – evolution of sedimentary basins
M.C. Roberts – quaternary depositional environments
D.J. Thorkelson – cordilleran tectonics and volcanology
B.C. Ward – environmental and quaternary geology

MSc Program

The Earth Sciences Program offers a master of science degree in earth sciences with emphasis on earth surface processes and environmental geoscience, surficial and quaternary geology and sedimentology.

Admission
For admission requirements, refer to the Graduate General Regulations section. Students should normally have a BSc degree or equivalent in an honors program with at least a good second class standing (3.0 GPA) in the earth sciences (geology, geological engineering, geophysics, geomorphology, soil science or physical geography).

Degree Requirements

Course Work
All students in the program will be required to take EASC 600 and a minimum 12 credit hours composed of at least four courses from the list below, or with the Graduate Chair’s approval, from related graduate course offerings in other departments such as Geography, Chemistry, Physics, Biological Sciences and Resource and Environmental Management. Course selections will include no more than three credit hours from 700 level earth sciences courses. In addition, a thesis is required for the degree. The actual course selection will be a reflection of the student’s research interest and guidance from the advisor.

Research
Graduates of this program will be required to conduct original research and report their results in a thesis.

Graduate Courses

EASC 600-0 Introduction to Graduate Studies
A required course designed to acquaint new graduate students with the research strengths of the program, research facilities in the University, and its vicinity. Procedures and policies relating to preparation, content and presentation of thesis research will be discussed. (seminar)

EASC 611-3 Stratigraphy
Stratigraphic concepts of lithostratigraphy, biostratigraphy, chronostratigraphy and genetic stratigraphy. The course concentrates on genetic stratigraphy, with emphasis on astrostratigraphy, genetic stratigraphic sequences and sequence stratigraphy. Students will critically assess each paradigm and its applicability to both the subdivision and the interpretation of the stratigraphic record. Relative sea level changes and their effects on deposition will be discussed in relation to the preserved stratigraphic record. Students will examine the utility of facies analysis in the various genetic stratigraphic frameworks and the viability of reconstructing the depositional history of stratigraphic successions. (2-0-2)

EASC 612-3 Sedimentology
Sedimentological concepts of allostratigraphy and genetic sedimentology. The course expands upon the theory and use of the stratigraphic chart and the classification of strata. In addition to examining the stratigraphic record, emphasis is placed upon the genetic stratigraphic applications of stratigraphy. (2-0-2)

EASC 613-3 Groundwater Hydrology
Advanced topics in groundwater hydrology, including fluid mechanics of open channel flow, physical hydrogeology and sedimentology. The course expands upon the theory and use of the concepts of groundwater hydrology, 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 groundwater hydrology course. (2-0-2)

EASC 614-3 Subsurface Techniques
Advanced topics in subsurface exploration methods. Methods of drilling; core description and analysis; well logging. (1-0-3)

EASC 615-3 Applied Geophysics
Instrumentation, application and limitations of electrical, seismic, radar and gravity methods in the exploration for mineral resources and in engineering applications. (1-0-3)

EASC 616-3 Fluvial Systems
Fluid mechanics of open channel flow; physical sedimentology and sediment transport in aqueous environments. (2-0-2) Prerequisite: appropriate standing in Applied Mathematics and in Physics.

EASC 617-3 Quaternary Geology
Environments of glacial and proglacial deposits. Quaternary stratigraphy and dating methods with emphasis on the Cordillera. (1-0-3)

EASC 618-3 Tectonics of Sedimentary Basins
Regional processes of subsidence and basin formation from a plate tectonics viewpoint. The course will examine the origins and general characteristics of convergent, divergent, intraplate and hybrid basins. Methods of discriminating basin origins from an understanding of depositional systems, stratigraphic analysis, provenance and compositional variations will be examined. (2-0-2)

EASC 619-3 Environmental Geoscience
An examination of the concepts, methods and techniques used in advanced case studies of environmental geology, in fields including forestry, environmental geochemistry, earthquake and volcanic hazard, and urban planning. (2-0-2)

EASC 620-3 Volcanology
Physical, chemical and tectonic aspects of volcanology examined with emphasis on processes of magma generation and evolution, styles of eruption, environments of deposition, and interpretation of volcanic facies. (2-0-2) Prerequisite: undergraduate course in petrology and structural geology.

EASC 621-3 Tectonics and Magmatism of Convergent Plate Margins
Geological processes at convergent plate margins are considered in the context of plate tectonic principles. Topics to be addressed include: driving forces of tectonic plates, mantle convection, geometry of subducted slabs, ridge-trench intersections, generation of volcanic arcs, causes of anomalous magmatism, accretion of terranes, and transpression of oceanic 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 (behavioural) classification of biogenic structures, as well as its applications to the ichnological concept and palaeoenvironmental interpretation of the sedimentary record. Environmental stresses and organism responses will be integrated with conventional sedimentology to highlight the complex inter-relationships between faunia 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 type and fractured aquifers will be included. Computer applications will be emphasized. (2-0-2) Prerequisite: undergraduate course in groundwater.

EASC 701-1 Special Topics in Earth Sciences I
EASC 702-2 Special Topics in Earth Sciences II
EASC 703-3 Special Topics in Earth Sciences III
EASC 898-0 MSc Thesis

Environmental Toxicology Program


Director
Dr. F.C.P. Law BSc, MSc (Alta), PhD (Mich)

Faculty and Areas of Research
L. Bendell-Young – ecotoxicology
A.P. Farrell – physiology and aquatic toxicology
F. Gobas – environmental fate modelling
C.J. Kennedy – biochemical and aquatic toxicology
F.C.P. Law – environmental toxicology and risk assessment
M.M. Moore – degradation of chemicals by microorganisms
R.A. Nicholson – biochemical and pesticide toxicology
R.D. Routledge – statistics
M.P. Rosin – environmental carcinogenesis

Approval of this program by the degree program review committee is pending.

Before entering the program students should have completed the following courses or their equivalents.

These prerequisites may be waived by the departmental graduate studies committee under special circumstances on recommendation from the director of the program.

BISC 312-3 Environmental Toxicology I
BISC 313-3 Environmental Toxicology II
CHEM 250-3 Organic Chemistry II
BICH 221-3 Cellular Biology and Biochemistry

Each MENTOX student must choose a senior supervisor after admission, in consultation with the director of the program. In accordance with university regulations, a supervisory committee must be formed by the beginning of the third semester of full time equivalent enrolment. As part of the requirements, students must complete a project on a specific aspect of environmental toxicology which may be based on original field, laboratory or library research. The student will be supervised on this project by the senior supervisor while enrolled in BISC 656. In addition to submission of a report at the completion of the project, the student will make an oral presentation to at least the supervisory committee and at least one other faculty member.

This program may be taken on a part time basis.

Master’s Requirements
Every MENTOX program will consist of a minimum of 32 credit hours of graduate credit, 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 856-3 Industrial Biotechnology
BISC 883-3 Special Topics in Environmental Toxicology
KIN 851-3 Recent Advances in Experimental Carcinogenesis
REM 612-5 Simulation Modelling in Natural Resource Management

Co-operative Education
The Master of Environmental Toxicology program has a co-operative education option that allows students to gain work experience outside the University. Award of the Master of Environmental Toxicology degree is contingent upon satisfactorily completing this option.

Students registering in the co-op program must note the regulations governing minimum fee requirements. See Fees for Master’s and PhD Students in the Graduate Fees section of this Calendar.

Professional Registration and Certification
Eligibility for the certification examination of the American Board of Toxicology Inc. can be met through the Master of Environmental Toxicology program and four years of work experience.

Graduate Courses
BISC 650-3 Environmental Risk Assessment
This course emphasizes recent development in quantitative human health risk assessment and ecological effects based risk assessment of environmental chemicals. (0-0-3) Prerequisite: BISC 313.
BISC 651-3 Toxicity Tests I: Ecological Effects Based Tests
This course provides the basic concepts and practical experience for the application of ecologically-based toxicity tests. (2-0-4) Prerequisite: BISC 313.
BISC 652-3 Environmental Toxicology Testing II: Mammalian Toxicology
The main focus of this course is on laboratory testing procedures currently employed in the toxicological evaluation of chemicals. (2-0-3) Prerequisite: BISC 313 or permission of the department.
BISC 654-3 Food and Drug Toxicology
Investigates those toxic compounds in the environment which are added to, contaminate, or supplement one’s diet. (2-0-4) Prerequisite: BISC 313 or equivalent.
BISC 655-3 Environmental Toxicology Seminars
A structured series of seminars on the recent developments of environmental toxicology. (3-0-0)
BISC 656-0 Master of Environmental Toxicology Project
One semester experience in a university or commercial laboratory according to student’s interests. Prerequisite: acceptance into the environmental toxicology program.
BISC 657-0 Co-op Practicum I
First work experience for MENTOX students. Prerequisite: completion of professional paper.
BISC 658-0 Co-op Practicum II
Second work experience for MENTOX students. Prerequisite: completion of professional paper.
BISC 854-3 Ecotoxicology
The proposed course will deal with the physiological factors that influence contaminant behavior in aquatic and terrestrial ecosystems. (0-0-3) Prerequisite: BISC 101, 312, CHEM 102, and 103. Recommended: BISC 414.
BISC 855-3 Biochemical Toxicology
This course examines the biodynamics and actions of toxicants on several key biological systems within living organisms at the biochemical and molecular levels. (3-2-0) Prerequisite: BISC 301 and 313.
BISC 856-3 Industrial Biotechnology
This course is intended to provide students with the theory and hands-on experience of several commonly used biotechnological techniques. (2-0-6) Prerequisite: BISC 221 and 303. Recommended: BISC 329.

For admission requirements, refer to Graduate General Regulations.

Students should normally hold a BSc degree, or equivalent, with at least a second class standing (3.0 GPA) in geography or a related discipline. Where the first degree is not in geography, the student should have at least 12 hours or equivalent in upper division geography.

Students with a general degree must have 30 credit hours or the equivalent in upper division geography courses.

MSc Committee
The candidate will work under the guidance of a faculty advisor, pending the choice of supervisory committee. The supervisory committee, normally composed of two faculty members, one of whom may be drawn from outside the department, will be chosen by the second semester.

MSc Requirements
Course Work
Students must complete a minimum of 12 hours (three one-semester courses) plus GEOG 700 and 701, which are non-credit courses, the grading of which is on a satisfactory/unsatisfactory basis and must take GEOG 706 as part of the 12 credit hours. Students must complete minimum course requirements within the department, and permission must be obtained from the graduate studies committee to complete a minimum course requirement outside the department. Students with deficiencies may be asked to complete more course work.

Thesis
A thesis is required. The candidate will submit a written thesis proposal to the supervisory committee by the end of the third week of the semester following completion of GEOG 700 and 701. The supervisory committee must approve the proposal prior to the start of substantive research. In addition, the candidate is required to present the research proposal to the department at a colloquium prior to the end of the third semester of residence (or by the
end of the semester following completion of GEOG 700 and 701. The completed thesis will be judged by the candidate’s examining committee at an oral defence.

Graduate Courses
(See Faculty of Arts — Department of Geography for course descriptions)
GEOG 700-0 Introduction to Graduate Studies: Part I
GEOG 701-0 Introduction to Graduate Studies: Part II
GEOG 706-4 Quantitative Techniques in Physical Geography
GEOG 714-4 Computer Cartography
GEOG 715-4 Geographic Information Systems
GEOG 716-4 Aerial Reconnaissance for Remote Sensing
GEOG 717-4 Digital Processing of Remote Sensing Data
GEOG 718-4 Soil Science
GEOG 720-4 Ecological Biogeography
GEOG 723-4 Climatology
GEOG 724-4 Fluvial Geomorphology
GEOG 728-4 Advanced Glacial Geomorphology
GEOG 731-4 Hydrology
GEOG 791-4 Directed Readings
GEOG 797-0 MSc Thesis

Department of Mathematics and Statistics
Chair
J.L. Berggren BSc, MSc, PhD (Wash)
Graduate Program Chair
Dr. R.A. Lockhart BSc (Br Col), MA, PhD (Calif)
Faculty and Areas of Research
For a complete list of faculty, see the Mathematics and Statistics undergraduate section.
B.R. Alsipach – graph theory, discrete mathematics
J.L. Berggren – history of mathematics, algebra
J.M. Borwein – analysis, computation
P.B. Borwein – analysis, computation
T.C. Brown – algebra, combinatorics
R. Choksi – applied mathematics
A. Das – applied mathematics
C.B. Dean – discrete and lifetime data, extra-Poisson variation
D.M. Eaves – biometrics, generalized linear modelling, theory of inference
H. Gerber – mathematical logic
L. Goddyn – combinatorics
G.A.C. Graham – applied mathematics
K. Heirich – combinatorics
P. Heil – computational discrete mathematics
M.C.A. Kropinski – applied mathematics
A.H. Lachlan – mathematical logic
R.A. Lockhart – goodness-of-fit testing, inference on stochastic processes, large sample theory
M.B. Monagan – symbolic computation, algebra
G. Parker – actuarial mathematics
E. Pechlaner – applied mathematics
K. Promislow – applied mathematics
R.R. Reilly – algebra
R.D. Routledge – biometrics, estimating the sizes of animal populations
R.D. Russell – applied mathematics
C. Schwarz – modelling of animal population dynamics, capture-recapture methods
C.Y. Shen – applied mathematics
R.R. Sitter – sample surveys, design of experiments, biostatistics
M.A. Stephens* – goodness-of-fit testing and directional data
T.B. Swartz – statistical computing, theory of inference
T. Tang – applied mathematics
S.K. Thomason – mathematical logic
B.S. Thomson – analysis
M.R. Trummer – applied mathematics
C. Villegas* – Bayesian inference
K.L. Weldon – cross sectional sampling, statistical consulting
*emeritus
Advisors
Ms. M. Fankboner BA (Occidental), MSc (S Fraser), TLX 10511 Shrum Science Centre, (604) 291-4849
Dr. R.A. Lockhart BSc (Br Col), MA, PhD (Calif), TLX 10546 Shrum Science Centre, (604) 291-3264
Statistical Consulting Service
TLX 10513, (604) 291-4670
The program in statistics is one of the graduate programs offered by the Department of Mathematics and Statistics.
Admission
For admission requirements, refer to the Graduate General Regulations.
Applicants are normally required to submit scores in the aptitude section and an appropriate advanced section of the graduate record examinations of the Educational Testing Service. Applicants whose first language is not English will normally be asked to submit TOEFL results.
Students interested in applied and computational mathematics or statistics should consult those entries in this Calendar.
Co-operative Education Program
The Department of Mathematics and Statistics has introduced co-operative education into its graduate program in order to allow students to gain work experience outside the academic sphere. Students who are currently enrolled in one of the department’s MSc or PhD programs may apply to the department’s graduate co-operative education committee for admission to this component of the program.
Mathematics Program
MSc Program Requirements
A candidate normally obtains at least 20 credit hours beyond courses taken for the bachelor’s degree. Of these, at least 12 are graduate courses or seminars, and the remaining eight may be from graduate courses or seminars or 400 division undergraduate courses. The student must also submit a satisfactory thesis and attend an oral examination based on that thesis and related topics.
Note: MATH 900-990 (see Applied and Computational Mathematics Program) and STAT 800-890 (see Statistics Program) may be used to satisfy requirements for the PhD.
Mathematics Graduate Courses
MATH 601-4 Discovering Mathematics I
Arithmetic and Geometry form the core of the elementary school curriculum. The fundamental concepts in both these areas of mathematics will be approached through exploratory exercises and problems as well as in projects. The students will work both singly and in groups to explore the ideas of mathematics. The presentations will be non-theoretical. Prerequisite: acceptance into the master’s program in mathematics education or permission of the department. Graduate students in Department of Mathematics and Statistics cannot take this course to satisfy their degree requirements.
MATH 602-4 Discovering Mathematics II
Discrete mathematics is used in computer communications, scheduling and transportation problems. Statistics is encountered by each of us every day in the newspapers and on television as medical findings, sporting results and economic strategies are discussed. These are two of the most accessible areas of modern applied mathematics and many problems and the ideas behind their solution can be understood and appreciated by students with only a modest mathematical background. Several topics in these areas and their relationship to real world problems will be explored. The exploration will be done through a series of projects with students often working in teams and making presentations of their discoveries. The presentation will be non-theoretical. Prerequisite: MATH 601 and acceptance into the master’s program in mathematics education or permission of the department. Graduate students in Department of Mathematics and Statistics cannot take this course to satisfy their degree requirements.
MATH 603, 604 and 605 are offered as part of the graduate program in mathematics education, MSc. These three courses are not available for credit towards the MSc or the PhD degrees in the Faculty of Science.
MATH 603-4 Foundations of Mathematics
Crisis in mathematics, their historical and philosophical background and their resolution. Prerequisite: acceptance into the MSc program in mathematics education or permission of the
MATH 604-4 Geometry
Euclidean and non-Euclidean geometries. Klein’s Erlangen program. Prerequisite: entrance into the MSc in mathematics education program or permission of the department. Graduate students in the Department of Mathematics and Statistics cannot take this course to satisfy their degree requirements.

MATH 605-4 Mathematical Modeling
Introduction to mathematical modeling using algebraic, geometric techniques along with techniques using calculus. Prerequisite: acceptance into the MSc program in mathematics education and one year of university level calculus. Graduate students in the Department of Mathematics and Statistics cannot take this course to satisfy their degree requirements.

MATH 800-4 Pure Mathematics: Selected Topics
MATH 806-4 Mathematical Logic II
First-order theories. Some syntactical topics 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. Kleen’s normal form theorem and enumerations theorem, the recursion theorem. The arithmetic hierarchy, the analytical hierarchy. Degrees of unsolvability. Basic theorems. Additional topics, if time permits. Prerequisite: MATH 806.

MATH 812-4 Algebra I
Theory of fields. Topics covered will include separable, normal, Galois, and transcendental extensions; finite fields and algebraically closed fields. Additional topics may include infinite Galois groups, valuation, Kummer extensions and Galois cohomology, further material in algebraic number theory.

MATH 813-4 Algebra II
Group theory. Generators and relations, normalizers and centralizers, composition series. Permutation groups, Sylow theory, abelian groups. Other topics covered will vary; may include group cohomology, and soluble groups, and some aspects of simple groups.

MATH 814-4 Algebra: Selected Topics
MATH 815-4 Algebra III
Rings and modules. Commutative and noncommutative associate rings with ascending or descending chain condition. Jacobson radical, Jordan-Holder theorem, Wedderburn-Artin theorems, Goldie theorems, with applications to matrix groups and group algebras. As time permits, homological and local methods.

MATH 816-4 Algebra IV
Homology. Categories, functors, adjoint functors, homology, and cohomology of a complex: Universal coefficient theorem; Ext cohomology of groups; Schur’s theorem, Tensor and torsion products. Global dimension of rings.

MATH 820-4 Graph Theory
A first graduate course in graph theory dealing with some of the following: algebraic graph theory, extremal graph theory, coloring problems, applications of graphs, hypergraphs, and current research topics.

MATH 821-4 Combinatorics
An introduction to the theory of block designs, finite geometries and related topics.

MATH 825-4 Enumeration
Enumeration problems concerned with permutations, sequences, partitions, lattice walks and graphs, algebraic and analytic properties of generating functions, asymptotic analysis.

MATH 826-4 Posets and Matroids
An introduction to the theory of posets, geometric lattices and matroids.

MATH 827-4 Discrete Mathematics: Selected Topics
MATH 831-4 Real Analysis I
An intensive study of Lebesque measure, integration and the Lebesque convergence theorems together with the treatment of such topics as absolute continuity, the fundamental theorem of calculus, the Lp-spaces, comparison of types of convergence in function spaces, the Baire category theorem.

MATH 832-4 Real Analysis II
This course normally covers abstract measure and integration, and material which collectively might be called an introduction to functional analysis (e.g., complete metric spaces, normal spaces, the Stone-Weierstrass theorem, linear functionals and the Hahn-Banach theorem). Other specialized topics in modern analysis. Prerequisite: MATH 831.

MATH 833-4 Analysis: Selected Topics
MATH 834-4 Complex Analysis I
Topics covered normally will include: Riemann surfaces, complex conjugate co-ordinates; the maximum principle, boundary value problems; conformal mappings, Schwarz-Christoffel formula; the symmetry principle, analytic continuation.

MATH 837-4 Complex Analysis II
Topics covered will include some of the following: entire functions, normal families, Hilbert space of analytic functions; conformal mappings of special functions; Picard’s theorem. Prerequisite: MATH 836.

MATH 839-4 Topology I
This 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 871-4 Applied Probability Models
Applications of stochastic processes: queues, inventories, counters, etc. Reliability and life testing. Point processes. Simulation. Prerequisite: MATH 387 or equivalent.

MATH 872-4 Probability I
Fundamental probability concepts and related measure theory; series of independent random variables, the central limit theorem. Introduction to stochastic processes.

MATH 873-4 Probability II
Stochastic processes, construction of probability measures on function spaces. Survey in one or more of the following areas: construction and convergence of probability measures on metric spaces, on spaces of continuous functions, on Hilbert space, on spaces of generalized functions.

MATH 874-4 Probability: Selected Topics
MATH 890-0 Practicum III
Fourth semester of work experience in the co-operative education program. (0-0-0) Prerequisite: MATH 892.

MATH 892-2 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

Molecular Biology and Biochemistry Program

Director
A.T. Beckenbach BSc (Florida Presbyterian), MSc (Flor), PhD (Gail)

Faculty and Areas of Research
D.L. Baille – developmental genetics, genomics
A.T. Beckenbach – population genetics, molecular evolution
T.J. Borgford – protein structure and function
B.P. Brandhorst – developmental biology and gene regulation
R.B. Cornell – membrane bound enzymes
R.J. Cushey – high field nuclear magnetic resonance
N. Harden – developmental genetics, signal transduction
B.M. Honda – molecular biology and gene regulation
J.V. Price – developmental genetics, cellular signalling
W.R. Richards – protein biochemistry; photosynthesis
J.K. Scott – immunochemistry, immunology
D. Sen – nucleic acid biochemistry; chromosome structure
M.J. Smith – molecular phylogeny and development
J.L. Thewalt – membrane biophysics; nuclear magnetic resonance

Associate Members
A.J. Bennet, Chemistry
F. Breden, Biological Sciences
A.H. Burr, Biological Sciences
B.J. Crespi, Biological Sciences
L.D. Druehi, Biological Sciences
N.H. Haunerland, Biological Sciences
E. Küfer, Biological Sciences
A. Kermod, Biological Sciences
M.M. Moore, Biological Sciences
B.M. Pinto, Chemistry
A. Plant, Biological Sciences
G.F. Tibbits, Kinesiology
A. Tracey, Chemistry

This graduate program is administered through the biochemistry program by a steering committee consisting of members of the Institute of Molecular Biology and Biochemistry (IMBB). Members of the IMBB have appointments in the Biochemistry Program, and/or Departments of Biological Sciences, Chemistry and Physics. In addition, the IMBB has associate members who may also serve as senior supervisors for students in the MBB graduate program.

Information about the Molecular Biology and Biochemistry program, and the research activities of its faculty, can be obtained from the MBB graduate secretary, Institute of Molecular Biology and Biochemistry, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A 1S6. Telephone (604) 291-5630
Graduate Courses
MBB 801-2 Student Seminar in Molecular Biology and Biochemistry I
Discussion of recent literature through student seminars and written reports. Cannot be taken for credit in addition to CHEM 801.

MBB 802-2 Student Seminar in Molecular Biology and Biochemistry II
Discussion of recent literature through student seminars and written reports. Prerequisite: MBB 801 or an MSc degree. Cannot be taken for credit in addition to CHEM 802.

MBB 806-3 PhD Graduate Research Seminar
Oral presentation and 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. Cannot be taken for credit in addition to CHEM 806.

MBB 811-1, 812-2, 813-3 Techniques in Molecular Biology and Biochemistry
Consideration of methods applied to research in molecular, cellular, and developmental biology; genetics; and biochemistry. Can be repeated with permission of the instructor.

MBB 821-3 Nucleic Acids
An examination of recent literature about the structure and function of DNA and RNA.

MBB 822-3 Biological Membranes
A review of recent literature on the structure, dynamics, function and biosynthesis of membrane lipids and proteins.

MBB 823-3 Protein Structure and Function
Transition state theory; specificity in enzyme catalyzed reactions; use of recombinant DNA techniques to describe and modify enzyme catalysis; catalytic activities through monoclonal antibody techniques.

MBB 824-3 Physical Biochemistry
The physical properties of biomacromolecules; modern physical methods applied to biomolecules; properties and analysis of membrane systems.

MBB 825-3 Bioenergetics
Consideration of important processes for biological energy transduction. Structure/function relationships of membrane components and other interacting macromolecular systems. Cannot be taken for credit in addition to CHEM 825.

MBB 826-3 Molecular Immunology
An overview of cellular and humoral immunology with emphasis on the molecular basis of immune recognition and response.

MBB 827-3 Mechanisms in Enzyme Catalysis
The study of enzyme mechanisms by a variety of techniques including spectroscopic, kinetic, radioisotopic exchange, site-directed mutagenesis.

MBB 828-3 Spectroscopic Methods in Biochemistry
Application of spectroscopic methods including multidimensional NMR, fluorescence, circular dichroism, and FTIR for determination of biomacromolecular structure. Includes elements of protein conformation. Cannot be taken for credit in addition to CHEM 828.

MBB 829-3 Special Topics in Biochemistry
Consideration of recent literature concerning selected contemporary research topics. Can be taken more than once with permission of the instructor.

MBB 831-3 Molecular Evolution of Eukaryote Genomes
Examination of the dynamics of change in eukaryotic nuclear, mitochondrial, and chloroplast genome structure and organization.

MBB 832-3 Molecular Phylogeny and Evolution
Examination of the basic methods applicable to analyses of molecular phylogeny and evolution.

MBB 833-3 Developmental Genetics
Selected topics in the developmental genetics of drosophila.

MBB 834-3 Topics in Developmental Biology
Selected topics including pattern formation, morphogenetic determinants, inductive interactions, and differential gene expression in embryos.

MBB 835-3 Genomic Analysis
Consideration of topics related to the structure and function of the genome with emphasis on genome mapping and sequencing projects, and computational methods for genomic sequence analysis.

MBB 836-3 Gene Expression
A consideration of the mechanisms and regulation of gene expression in eukaryotes and prokaryotes.

MBB 837-3 Molecular Genetics of Signal Transduction
Consideration of mechanisms of signal transduction using molecular genetic approaches with emphasis on the yeast Saccharomyces cerevisiae. Cannot be taken in addition to BISC 861.

MBB 839-3 Special Topics in Molecular Biology
Consideration of recent literature concerning selected contemporary research topics. Can be taken more than once with permission of instructor.

MBB 871-1 Directed Readings in Molecular Biology and Biochemistry
Programs of directed reading and critical discussions offered by staff members to individual students according to their needs. Study programs must be approved by the molecular biology and biochemistry program committee.

MBB 872-2 Directed Readings in Molecular Biology and Biochemistry
Programs of directed reading and critical discussions offered by staff members to individual students according to their needs. Study programs must be approved by the molecular biology and biochemistry program committee.

MBB 898-0 MSc Thesis
MBB 899-0 PhD Thesis

Centre for Pest Management

Director
Z.K. Punja BSc (Br Col), MSc, PhD (Calif)

Faculty and Areas of Research
For a complete list of faculty, see Department of Biological Sciences undergraduate section.

J.H. Borden – forest entomology
G.J. Gries – semiochemistry
A.S. Harestad – wildlife biology
N.H. Haunerland – insect physiology, biochemistry
S.P. Lee – plant stress physiology and molecular biology
J.P.M. Mackauer – insect parasitology, biological control, systematics
Graduate Science – Physics

R.A. Nicholson – pesticide biochemistry, toxicology
Z.K. Punja – plant biotechnology and pathology
J.E. Rahe – plant pathology, biochemistry
B.D. Roitberg – population dynamics
J.M. Webster – nematology, parasitology
M.L. Winston – apiculture, social insects

Adjoint Professors
P. Belton BSc (Lond), PhD, ARCS (Glas)
M. Goettel BSc (C’dia), MSc (Ott), PhD (Alta)
G.J.R. Judd BSc, MPM, PhD (S Fraser)
K.K. Klein BSA, MSc (Sask), PhD (Purdue)
H.R. MacCarthy BA (Br Col), PhD (Calif)
R.S. Utkhede BSc, MSc (Nag), PhD (IARI)
R.S. Vernon BSc, MPM, PhD (S Fraser)

*emeritus

The Centre for Pest Management is part of the Department of Biological Sciences and includes faculty with research interests in the area of pest control and analysis. The centre is responsible for a degree program leading to the award of the degree of Master of Pest Management (MPM).

The Master of Pest Management (MPM) program is a professional degree program offered on a full or part time basis by the Department of Biological Sciences. Established in 1972, the program has graduated students from all over the world.

The program 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.

Admission Requirements

University admission requirements are given in the General Regulations, Graduate section of the Calendar. 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 MPM admissions committee will specify the appropriate qualifying conditions, if any, at the time of admission.

Degree Requirements

Every MPM program will include the following courses.

Core Courses
BISC 601-5 Urban and Industrial Pest Management
BISC 602-5 Forest Pest Management
BISC 603-5 Farm and Specialty Crop Pest Management
BISC 604-3 Orchard Crop Pest Management
BISC 605-3 Management of Animal Disease Vectors
BISC 847-3 Pest Management in Practice

Elective Courses

MPM candidates must complete a minimum of four elective 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-

Master of Pest Management Thesis

The thesis (BISC 849) is based on original library, laboratory or field research and must meet the standards specified in the Graduate General Regulations.

Defence

An oral examination that includes the candidate’s research as well as general aspects of pest biology and management will be given.

Graduate Courses

BISC 601, 602, 603, 604, and 605 are designed for students undertaking the MPM degree. They may be taken for credit for the MSc and/or PhD degree in the Faculty of Science, subject to prior approval by the student’s supervisory committee and the program director.

BISC 601-5 Urban and Industrial Pest Management

Pests of foodstuffs and stored products, structural pests, and pests found in and near buildings, ships and aircraft, and their management, with emphasis on insects and rodents.

BISC 602-5 Forest Pest Management

Management of pests and forest regeneration, growing and mature forests, and forest products, and of forest rights-of-way and recreation areas.

BISC 603-5 Farm and Specialty Crop Pest Management

Agricultural pests and their management, with emphasis on insects and crop diseases, and including garden and greenhouse pests.

BISC 604-3 Orchard Crop Pest Management

Insects, diseases, and other pests of fruit trees, including grapevines and small fruits, and their management.

BISC 605-3 Management of Animal Disease Vectors

Management of vectors, especially arthropods, of human and animal diseases, especially microbial; selected topics in epidemiology.

BISC 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.

Department of Physics


Chair
M. Plishchke BSc (Mont), MPhil (Yale), PhD (Yeshiva)

Graduate Program Chair
J.L. Bechooer AB (Harv), PhD (Chic)

Faculty and Areas of Research

For a complete list of faculty, see the Physics undergraduate section.

A.S. Arrott – magnetism, liquid crystals
L.E. Ballentine – dynamical chaos, foundations of quantum mechanics
J.L. Bechooer – liquid crystals, soft condensed matter, pattern formation
D.H. Boal – statistical mechanics and biophysics
C. Bolognesi – semiconductor devices
B.P. Clayman – far-infrared properties of solids
J.F. Cochran* – surface impedance of metals, ferromagnetism
K. Colbow – thin film microelectronics, 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
R.H. Emms – nonlinear problems in optics and other areas of physics
R.F. Frindt – layered solids, intercalation solids
B. Friskin – soft condensed matter
S. Gygax* – superconductivity, low temperature physics
B. Heinrich – molecular beam epitaxy, superconductivity, surface physics
D.J. Huntley – luminescence dating, archaeometry
J.C. Irwin – layered compounds and high temperature superconductors – Raman scattering
G. Kirzenow – condensed matter theory
S.R. Morrison* – physical and chemical properties of semiconductor surfaces, energy storage and conversion
L.H. Palmer – astronomy, astrophysics, musical acoustics
M. Plishchke – condensed matter theory, statistical physics
K.E. Rieckhoff* – chemical physics, spectroscopy
J.L. Thewalt – biophysics, NMR studies of membranes
M.L.W. Thewalt – semiconductor physics
H.D. Trotter – lattice quantum chromodynamics, phenomenology of strong and weak interactions, field theoretical study of non-Abelian gauge theories
K.S. Viswanathan – high energy theory, classical and quantum gravity
S. Watkins – semiconductor physics
M. Wortis – solid state theory, statistical mechanics, surface physics, membranes, biophysics

Adjunct Faculty
B.K. Jennings – theoretical intermediate energy physics
M. Vetterli – intermediate energy and particle physics
J. Vrba – thin films, SGUID systems
R.M. Woloshyn – theoretical particle physics, lattice field theory

Associate Members
J.M. D’Auria, Chemistry
D.E. Nelson, Archaeology
E.M. Voigt,* Chemistry
E.J. Wells, 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 Graduate General Regulations.

**Degree Requirements**

**Course Work**
The minimum requirement consists of 17 credit hours of course credit, of which at least 14 must be at graduate level. Additional undergraduate courses may be required to remedy deficiencies in the student's background.

**Research**
Part of the program is spent doing original research. A thesis describing this research is submitted and defended at the program's conclusion.

**PhD Program**

**Admission**
To qualify for admission, a student must have a masters degree or the equivalent in physics. Refer also to the Graduate General Regulations.

**Degree Requirements**

**Course Work**
The minimum requirement consists of nine hours of graduate credit beyond the master's. Faculty of Science requirements must also be met.

**Research**
The major portion of the PhD program is spent doing original research. A thesis, embodying new and important results or original research, must be presented and defended at the conclusion of the degree program.

**Admission from a Master's Program to the PhD Program**
The department does not encourage students to proceed to a PhD without first obtaining an MSc. However, a student may be admitted from an MSc to a PhD program with a CGPA of at least 3.67 calculated over a minimum of 15 graduate level credits, and approval of the student's supervisory committee, approval of the Department of Physics graduate studies committee, department chair and senate graduate studies committee.

**Language Requirement**
In certain areas of research, familiarity with languages other than English may be important. In such cases a student's Supervisory committee may require the attainment of reading knowledge of one such language.

**Biophysics**
Students who wish to undertake interdisciplinary work in Biophysics may apply to the Department of Physics or the Department of Biological Sciences. Those who wish to work in biophysics under special arrangements should refer to the Graduate General Regulations 1.3.4.

**Chemical Physics**
Students who wish to undertake interdisciplinary work in chemical physics may apply to the Department of Physics or to the Department of Chemistry. Those who wish to work in chemical physics under special arrangements should refer to the Graduate General Regulations 1.3.4.

**Biochemistry and Molecular Biology**
Students wishing to undertake graduate studies in biochemistry or molecular biology should refer to the Molecular Biology and Biochemistry Program in the Graduate Studies section of the Calendar.

**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.

**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. Prerequisite: PHYS 415, or equivalent.

**PHYS 811-3 Advanced Topics in Quantum Mechanics**
A continuation of PHYS 810; scattering theory, identical particles, spin statistics, creation and annihilation operators, diagrammatic perturbation theory, Hartree-Fock theory. Prerequisite: PHYS 810, or equivalent.

**PHYS 812-3 Relativistic Quantum Mechanics and Elementary Particle 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. Prerequisite: PHYS 811.

**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. 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. Prerequisite: PHYS 436, or equivalent.

**PHYS 845-3 Nonequilibrium Statistical Physics**
Boltzmann equation and applications, H-theorem, conservation laws, Navier-Stokes equation, fluctuation-dissipation theorem, Kubo formalism; systems far from equilibrium, stability theory, stochastic analysis. Prerequisite: PHYS 841.

**PHYS 861-3 Introduction to Solid State Physics**
Free electron theory, crystal structure, band theory, Bloch's theorem, electron dynamics, phonons, semiconductors. 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. 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 tunnelling 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. 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.

**PHYS 875-3 Advanced Nuclear Physics**
Experimental and theoretical treatment of nuclear reactions and nuclear structure: description of nucleon-nucleus and heavy ions reactions; transport equations in reaction studies; properties of nuclear matter under extreme conditions; shell model and interacting boson model of nuclear structure. Prerequisite: Physics 810 or equivalent.

**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.

**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**

**Statistics Program**

**Chair**
J.L. Berggren BSc, MSc, PhD (Wash)

**Graduate Program Chair**
Dr. R.A. Luckhart BSc (Br Col), MA, PhD (Calif)

**Faculty and Areas of Research**
For a complete list of faculty, see the Mathematics and Statistics undergraduate section.

**C.B. Dean** – discrete and lifetime data, extra-Poisson variation

**D.M. Eaves** – biometrics, generalized linear modelling, theory of inference

**R.A. Lockhart** – goodness-of-fit testing, inference on stochastic processes, large sample theory

**G. Parker** – actuarial mathematics

**R.D. Routledge** – biometrics, estimating the sizes of animal populations

**C. Schwarz** – modelling of animal population dynamics, capture-recapture methods

**R.R. Sitter** – sample surveys, design of experiments, biostatistics

**M.A. Stephens** – goodness-of-fit testing and directional data

**T.B. Swartz** – statistical computing, theory of inference

**C. Villegas** – Bayesian inference

**K.L. Weldon** – cross sectional sampling, statistical consulting

*emeritus

**Admission**
For admission requirements, see the Graduate General Regulations section.

Applicants are normally required to submit scores in the aptitude section of the graduate record examinations of the Educational Testing Service. Applicants whose first language is not English will normally be asked to submit test of English as a foreign language results.

Applicants with degrees in areas other than statistics are encouraged to apply provided they have some formal training in statistical theory and practice.
MSc Program Requirements

The program is intended to give students instruction on a wide range of statistical techniques and also to provide experience in the practical application of statistics. The program should be of interest to students who wish to acquire statistical expertise in preparation for a career in either theoretical or applied statistics.

Students in the program will be required to
- 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 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 Program Requirements

A candidate will generally obtain at least 28 credits beyond courses taken for the bachelor’s degree. Of these, at least 16 will be graduate courses or seminars and the remaining 12 may be from graduate courses or seminars or 400 level undergraduate courses. Normally these courses will include STAT 801 and at least four of STAT 802, 803, 804, 805, 806, 890, 891 and MATH 871, 872, 873 and 874.

A candidate may be required by his/her supervisory committee to acquire proficiency in reading statistical papers in either French, German or Russian.

Students will be required to submit and successfully defend a thesis which will embody a significant contribution to statistical knowledge.

For further information and regulations, see Graduate General Regulations.

Graduate Courses

See also Applied and Computational Mathematics Program.

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 Mathematics and Statistics.

STAT 801-0 Statistical Consulting I


STAT 802-4 Multivariate Analysis

An advanced course in multivariate analysis. Factor analysis, discriminant analysis, principal components, canonical correlations. Multivariate regression and analysis of variance.

STAT 803-4 Data Analysis

A problem based course emphasizing the exploratory aspects of statistical analysis with emphasis on modern computer oriented methods. Prerequisite: STAT 450 or equivalent or permission of the instructor.

STAT 804-4 Time Series Analysis

An introduction to time series models and their analysis. Both time-domain and frequency-domain techniques will be studied. Prerequisite: STAT 450 or equivalent or permission of the instructor.

STAT 805-4 Non-Parametric Statistics and Discrete Data Analysis

Order statistics, rank statistics, procedures based on the empirical distribution function. Asymptotic efficiencies, goodness-of-fit, contingency tables, log-linear models and further topics will be offered. Prerequisite: STAT 330 and 420 or equivalent or permission of the instructor.

STAT 806-4 Lifetime Data Analysis


STAT 811-0 Statistical Consulting I

Students will participate in the department statistical consulting service under the direction of faculty members. This course will be graded on a satisfactory/unsatisfactory basis.

STAT 812-0 Statistical Consulting II

Students will participate in the department statistical consulting service under the direction of faculty members. This course is graded on a satisfactory/unsatisfactory basis. Open to MSc and PhD students in statistics.

STAT 890-4 Statistics: Selected Topics

A course to be taught by current and visiting faculty and with topics chosen to match the interests of the students.
Institute for Applied Algorithms and Optimization Research
Director: Dr. L. Hafer, (604) 291-4153 Tel, (604) 291-3045 Fax
The institute was established in 1994 to stimulate, encourage, and enhance research and technology transfer in the areas of applied algorithms and optimization by providing a focus and resource base for collaborative and multidisciplinary research. The group conducts research in algorithms and their complexity as well as the mathematics underlying these algorithms. Although much of this work is basic science, the results obtained in this area have extremely important implications to practitioners. A primary goal of the institute is to foster increased awareness of these results by industry. The institute provides a vehicle for disseminating known results and stimulating new work on relevant problems. The institute members are faculty from SFU’s School of Computing Science, Faculty of Business Administration and Department of Mathematics and Statistics.

Western Canadian Universities Marine Biological Station (Bamfield)
Director: Dr. A.N. Spencer, (250) 728-3301 Tel, (250) 728-3452 Fax
Contact: Dr. M.J. Smith, (604) 291-3540 Tel
The Western Canadian Universities Marine Biological Society was founded in 1969 with the objective of operating a major research and teaching facility in coastal biology. The Bamfield Marine Station offers year round research facilities that enable resident and visiting scientists and students (MSc and PhD) to develop a range of research programs. Courses that lead to academic credit for undergraduate and graduate degree programs at member universities are given at the station. The station also runs a public education program from September through April.

Behavioural Ecology Research Group
Director: Dr. L.M. Dill, (604) 291-3664 Tel
The Behavioural Ecology Research Group was formally established in 1989, to pursue basic research in the field of behavioural ecology; to maintain and further develop an internationally recognized training centre for students in behavioural ecology, and related areas of inquiry; and to provide a service to government, industry and other organizations, so that basic and applied problems in behavioural ecology can be tackled through collaborative research. Members are drawn from the Departments of Biological Sciences, Psychology and Archaeology.

Institute for Business and Innovation Studies
Director: Dr. M. Lipsett, (604) 291-5199 Tel, (604) 291-5165 Fax
The Institute for Business and Innovation Studies (IBIS) is a trans-disciplinary research and consulting organization that conducts research in business and innovation studies and delivers training in the management of technology and innovation. Its clients are national and international. It draws on the resources of Simon Fraser University faculty, staff and students, and works with joint venture partners in collaborative projects. Examples of these resources include expertise in telecommunications, economic growth, North American business studies, entrepreneurship, robotics, artificial intelligence, research and development tax incentives, science and technology indicators, and so forth. Global trends have made innovation studies one of today’s more crucial topics. Major research centres are being created in other countries to provide national programs of study of innovation systems, their regional manifestations and their effectiveness. IBIS is intended to be part of this distinguished network. Its location in Vancouver is a natural hub for teaching, research and consulting in international business (viz Asia and Latin America).

The detailed focus is on the vitality and growth of small and medium sized enterprises in the face of economic, social, technological, global and environmental transformations.

W.J. VanDusen BC Business Studies Institute
Director: Dr. J. Waterhouse, (604) 291-4183 Tel
Established to focus research efforts on the issues of particular relevance to corporations and government agencies in BC, the institute brings the expertise and research acumen of the Faculty of Business Administration to the Harbour Centre campus where faculty and business executives can have greater and more direct opportunities to work together. The institute sponsors lectures and has an executive-in-residence program to bring business leaders into the University’s classrooms.

Canadian Centre for Studies in Publishing
Director: Dr. R.M. Lorimer, (604) 291-5240 Tel, (604) 291-5239 Fax
Associate Director: A. Cowan, (604) 291-5074 Tel, (604) 291-5098 Fax
The Canadian Centre for Studies in Publishing was established in 1987 to pursue the study of publishing and to serve the research and the information needs of the publishing industry. The centre engages in basic research into the history, social history, management and the policy issues related to the industry. Projects are both initiated by the centre and undertaken under contract to government and industry. The research work of the centre involves faculty, graduate students and independent researchers from a variety of disciplines. The centre published monographs and reports on the theory and practice of publishing and sponsors seminars, conferences and short courses.

Institute for Canadian Urban Research Studies
Director: Dr. P.L. Brantingham, (604) 291-3515 Tel, (604) 291-4140 Fax
The institute furthers multidisciplinary research on urban issues. Specifically its objectives are to provide a focus for research about urban problems and issues in Canada; to promote interdisciplinary collaboration and research; to provide an institutional focus for international scholarship concerning urban problems; to provide a facility in which data for the study of urban problems can be collected, catalogued, and made readily accessible through modern data management; to provide a facility in which research and techniques are available to those having a responsibility for policy.

Chemical Ecology Research Group
Director: Dr. J.H. Borden, (604) 291-3646 Tel
This research group was established in 1981 to provide an international graduate training centre in chemical ecology; to offer a service to government and industry; to isolate, identify and synthesize semiochemicals; and to apply research results to semiochemicals.

Community Economic Development Centre
Director: Dr. M. Roseland, (604) 291-4161 Tel
Community economic development is a process by which communities can initiate and generate their own solutions for their common economic problems and thereby build long term community capacity and foster the integration of economic, social and environmental objectives. The goal of the centre is to encourage accountable, sustainable and appropriate community economic development (CED) in British Columbia. The centre provides research, training and advisory services to the CED sector in BC through a team of associates drawn from the University and CED practice. It is actively involved in community based projects throughout the province and offers a post baccalaureate diploma in community economic development, which is also available by distance education.

International Centre for Criminal Law Reform and Criminal Justice Policy
Director: D.C. Préfontaine QC, (604) 822-9875 Tel, (604) 822-9317 Fax
This International Centre, established in 1991 in Vancouver, BC, is a joint initiative of Simon Fraser University, the University of British Columbia and the Society for the Reform of Criminal Law. The centre is housed at the University of British Columbia. The International Centre has been established to encourage research initiatives in areas of transnational criminal or comparative criminal justice policy; to contribute to graduate programming in international criminal law and international criminal justice; to promote democratic principles, the rule of law and respect for human rights in criminal law and the administration of justice in both the domestic and international arenas, and through these activities to contribute to the international criminal law and criminal justice agenda through the United Nations and other related agencies. The International Centre is an affiliated institute of the United Nations.

Institute for Studies in Criminal Justice Policy
Director: Dr. M.A. Jackson, (604) 291-4305 Tel, (604) 291-4140 Fax
The Institute for Studies in Criminal Justice Policy was established with the initial support of the Donner Canadian Foundation in 1980. The purpose of the Institute is to contribute to the examination of criminal justice policy by providing a setting in which academics and justice system personnel can assemble to apply scholarly research to policy development and analysis. The institute undertakes projects on its own initiative as well as under contract.

Criminology Research Centre
Director: Dr. W. Glackman, (604) 291-4041/4127 Tel, (604) 291-4140 Fax
The Criminology Research Centre was established in 1978 to facilitate criminological research by faculty and graduate students. Funds to establish and maintain the centre are provided by a contract from the federal solicitor general’s department. Additional grants and contracts have since been obtained from other provincial, federal and private sources. The
Centre for Education, Law and Society
Co-directors: Dr. M. Manley-Casimir, (604) 291-3529 Tel, Ms. W. Cassidy, (604) 291-4484 Tel
The Centre for Education, Law and Society was established in 1984 and given formal approval by the board of governors in 1994. Its central purpose is to improve the legal literacy of youth and adults through teaching, program and curriculum development and research. Its projects range from the use of mock trial methodology in law-related education, to the application of alternative dispute resolution methods, to investigations into human rights, international law and world order. Four undergraduate courses and one graduate course are offered in law related education through the Faculty of Education. Three of the undergraduate courses are also available through distance education. The centre attracts graduate students interested in school law, curriculum and youth justice issues.

Centre for Experimental and Constructive Mathematics
Director: Dr. J. Borwein, (604) 291-5617/3070 Tel, (604) 291-4947/5614 Fax
The centre is intended to further research and graduate education in computation in the mathematical sciences.

The centre’s activities may include the following: provision of post doctoral fellowships in areas related to experimental and constructive mathematics; sponsorship of regular short-term and long term research visitors to the centre; organization of regular colloquia and occasional conferences on advances in experimental and constructive mathematics; participation in the training of graduate students in experimental and constructive mathematics; establishment, development and maintenance of accessible software archives; provision of tutorial assistance for faculty and graduate students at Simon Fraser University in the use of symbolic languages, of the centre's software, and of other high level mathematical tools; establishment of a related algorithmic consulting service for individuals within and without the University community; collaboration with similar centres and appropriate individuals at other Canadian and foreign universities. Such collaboration may include co-sponsorship of speakers, conferences and visitors, joint application for external research funds, exchange of software and expertise, establishment of a Canadian mathematical computation network.

Subject to the approval of the director, the centre’s membership will be open to Simon Fraser University faculty, post doctoral and graduate students actively involved in mathematical computing. Associate membership will be available to faculty at other universities.

Institute of Fisheries Analysis
Director: Dr. T. Heaps, (604) 291-3060 Tel, (604) 291-5716 Fax
Established in 1980, the institute promotes research and study of a broad range of questions, and accommodates visiting scholars, concerned with fisheries. Areas of interest include the basic biology, ecology and population dynamics of exploitable fish stocks, the socio-economic and socio-political framework of fisheries regulation and management, the socio-economic well-being of fishing communities, industrial and commercial developments related to fisheries, and the political economy of the fishing industry. The institute encourages interdisciplinary team research among its members, and maintains a fisheries research papers series. Where appropriate, it will administer members’ research projects and undertake contract research, utilizing the services of its members as research principals.

Feminist Institute for Studies on Law and Society
Director: Dr. D. Chunn, (604) 291-4761 Tel
The institute was established in 1990 to facilitate and continue the development of feminist analyses on law and society at Simon Fraser University. It is designed to provide an environment for creative interaction among faculty and community representatives who are involved in its work locally, nationally and internationally, and to bridge gaps between legal and social science research.

Gerontology Research Centre
Director: Dr. G. Gutman, (604) 291-5066 Tel, (604) 291-5066 Fax
Established in 1982, the Gerontology Research Centre promotes and conducts research on topics relating to aging and the aged, serves as a clearinghouse for information and provides consultation and technical assistance to the academic community, government, public and private organizations. The centre houses a specialized collection of research materials, maintains an active publications program, organizes workshops and conferences, and is a contributing member of two inter-university research consortia.

Research activities focus on applied gerontology with concentrations in: aging and the built environment; health promotion and population health; prevention of victimization and exploitation of the elderly; older adult education; and changing demography and lifestyles. The associated gerontology program offers a post baccalaureate diploma and a master of arts degree.

Institute of Governance Studies
Director: P.J. Smith, (604) 4994 Tel, (604) 291-4786 Fax, igs@sfu.ca E-mail
The institute is intended to further research on governance issues. Specifically its objectives include: (1) to provide a focus for research on issues and problems of governance – in Canada, at the municipal, regional/metropolitan, provincial and federal levels, in comparative domestic systems and in the newly emerging global order (2) to promote collaboration and research on issues of governance among scholars in a variety of disciplines located at Simon Fraser University (3) to promote an institutional focus for international scholarship concerning issues of governance (4) to provide a forum within the Vancouver metropolitan, British Columbia and Canada for the presentation and dissemination of research and ideas on issues of governance (5) to provide a facility in which data for the study of contemporary governance and related public policy can be collected, catalogued and made readily accessible through data management and exchange (6) to provide a facility in which research and techniques can be made available for exchange with those having responsibility for contemporary governance.

Centre for the Study of Government and Business
The primary focus of the Simon Fraser University/University of British Columbia Centre for the Study of Government and Business will be on academic research. The initial three primary program areas are: privatization and contracting out in the public sector; competition policy and regulation of business; efficiency, effectiveness and productivity in government. Other areas of focus will also be developed. In addition to academic research carried by both business faculties and scholars in related disciplines in both universities, the centre also engages in conferences, seminars, workshops and a visiting scholar program.

Institute of Human Factors and Interface Technology
Director: Dr. D. Weeks, (604) 291-4980 Tel, (604) 291-3040 Fax
The Human Factors an Interface Technology Institute will stimulate, encourage, and enhance human factors and interface technology research by providing a focus and resource base for collaborative and multidisciplinary research that will promote technological transfer to a wide array of applications.

Human factors considers people to be at the centre of any situation. For example, the design of human computer interfaces, the redesign of a work area, or the development of new products, all require human factors input to ensure that the situation systematically considers the physical, psychological and social characteristics of people.

Centre for Human Independence Engineering
Director: Dr. A. Rawicz, (604) 291-3819 Tel, (604) 291-4951 Fax
The centre was established to promote and enhance basic and applied research on human disabilities, methods or preventing them, and reenabling them through technology when incurable. The main purpose of this research is for physically or mentally disadvantaged people to regain independence for their full and productive integration with society.

The involvement of undergraduate and graduate students in the activities of this centre will increase their awareness of the world of disabilities.

Institute for the Humanities
Director: Dr. J. Zaslove, (604) 291-4868 Tel, (604) 291-5788 Fax
This institute provides various means to support and develop humanities programs and Humanities concepts which are in existence throughout the University. The institute is devoted to the exploration and dissemination of knowledge about traditional and modern approaches to the humanities, and is dedicated to the exploration of critical perspectives that relate social concerns to the cultural and historical legacy of the humanities.

The institute initiates and plans interdisciplinary programs, conferences, seminars, research, publications and courses in a range of interrelated fields in the humanities and social sciences. The audience for these activities will be found in the University and the community.

The centre and the Humanities minor program are affiliated. A complete outline of the Institute's current projects is available through the office of the director.

Centre for Labour Studies
Director: Dr. T. Nesbit, (604) 291-4177 Tel, (604) 291-3851 Fax
The Centre for Labour Studies promotes the study and understanding of labour, working people, and their organizations from a comprehensive social, cultural, historical, political and economic perspective. The centre aims to provide a range of taught courses and programs (both credit and non-
credit), offer research opportunities and assistance to both Simon Fraser University students and provincial labor organizations, and create mutually supportive and beneficial links between the academic and labour communities.

David Lam Centre for International Communication
Director: Dr. J.W. Walls, (604) 291-5021 Tel, (604) 291-5112 Fax
This interdisciplinary centre, which began operation in 1989, integrates university, government, professional and business resources for education, training, research and development activities. Its focus is on international, intercultural, and interlingual communication with a special emphasis on the peoples and cultures of the Asia-Pacific Rim. Programs include international communication research and development projects, Chinese and Japanese culture and communication courses and workshops, cross-cultural management and communication courses, and the Pacific region forum on business and management communication.

Logic and Functional Programming Group
Director: Dr. V. Dahl, (604) 291-3426/3372 Tel, (604) 291-3045 Fax
This group was established in 1990 to facilitate research on using declarative programming tools (in particular logic programming, functional programming, constraint logic programming and logic grammars) to investigate the theoretical and practical aspects of developing fifth generation computing software. It is a strongly interdisciplinary group comprising members from six SFU units (Computing Science, Linguistics, Mathematics, Centre for Systems Science, Education, Engineering Science) and two University of British Columbia units (Linguistics and Computing Sciences), from the University of Victoria and from UNISYS in Pennsylvania. 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.

Mental Health, Law and Policy Institute
Director: Dr. R. Roesch, (604) 291-3370 Tel, (604) 291-3427 Fax
This institute was established in 1991 to promote interdisciplinary collaboration in research and training in areas related to mental health, law and policy. Its membership is drawn from the Department of Psychology and the School of Criminology at Simon Fraser University as well as government and community agencies. The institute has received federal and provincial grants for a variety of research projects in the area of mental health and law, and also sponsors lectures and workshops.

Institute of Micromachine and Microfabrication Research
Director: Dr. A.M. Parameswaran, (604) 291-4971 Tel, (604) 291-4951 Fax
The institute will stimulate, encourage and enhance micromachining and microfabrication research by providing a focus and resource base for collaborative and multidisciplinary research leading to new processes and new devices of benefit across a wide array of disciplines.

Institute of Molecular Biology and Biochemistry
Director: Dr. B.P. Brandhorst, (604) 291-4627 Tel, (604) 291-5583 Fax
This is an interdisciplinary institute established between the Departments of Biological Sciences, Chemistry and Physics. It was formed to provide a cohesive intellectual and administrative body to enhance and promote basic research in molecular biology and biochemistry and to coordinate graduate education in these disciplines.

Centre for Policy Research on Science and Technology
Director: P.S. Anderson, (604) 291-4921 Tel, (604) 291-5165 Fax
This centre was established in 1988. 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.

Institute for Quaternary Research
Director: Dr. I. Hutchinson, (604) 291-3232 Tel
This institute was established in 1984 to focus quaternary science projects through an interdisciplinary team consisting of Simon Fraser University faculty from six departments and external associates from other organizations and universities. The institute presents a regular series of research seminars for faculty and graduate students and from time to time expects to host conferences, symposia, and field excursions. The institute aims to serve western Canada as a centre for paleo-environmental, surficial geological and related archaeological investigations.

Research Institute on Southeastern Europe
Director: Dr. A. Gerosimatos, (604) 291-5597 Tel, (604) 291-5837 Fax
The goals of this research institute will be to shed light on the problems of the region, both in terms of its historical and contemporary context. Among the research themes that will be addressed are questions of regional co-operation, defense and security, historical background, as well as various socio-economic and political issues that have challenged the status quo of the states in the region. The objectives 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: Dr. B. Funt, (604) 291-4588 Tel
The Centre for Systems Science (CSS) is a multidisciplinary research institute which supports specialized research areas and advanced educational programs in related disciplines which promise to offer particular support for the development of sophisticated industry for British Columbia. CSS fosters basic and applied research within its three research groups: intelligent systems (artificial intelligence, robotics, cognitive science, neural networks, expert systems, graphics and animation, etc.), microelectronics (surface science, VLSI design and test, quickchip), and computer and communications (subsea communications, mobile communications, communications policy, algorithms, distributed computing, information systems, signal processing, applications, etc.). CSS encourages associations across departmental boundaries to stimulate interest and knowledge of systems science and help attract a significant level of research funding. The centre represents the British Columbia Advanced Systems Institute at Simon Fraser University and collaborates with other research units at Simon Fraser University, the University of British Columbia, the University of Victoria, the British Columbia Institute of Technology, and with BC industry and government sectors.

Institute for Studies in Teacher Education
Director: Dr. M.F. Wideen, (604) 291-3103 Tel, (604) 291-4968 Fax
This general aim of the institute is to promote and carry out research in the area of teacher education. It also seeks to develop collaborative links with groups within and outside the university community.

Centre for Tourism Policy and Research
Director: Dr. P.W. Williams, (604) 291-3103 Tel, (604) 291-4968 Fax
This centre was established in 1989 to provide leadership in developing and delivering research and professional education in the management of tourism. The centre provides a fixed point for graduate level studies and professional development education with a distinctively integrated resource and business management orientation. The centre also encourages and conducts policy, planning and management orientation, as well as encourages and conducts policy, planning and management research designed to enhance the sustained use of the tourism resource base.

Tri-University Meson Facility (TRIUMF)
Director: Dr. A. Astbury, (604) 222-1047 ext. 6258 Tel Contacts: Dr. B. Clayman, (604) 291-4152 Tel Dr. C.H.W. Jones, (604) 291-3771 Tel Dr. R.G. Korteling, (604) 291-3532 Tel TRIUMF is Canada's national meson facility and a laboratory of world class standing. The facility is based on a 500 Me V ion accelerator which provides intense beams of subatomic particles for use in a wide range of research projects in nuclear and elementary particle physics.

Dr. Frank Linville Institute in Sensory Research
Director: Dr. K. Colbow, (604) 291-3162 Tel, (604) 291-3592
The institute, formerly known as the Wright Institute for Sensory Science, provided since 1986 research support to faculty members, post doctoral fellows and graduate students in sensory science. The main emphasis has been on research at Simon Fraser University in salmon migration, insect behavior and gas sensors, with some support going to other institutions and the publishing of the Linville-Wright Lectures by recipients of the Linville-Wright Award. Initial funding was provided anonymously by General Monitors, Inc. of Costa Mesa, California and its late CEO Dr. Frank Linville. Following his death in 1991, continued funding for the award and the institute has been provided by Mrs. June Linville.
Governing Bodies and Faculty

Expiry dates of terms of office are shown where applicable.

Convocation
Chancellor – Chair
President and Vice-Chancellor
Registrar – Secretary
Members of senate
All faculty members
All graduates of Simon Fraser University
All persons whose names are added to the roll of Convocation by regulations of the senate

Board of Governors
Ex Officio
Chancellor
President and Vice-Chancellor
Appointed by Order-in-Council
P. Johnston, June 2000
J. Kowarsky, June 2000
T. Nathoo, August 1999
B. Payne, January 2000
L. So, June 2000
G. Stacey, December 1999
R. Welch, December 1999
(One vacancy)

Elected by Faculty Members
K. Heinrich, May 1999
R. Russell, May 1999

Elected by Students from the Students
J. Morris, May 1999
M. Veerkamp, May 1999

Elected by University Employees (excluding Faculty Members)
K. Thornton, May 1999

Administrative Officer
L. Morgan

Senate
Ex Officio
Chancellor
President and Vice-Chancellor – Chair
Vice-President, Academic
Vice-President, Research and Dean of Graduate Studies
Associate Vice-President, Academic
Dean of Applied Sciences
Dean of Continuing Studies
Dean of the Faculty of Arts Administration
Dean of the Faculty of Business Administration
Dean of the Faculty of Education
Dean of the Faculty of Graduate Studies
Registrar – Secretary of Senate
University Librarian

Appointed by Order-In-Council
D. McInnes
B. Naef
B. Sanghera
M. Warsh

Elected by the Faculty
Faculty of Applied Sciences
B. Lewis, May 31, 1999
J. Jones, May 31, 2000

Faculty of Arts
M. Bowman, May 31, 1999
J. Ogloff, May 31, 2001

Faculty of Business Administration
L. Etherington, May 31, 2000
G. Mauser, May 31, 1999

Faculty of Education
P. Coleman, May 31, 1999
R. Zakis, May 31, 2001

Faculty of Science
P. Percival, May 31, 1999
L. Peterson, May 31, 2001

Elected by Faculty Members Jointly
K. Akins, May 31, 1999
J.L. Berggren, May 31, 1999
D. Finley, May 31, 2001
L. Boland, May 31, 2000
W. Cleveland, May 31, 1999
G. Kirczenow, May 31, 2000
J. Peters, May 31, 2001
J.M. D'Auria, May 31, 2001
R. Harris, May 31, 2001
L. Kanevsky, May 31, 1999
R. Mathewes, May 31, 2000
M. Gillies, May 31, 2000
R. Russell, May 31, 2001
M. Worts, May 31, 1999

Elected by Convocation
S. Beattie, May 31, 1999
V. Dunsterville, May 31, 1999
A. Emmott, May 31, 1999
N. Wickstrom, May 31, 1999

Elected by Students
W. Cheng, May 31, 1999
A. Chan, May 31, 1999
K. Dhillon, May 31, 1999
J. Fletcher, May 31, 1999
K. Giffen, May 31, 1999
J. Fletcher, May 31, 1999
J. Morris, May 31, 1999
J. Overington, May 31, 1999
J. Reader, May 31, 1999
M. Russell, May 31, 1999
L. Tam, May 31, 1999
M. Veerkamp, May 31, 1999

Academic and Administrative Officials
Chancellor
J. Segal LLD (S Fraser), CM, OBC
President and Vice-Chancellor
J.P. Blaney BEd, MEd (Br Col), EdD (Calif)
Provost and Vice-President, Academic
D.P. Gagan BA, MA (W Ont), PhD (Duke)
Vice-President, Chief Development Officer
(to be announced)
Vice-President, Finance and Administration
R. Ward BSc (Lond), MBA (S Fraser), PhD (McM)
Vice-President, Research / Dean of Graduate Studies
B.P. Clayman BS (Rensselaer), PhD (C'nell)
Associate Vice-President, Academic
J.A. Osborne LLB (Edin), MA (Tor), LLM (Br Col)

Elected by the Faculties
Faculty of Business Administration
J.T. Pierce BA (Tor), MA (Watl), PhD (Lond)
Dean of Business Administration
J.H. Waterhouse BSc (Alta), PhD (Wash)
Acting Dean, Continuing Studies
M. Seilman BA, PhD (Br Col)
Dean of Education
R. Barrow BA (Oxf), CertEd, PhD (Lond)
Dean of Science
C.H.W. Jones BSc, PhD (Manc)
Dean of Student Services and Registrar
J.R. Mollard BA, MA (W Ont)
Director of Academic Computing Services
L. Boland
Director of Admissions
N. Wickstrom (Oxf), MA (S Fraser)
Acting Director of Alumni Relations
S. Magson
Director of Analytical Studies
J.C. Yorks BEd, MA, PhD (S Fraser)
Director of Facilities Management
J.E.R. Johnson BSc(CE) (Manit), MBA (S Fraser), PEng
Director of Health and Counselling Services
L. Mennell BA (W Ont), BEd (Qu), MHSc (Tor)
Director of Human Resources
W.A. Yule BA (Qu)
Director of Instructional Media Centre
T. Greenwood
Director, International Co-operation
J. Knockaert, BCom (Manit)
Director of International and Exchange Student Services
R. Martin BA, MA (S Fraser)
Director of Media and Public Relations
K. Mennell BA (W Ont)
Director, Records and Registration
D. Whiteley BA (Northeastern), MA (S Fraser)
Director, Registrar Services, Simon Fraser University at Harbour Centre
R.B. MacLeod BCom (Mt. Allison)
Director, Student Services Systems
A. Carabine BSc (S Fraser)
Director of Secretariat Services
A. Watt BA (Hull)
Director, Student Academic Resources
R. Martin BA, MA (S Fraser)
Director, Student Recruitment
R. Smith BMgt (Leth)
University Archivist and Information Privacy
I. Forsyth BA (McG), MA (W Laurier)
1986 A. Aberbach History
1985 R.H. Dunham English
1984 R. Coe English
1983 M.J. Gresser Chemistry
1982 P.E. Kennedy Economics

Excellence in Teaching Awards
C. Swoveland BA (Calif), MLS (Br Col)
M. McIntosh BA (Calg), MLS (Alta)
Librarians, Belzberg Branch
T. Mundle BA, MLS (Br Col)
A.K. Zielinski MA (Warsaw), MLS (Tor)
M. Nelles BSc (S Fraser), MLS (Br Col)
C. Goldsmith BA, MLS (Br Col)
M.J. Finlayson BA, BLS (Br Col)
P.Y. Chan BA (HK), ALA (Great Britain)

Reference Librarians
L. Polson BA (Br Col), MLS (McG)
D.D. Gordon BA (Acad), BLS (Br Col), MA (S Fraser)
M.L. Harris BA (W Ont), BLS (Br Col)

Sponsored Chairs and Professors
BC Telephone Endowed University Professor
R.C. Harris, Economics
Endowed University Professor
S. Wolfe, Chemistry
Jack and Nancy Farley Endowed University Professor
J. Parr, History
Morton G. Shrum Endowed Chair (to be announced)
Ming and Stella Wong Endowed Chair in International Business
R.L. Tung, Business Administration
J.S. Woodsworth Chair
E. Broadbent, Humanities
Ruth Wynn Woodward Endowed Chair
S. Thobani, Women’s Studies
Hellenic Canadian Congress of BC Endowment
A. Gerolymatos, History

Faculty
Professors Emeriti
Ames, E. Psychology
Arnoff, S. Chemistry
Arrott, A.S. Physics
Bakan, P. Psychology
Banister, E.W. Kinesiology
Bell, T.N. Chemistry
Bhattacharjee, N.G. Kinesiology
Blaser, R.F. English
Bojadziewicz, G.N. Applied and Computational Mathematics/Mathematics and Statistics
Bradley, R.D. Philosophy
Buitenhuis, P.M. English
Bursill-Hall, G.L. Linguistics
Candelaria, F.H. English
Carlson, R.L. Archaeology
Cheng, P.L. Business Administration
Chow, Y.L. Chemistry
Cochran, J.F. Physics
Copcs, P. Economics
Crampton, C.B. Geography
Cunningham, F.F. Geography
Supramaniam, V. Education Science
Curts, J.R. English
Diamond, A.L. Psychology
Dickie-Clark, H. Sociology and Anthropology
Elliott, G.R. English
Ellis, J.F. Education
Etherington, L.D. Business Administration
Fattah, E.A. Criminology
Finlayson, T. Biological Sciences
Fisher, F.J. Biological Sciences
Foley, J.A. Linguistics
Funt, L. Chemistry
George, D.A. Engineering Science
Gibbons, M. Education
Gygas, S. Physics
Harden, E.F. English
Harper, R.J.C. Interdisciplinary Studies
Harrop, R. Computing Science/Mathematics and Statistics
Herzog, J.P. Business Administration/Economics
Kazepides, A.C. Education
Kirchner, G. Education
Kirschnier, D.S. History
Kirschnier, T.J. Humanities
Lardner, R. Applied and Computational Mathematics/Mathematics and Statistics
Lipsy, R.G. Economics
Mackauber, J.P.M. Biological Sciences/Pest Management
MacPherson, A. Geography
Malinsson, T.J. Communication
Maud, R.N. English
McWhinnie, E. Political Science
Mills, J. English
Morrison, S.R. Physics
Newton, B.E. Linguistics
Newton, R.C. History
Peter, K. Sociology and Anthropology
Quo, F.O. Political Science
Resnick, L. Philosophy
Rieckhoff, K.E. Physics
Robin, M. Political Science
Ross, W.D. Kinesiology
Rudrum, A. English
Schoner, B. Business Administration
Shoemaker, E.M. Applied and Computational Mathematics/Mathematics and Statistics
Shutter, J.J. Archaeology
Singh, M. Applied and Computational Mathematics/Mathematics and Statistics
Somjee, A.H. Political Science
Faculty

Abdel Magid, M.F. Business Administration
Abraham, N.A.R. Business Administration
Accelli, E.A. Kinesiology
Adam, H. Sociology and Anthropology
Agnes, G. Chemistry
Alt-Kaci, H. Computing Science
Akins, K. Philosophy
Alberding, N. Physics
Albright, L.J. Biological Sciences
Anderson, E.W. Contemporary Arts
Alexander, B.K. Psychology
Alexander, D. Resource and Environmental Management
Allen, D.M. Earth Sciences
Allen, D.W. Economics
Aloi, S.A. Contemporary Arts
Alspach, B.R. Mathematics and Statistics
Anderson, G.S. Criminology
Anderson, P.S. Communication
Andrews, R.S. History/Sociology
Anthony, J. Economics
Artovic, J. History
Armstrong, L. Mathematics and Statistics
Arya, J.C. Kinesiology
Astrand, R.C. Computing Science
Atkins, M.S. Sociology and Anthropology
Bai, H. Archaeology
Bailey, W.G. Education
Ballin, S. Education
Bailie, D.L. Education

Balka, E.
Ballentine, L.E.
Banerjee, C.M.
Barrow, R.
Bartholomew, K.
Bawa, P.N.S.
Beale, A.C.M.
Bechhoefer, J.L.
Beckenbach, A.T.

Bell, D.A.
Bendell-Young, L.C.
Bennet, A.J.
Berggren, J.L.
Berggren, T.
Beyerstein, B.L.
Beynon, J.D.
Bhattacharya, B.K.
Bick, A.
Bird, J.S.
Blaber, A.P.
Black, S.
Black, S.A.

Black, S.A. Biological Sciences
Blackman, A.R. Business Administration
Blaney, J. Education/President, Simon Fraser University
Blazenko, G.W. Business Administration
Blomley, N.K. Geology
Boal, D.H. Physics
Boelscher-Ignace, M. Sociology and Anthropology
Boland, L.A. Economics
Bolognesi, C.R. Engineering Science/Physics
Bordens, J.H. Biological Sciences/Pest Management
Borgford, T.J. Biochemistry/Biochemistry
Brandhorst, B.P. Biochemistry/Biochemistry
Brantingham, P.J. Criminology
Brantingham, P.L. Criminology
Brearley, P.M. Computing Science
Breden, F. Biological Sciences
Brennand, T.A. Geography
Brodovitch, J.C. Chemistry
Brookman, J. Criminology
Brohan, J.A.C. Geography
Brooke, R.C. Biological Sciences
Brown, R.C. Geography
Brown, S. Kinesiology
Brown, T.C. Mathematics and Statistics
Browne, C.V.A. Contemporary Arts
Bruneau, L. French
Budra, P. Business Administration
Bukszar, J.E. Archaeology
Burley, D.V. Biological Sciences
Burtch, B. Criminology
Burton, F.W. Business Administration
Bushe, G.R. Political Science
Busumtwi-Sam, J. Earth Sciences
Calvert, A. Computing Science
Calvert, T.W. Engineering Science/Kinesiology
Cameron, R.D. Computing Science
Canac-Marquis, R. Gerontology
Carrière, Y. Criminology
Carter, M. Education
Case, R. Education
Cassidy, W. Engineering Science
Cawes, C. French
Chant, J.F. Economics
Chapman, A.E. Kinesiology
Chapman, G.H. Engineering Science
Chen, X.Q. Mathematics and Statistics
Choksi, R. Applied and Computational Mathematics/Statistics
Choo, E.U. Business Administration
Chunn, D.E. Criminology
Ciria, A. Political Science
Clarkson, P.M. Business Administration
Clavero, D. Humanities
Clay, A. Contemporary Arts

Clayman, B.P. Physics/Vice-President, Research/Dean of Graduate studies
Cleveland, W.L. History
Coe, R.M. English
Cohen, L.J. Political Science
Cohn, T.H. Political Science
Colbok, K. Physics
Coleman, P.E.F. Education
Coles, E.M. Business Administration
Collins-Dodg, C.M. Biological Sciences
Cooke, F. Biotechnology
Cornell, R.B. Biochemistry/Chemistry/Molecular Biology
Corrado, R.R. Criminology
Cousineau, D.F. Chemistry
Cowell, M.A. Political Science
Cowen, J. Publishing
Cox, D.N. Psychology
Crawford, C.B. Psychology
Craig, J.S. Biological Sciences
Crozier, E.D. Physics
Culhane, D. Sociology and Anthropology
Curzon, A.E. Physics
Cuskey, R.J. Biochemistry/Chemistry/Molecular Biology
Dagenais, D.H. Education
Dahl, V. Computing Science
Das, A. Applied and Computational Mathematics/Mathematics and Statistics
D'Andrea, A.C. Archaeology
D'Auria, J.M. Chemistry
Davies, G. Criminology
Davis, L. English
Davis, S. Philosophy
Davison, A.J. Kinesiology
Davison, R. French
Dawkins, H. Contemporary Arts
Dawson, A.J. Education
Dawson, J. Education
Day, C.R. History
Day, J.C. Resource and Environmental Management
Day, R. Psychology
Dean, C.B. Mathematics and Statistics
Dean, J.W. Economics
DeArmond, R.C. Linguistics
Debo, R.K. History
deCastell, S.C. Education
Deen, M.J. Engineering Science
Delaney, K.R. Biological Sciences
Delaney, P. English
Delaney, S. English
Delgrande, J.P. Computing Science
DeRoo, H. English
DeVorets, D.J. Economics
Diamond, M. Contemporary Arts
Dickinson, J. Kinesiology
Dill, J.C. Engineering Science
Dill, L.M. Biomedical Sciences
Dirks, K.T. Business Administration
Dixon, A.H. Computing Science
Divya, S. English
Dobuzinski, L. Political Science
Dossa, P. Sociology and Anthropology
Douglas, J.J. Publishing
Dow, G. Economics
Drew, M.S. Computing Science
Driver, J.C. Archaeology
Druenh, L.D. Biological Sciences
Dubiel, M.M. Mathematics and Statistics
Duguid, S. Humanities/Liberal Studies
Dunlop, R. Earth Sciences
Dutton, P.E. History/Humanities
Dyk, C.I. History
Dyk, N. Sociology and Anthropology
Easton, S.T. Economics

Statistics
Mathematics/Mathematics and Statistics
Biochemistry/Biological Sciences/Molecular Biology and Biochemistry

Clay, A. Contemporary Arts

John W. Blackman, A.R. Business Administration

First Nations Studies' Sociology and Anthropology

Business Administration

Computer Science/Biochemistry/Molecular Biology

Business Administration

Business Administration

Business Administration

Business Administration

Business Administration
<table>
<thead>
<tr>
<th>Faculty Name</th>
<th>Department/Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sutton, D.</td>
<td>Mathematics and Statistics</td>
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Simon Fraser University at Harbour Centre
515 West Hastings Street
Vancouver, B.C.

HOURS
Monday – Thursday  9 am – 7:30 pm
Friday                        9 am – 5 pm

ALRT Line (Skytrain)

P  parking lot
P  evening parking only

N
Credentials by Program

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

Key to Abbreviations

BA – Bachelor of Arts
BA honors – Bachelor of Arts (Honors)
BASC – Bachelor of Applied Science
BBA – Bachelor of Business Administration
BBA honors – Bachelor of Business Administration (honors)
BEd – Bachelor of Education
BEd honors – Bachelor of Education (Honors)
BFA – Bachelor of Fine Arts
BGS – Bachelor of General Studies
BSc – Bachelor of Science
BSc honors – Bachelor of Science (Honors)
BSc co-op – co-operative education program diploma – post baccalaureate diploma
MA – Master of Arts
MAL – Master of Liberal Studies
MASC – Master of Applied Science
MBA – Master of Business Administration
MEd – Master of Education
MEng – Master of Engineering
MFA – Master of Fine Arts
Minor – program requiring completion of specified minimum upper division courses
MPM – Master of Pest Management
MPub – Master of Publishing
MRM – Master of Resource Management
MSc – Master of Science
PhD – Doctor of Philosophy

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